

quality
(countable and
uncountable,
plural qualities)

Annual Report 2017/18

In this report:

- Quality of interRAI data
- interRAI Quality Indicators
- Quality of Life: Wellbeing measures



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* Definitions of quality from wiktionary.org

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Foreword

Message from Catherine Cooney, Chair of the interRAI New Zealand Governance Board

Welcome to the interRAI New Zealand 2017/18 Annual Report.

2017/18 was the third year since establishment of the interRAI New Zealand Governance Board and interRAI Services.

The hard job of setting up is done. Now we can look back at a year where we improved our services and the way we deliver them. We have made progress on our aim to make interRAI a sustainable and accessible system that continuously improves health outcomes for New Zealanders as they age.

Fittingly, the theme for this report is Quality. interRAI, as a comprehensive assessment system, offers many different perspectives on quality. In our three feature stories we talk about the quality of our data, quality indicators of the services provided by aged residential care and interRAI measures of wellbeing, which describe aspects of a person's quality of life.

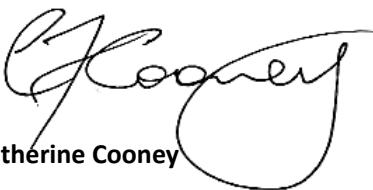
The quality of interRAI data is becoming more and more important as more researchers and policy makers use our data. How can data from over 100,000 assessments per year be consistent and of high quality? The feature on data quality lays open the state of our data and investigates what we do to maintain a high standard of data quality.

One new use for interRAI data are Quality Indicators for aged residential care facilities. We are only at the beginning of our journey with these and we will carefully consider the implications of each step forward we may take.

This year we also welcomed five new members to the interRAI New Zealand Governance Board. As with any Board, it is good governance practice to renew and refresh. At the same time, I would like to extend my thanks to all the Board members who have contributed over the last three years.

I would also like to thank everyone who contributes to interRAI in New Zealand: the interRAI Services team, the over 5,000 interRAI assessors across the country, the users of our data and many more. You all got interRAI to where it is today.

The next year, 2018/19, has already started on a positive note with many promising projects underway and planned to come to fruition in the near future. I look forward to another year growing and improving interRAI New Zealand.



Catherine Cooney

Chair of the interRAI New Zealand Governance Board



interRAI – comprehensive clinical assessment and “New Zealand’s world-leading data set on the elderly”¹

interRAI™ stands for ‘international Resident Assessment Instrument’.

interRAI is a suite of over 20 clinical assessment instruments.

In New Zealand, interRAI is the primary assessment instrument in aged residential care and home and community services for older people living in the community.

Each assessment instrument in the interRAI suite has been developed for a specific population. A person’s responses to the assessment and the outcome measures produced may be tracked over time and across a continuum of care.

The assessments are standardised and designed to work together to form an integrated health information system. For example, Palliative Care assessment instrument contains items specific to the palliative care setting, as well as a set of core items that are shared across other care settings.

These five interRAI assessment instruments are used in New Zealand:

- Long Term Care Facilities Assessment (LTCF) for evaluating the needs, strengths and preferences of those in aged residential care
- Home Care Assessment for planning care and services in community-based settings
- Contact Assessment, a basic screening assessment for people living in the community
- Community Health Assessment, a modular assessment with supplements for people living in the community
- Palliative Care Assessment for community-based older adults where a palliative care focus is required.

Assessment information automatically goes to a data warehouse, so without any extra effort for the older person or the assessor, population data is available to be used for service development, planning and research.



¹ Dr Hamish Jamieson in *How overmedication is injuring and killing our elderly*, media release by University of Otago 11 September 2018.

quality (noun):
(countable)

2. A property or an attitude that differentiates a thing or person



2017/18 The year in review

The Governance Board welcomed new members

The interRAI New Zealand Governance Board welcomed five new members this year. This is the first change in membership since the interRAI New Zealand Governance Board was established in 2015.

The new Board members, appointed by the Director-General of Health, are Carolyn Cooper (Chief Operating Officer and Lead Nurse, Bupa NZ), Dr Helen Kenealy (Geriatrician, Counties Manukau District Health Board), Karen Evison (Director, Strategy Planning and Funding at Lakes District Health Board), Dr Michelle Honey (Senior Lecturer, University of Auckland) and Stephanie Clare (Chief Executive, Age Concern).

Thanks to outgoing Board members Dr Judith Davey, Dr Chris Hendry and Dana Ralph-Smith for their contributions and commitment to interRAI.



interRAI New Zealand Governance Board, front row: Catherine Cooney (Chair), Max Robins, Janice Mueller, Karen Evison, back row: Stephanie Clare, Dr Michelle Honey, Roy Reid, David Chrisp, Chris Fleming (Deputy Chair), Dr Helen Kenealy, not in photo: Carolyn Cooper, Professor Matthew Parsons, Dr Nigel Millar

We support facility managers

We continue to support managers of aged residential care facilities to integrate interRAI into their systems and get the most out of the value interRAI provides.

We hosted a series of nine one-day workshops throughout New Zealand in partnership with the New Zealand Aged Care Association and one workshop with the Care Association New Zealand. These workshops are for managers and lead nurses who want to learn about how interRAI can support them in the day-to-day business of managing their facilities. So far, 171 managers and lead nurses have attended the workshops and we received positive feedback from participants. More workshops and a web based training course is planned for 2018/19.

An interRAI Roadmap was published on the interRAI website in April which gives a handy overview of the resources available to facility managers to support them and get the most out of using interRAI.

We rolled out the Palliative Care assessment

The interRAI Palliative Care assessment offers another option for assessing people living in the community with a terminal condition or prognosis. With the introduction of the new instrument, home care assessors in New Zealand can now choose from four interRAI assessments, depending on the complexity of the individual client. The other assessments are the Contact, Community Health and Home Care assessments.

A survey of assessors in the 2016/17 pilot found that, compared to using the standard Home Care assessment with palliative clients, the Palliative Care assessment is more focused and less tiring, concentrating on items relevant for this particular client group.

First data from the Palliative Care assessment

- 3 in 4 Palliative Care assessments were completed for people aged 70+.
- 1 in 8 assessments are for people with less than six weeks to live.
- Top areas for intervention are fatigue, nutrition and dyspnoea (shortness of breath).

Psychosocial well-being

- In 70% of assessments clients reported a sense of completion of responsibilities.
- In 75% of assessments clients were accepting their situation.
- Over half (54%) of assessed people were at peace with life.

Responsibilities and directives

- In 70% of assessments clients reported having an Enduring Power of Attorney (EPOA) in place.
- In 14% of assessments clients had an Advance care plan.

Social supports

- In the majority of assessments (92%) clients reported having a strong and supportive relationship with family.
- In 3 out of 5 Palliative Care assessments clients reported that their family was spending more than four hours a day with them.



We updated the National Standards

In September 2017, interRAI Services launched new National Standards for interRAI assessors in aged residential care facilities.



National Standards help assessors to best use the assessment note fields, which capture important information not covered by coding. The new standards are clearer, provide straightforward advice and reduce duplication.

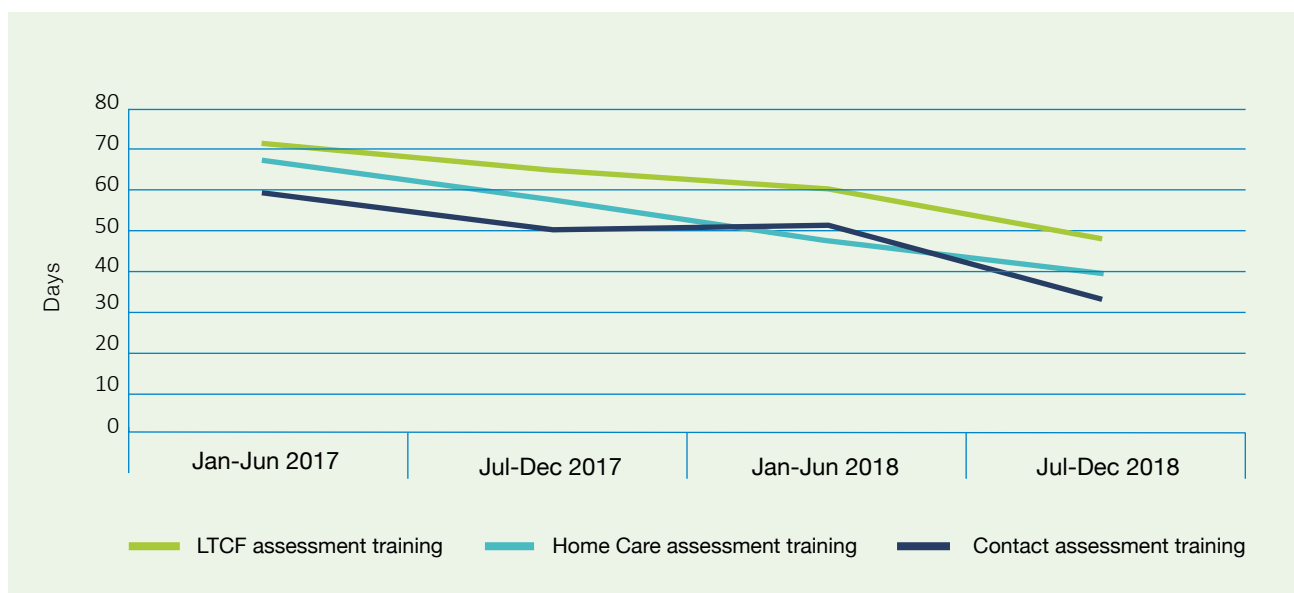
The new standards are a step towards making interRAI sustainable in the longer term while still maintaining the quality of assessments and data.

We reduced the time it takes to become a competent assessor

Our activities targeted at streamlining processes and create efficiencies are showing results. We are seeing significant improvements in the time it takes assessors to reach care competency. By December 2018 we will have seen:

- The time to become LTCF competent reduced by 32%
- The time to become Home Care competent reduced by 40%
- The time to become a competent assessor with Contact assessments reduced by 44%.

Figure 1: Days it takes to become a competent assessor.



We took interRAI to tertiary education

We took interRAI to the Tertiary Institute of Technology Whitireia NZ.

Whitireia's Competency Assessment Programme (CAP Course) is for international and New Zealand nurses working to achieve or regain New Zealand nursing registration.

Many international nurses coming to New Zealand initially work as health care assistants in aged residential care facilities. Once they gain their New Zealand registration, they often return to their facility as Registered Nurses.

For our pilot, an interRAI Services educator provided the classroom component of interRAI training as an adjunct to the Whitireia CAP course. The students then completed their interRAI assessments for full competency with the continued support of their facility.

interRAI training is now included in the Whitireia CAPs programme. Another pilot at the ARA Institute in Christchurch was successful and we are working towards another pilot with Nelson and Marlborough Institute of Technology.

We expanded our accreditation programme

Another organisation took up the opportunity to have an accredited external interRAI educator.

CTCA (Community Trusts in Care Aotearoa) is a group of eight rural aged care facilities in the Waikato who will share an external interRAI educator. interRAI Services remains responsible for reviewing each trainee's last assessment and undertaking the final competency interview.

We developed indicators for quality of care

Quality indicators are a set of measures that show patterns in service delivery over time. Aged residential care facility managers can use quality indicators to reflect on their practice, identify potential problems and areas of excellence.

Our set of quality indicators using aggregated data from interRAI assessments help managers to better understand their facilities' service performance and measure the impact of work to improve quality of care.

We made the first reports available to large aged residential care providers and District Health Boards in May 2018.

You can find more detail about Quality Indicators on page 21.

We launched the interRAI Data Visualisation

This tool allows users to access interRAI data at national, regional, District Health Board (DHB) and as well as population subgroups level.

The interactive nature of the tool means users are in control of the information and can select the level of detail they desire.



The interRAI Data Visualisation is at www.interRAI.co.nz/data

We started reporting on home care provider data

We partnered with the Home and Community Health Association to develop standard interRAI data reports for home care providers. These reports use aggregated data of home care clients and provide information for service planning and development, which can be tracked over time and compared to national and regional information.

We hosted a session on care planning

We had the pleasure of hosting Dr Michal Boyd as guest speaker talking about how interRAI can support care planning in aged care facilities. Michal is Associate Professor at the School of Nursing and the Freemasons' Department of Geriatric Medicine at the University of Auckland. She also practices clinically in aged residential care. She has been a provider, leader and researcher of healthcare innovations for older people since the early 1990s.



We asked for feedback

In 2016 District Health Boards' interRAI staff were integrated into our interRAI Services team at TAS. This year we asked DHB needs assessment units (NASCs) how it is going? Responses were encouraging and full of valuable feedback:

- 82% of assessors and managers say their contact at interRAI Services understands how the needs assessment service works.
- 67% of assessors and 82% of managers read our newsletters, and contact their educators to boost their skills.
- 47% of managers visit the interRAI website for help.
- 64% of assessors (75% of managers) agree that interRAI Services provide the support they need for their work.
- 88% of managers rate our support as OK, good or great.

What was also said:

Awesome support from educator. She is very knowledgeable. Great resource.

We find the current system works well for us.

interRAI has been very effective most of the time.

I have received excellent support, which has always been extremely prompt.

Publications and research

interRAI has been both the subject and basis for a number of publications and research projects in New Zealand:

- Hamish A Jamieson, Prasad S Nishtala, Richard Scrase, Joanne M Deely, Rebecca Abey-Nesbit, Martin J Connolly, Sarah N Hilmer, Darrell R Abernethy, Philip J Schluter: *Drug burden and its association with falls among older adults in New Zealand: A National population cross-sectional study*. doi.org/10.1007/s40266-017-0511-5
- Hamish A Jamieson, Helen M Gibson, Rebecca Abey-Nesbit, Annabel Ahuriri-Driscoll, Sally Keeling, Philip J Schluter: *Profile of ethnicity, living arrangements and loneliness amongst older adults in Aotearoa New Zealand: A national cross-sectional study*. Australasian Journal on Ageing Volume 37, Issue 1. 2018. doi.org/10.1111/ajag.12496
- New Zealand Aged Care Association: *Caring for our Older Kiwis. The right place, at the right time*.
- John Parsons, Matthew Parsons, Paul Rouse: *The development of a case-mix system for aged residential care*. University of Auckland. 2018. media.bupa.com.au/research-validates-use-of-tool-in-new-zealand-to-help-improve-funding-and-innovation-in-elderly-care
- Mohammed Saji Salahudeen, Prasad S Nishtala: *A systematic review evaluating the use of the interRAI Home Care instrument in research for older people*. Clinical Gerontologist. 2018 doi.org/10.1080/07317115.2018.1447525

Data access requests

Organisations and individuals can apply to receive interRAI data, subject to specific criteria, including how the data is going to be used.

In 2017/18 we received 96 data requests from a variety of organisations and individuals, including researchers, Government departments, journalists, industry associations.

The main body of data is available online at www.interRAI.co.nz/data



Keen to hear from us
more often?
Sign up to one
of our newsletters at
www.interrai.co.nz/news

interRAI – “New Zealand’s world-leading data set on the elderly” in 2017/18

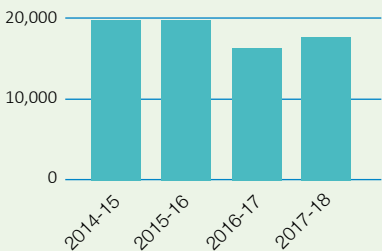
interRAI offers the opportunity to better understand our older population, including ethnic groups and those who are cared for in different health care settings.

Over 126,500 interRAI assessments were completed in New Zealand between 1 July 2017 and 30 June 2018 (see Figure 1). This equates to almost 350 assessments on average each day.

The number of Contact and Home Care assessments has increased in 2017/18 after a slight decrease in 2016/17. The number of completed LTCF assessments continues to rise, from 66,500 in 2016/17 to 72,000 in 2017/18 (a 7.5% increase).

Figure 2: Number of assessments by year, as at 1 September 2018.

Contact assessments



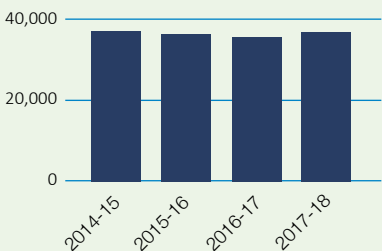
17,818

Assessments
in 2017/18

1,370

Changes from
previous year

Home Care assessments



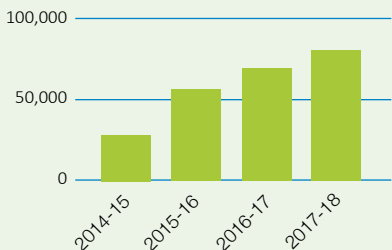
37,046

Assessments
in 2017/18

1,341

Changes from
previous year

Long Term Care Facility assessments



71,912

Assessments
in 2017/18

4,995

Changes from
previous year

Comparing Assessments by ethnicity

Figures 2 and 3 show the percentage of Māori and non-Māori people who had at least one interRAI assessment (Home Care or LTCF) in a year, by age group and compared across four years.

Māori are more likely to be younger when they require their first interRAI assessment. Older Māori are also more likely to be assessed for home and community support rather than in an aged residential care facility.

Figure 3: Percentage of Māori and non-Māori population who had at least one Home Care assessment in a year by age and by years.

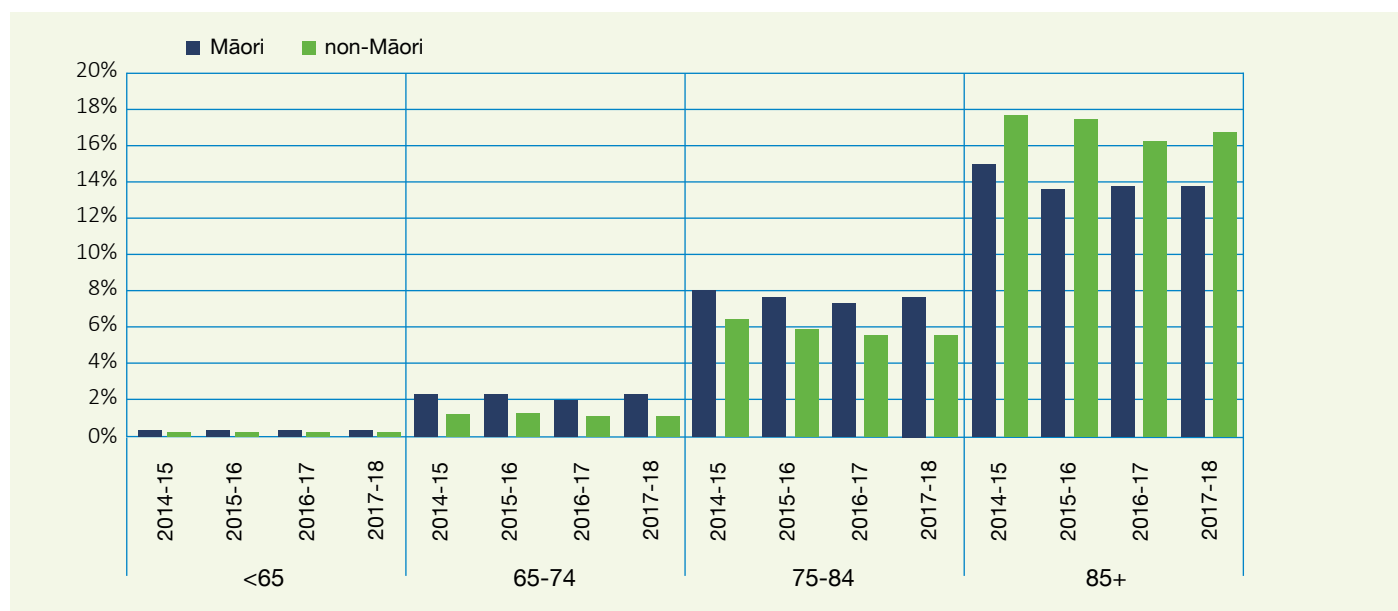
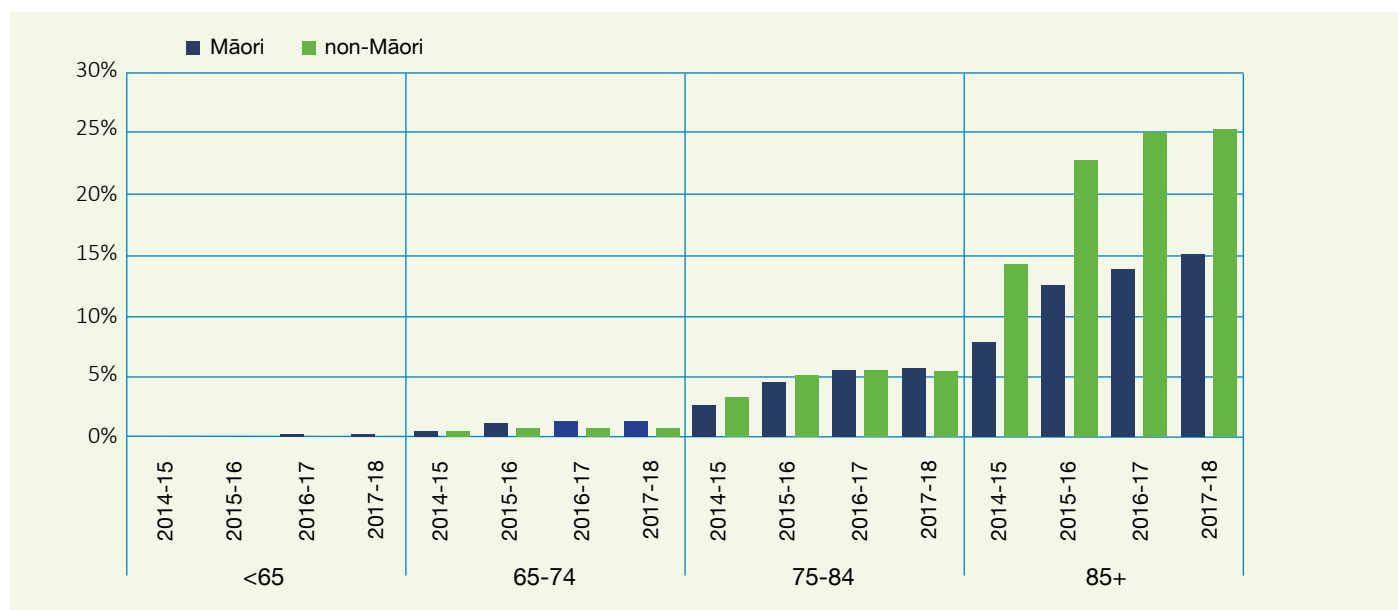


Figure 4: Percentage of Māori and non-Māori population who had at least one LTCF assessment in a year, by age and by years.



interRAI data at your fingertips



You can access any data you see in this report online.

We have made our rich body of data on older people available through a data visualisation on our website.

The data visualisation is interactive and free. You are in control. Select the information and the level of detail you desire.

At your fingertips at:
www.interRAI.co.nz/data

quality (adjective):

(comparative more quality,
superlative most quality)

1. Being of good worth,
well made, fit for purpose

The quality of interRAI data

High quality data supports well informed and evidence based decisions for service improvement, research, planning and delivery in the health sector.

We understand the importance of good quality data, for the individual, as well as researchers and policymakers who increasingly use interRAI data to underpin and evidence their decisions.

The interRAI New Zealand Governance Board commissioned the interRAI Data Quality Project in March 2018 to investigate the quality of our data and document how we achieve and maintain a high standard of quality.

As a result of the project, we are satisfied that the interRAI assessment data collected in New Zealand is of an overall quality that we can trust. Stable trends in population and clinical characteristics, service utilisation and convergent validity between interRAI outcome variables demonstrates the high quality of the assessment instruments and data collected using those instruments.

Examples of interRAI data quality issues highlight the importance of continuous monitoring and improvement of data quality. The interRAI Services team works hard to ensure we provide high quality data.

How we protect the quality of our data – regular processes

We follow rigorous processes to ensure that accurate and consistent data is entered into the system:

- interRAI assessments are integrated and standardised instruments developed by a collaborative network of clinicians and researchers. Assessment instruments are well tested internationally.
- Only health professionals complete assessments. Assessors have a structured conversation with the person and their family or carers, make observations and refer to other clinical information for the assessment.
- We monitor and support assessor competency through annual online self-learning evaluations and quality reviews of completed assessments.
- Assessors enter all assessment information into a single national software platform producing consistent outcome measures from standardised algorithms.

Table 1: Trends in demographic characteristics in Home Care assessments.

Year	Female	Married	Under 65	Over 85	Dementia	Heart failure
2015-16	60%	38%	5%	42%	8%	8%
2016-17	60%	39%	5%	42%	9%	8%
2017-18	59%	39%	5%	42%	9%	8%

Table 2: Trends in demographic characteristics in LTCF assessments.

Year	Female	Married	Under 65	Over 85	Dementia	Heart failure
2015-16	66%	25%	4%	54%	18%	8%
2016-17	66%	24%	4%	54%	18%	8%
2017-18	65%	25%	4%	54%	18%	8%

How we reviewed our data

We analysed the interRAI data collected in New Zealand between July 2015 and June 2018 through interRAI Home Care (HC) and Long Term Care Facilities (LTCF) assessments. For this analysis we used descriptive statistics to demonstrate consistency, reliability and stable trends.

Trends in population and clinical characteristics

We looked at the trends over three years for demographic information and certain clinical characteristics. The results are reassuring as year-on-year trends show no outliers and are consistent.

Table 3: Trends in clinical characteristics in Home Care assessments.

Year	Cognitive Performance Score 3+	Depression Rating (DRS) Score 3+	Method of Assigning Priority Level (MAPLe) 3+	Activities of Daily Living Hierarchy (ADL) 3+	Instrumental Activities of Daily Living Hierarchy (IADL) capacity Score 15+	Instrumental Activities of Daily Living Hierarchy (IADL) performance Score 15+
2015-16	21%	17%	78%	20%	81%	82%
2016-17	22%	18%	80%	21%	82%	82%
2017-18	22%	18%	80%	21%	82%	83%

Table 4: Trends in clinical characteristics in LTCF assessments.

Year	Cognitive Performance Score 3+	Depression Rating (DRS) Score 3+	Activities of Daily Living Hierarchy (ADL) 3+
2015-16	45%	20%	44%
2016-17	44%	21%	44%
2017-18	44%	21%	43%

Overall, the findings related to clinical characteristics point to a trend of increasing client complexity in aged residential care. This trend remained stable over the study period.

Table 5: Trends in service utilisation in Home Care assessments.

Year	Any physical therapy	Any occupational therapy	Any home support services	Any informal care	Median hours of informal care in the past 3 days
2015-16	6%	5%	25%	35%	3
2016-17	6%	5%	25%	36%	3
2017-18	5%	4%	25%	36%	3

Table 6: Trends in service utilisation in LTCF assessments.

Year	Any physical therapy	Any occupational therapy
2015-16	5%	1%
2016-17	4%	0%
2017-18	4%	0%

Trends in service utilisation

Table 5 and 6 presents the summary of trends in service utilisation. Although each assessment is complete independently, the level of service utilisation nationally is consistent over the three years.

Trends in convergent validity

Tables 7 and 8 reports indicators of convergent validity over time by examining the correlations between a number of variables. Convergent validity takes two variables that are supposed to be measuring the same construct and shows that they are correlated.

The correlations between variables are calculated using Pearson's R correlation coefficient. Pearson's R correlation coefficient is a numeric value that describes the magnitude and direction of the correlations. For example, an R coefficient of 0 means there is no correlation between the two variables, and an R coefficient of 1 implies that a linear equation describes the relationship between the two variables. We expect these correlations to be consistent over time.

Table 7: Trends in convergent validity (Pearson's R correlation coefficient) between interRAI outcome measures over three years in Home Care Assessments.

Year	Activities of Daily Living Hierarchy (ADL) and Cognitive Performance Scales (CPS)	Pain and Depression Rating (DRS) Scales	Changes in Health End-stage Disease Signs and Symptoms (CHESS) and Cognitive Performance Scales	Pain and Cognitive Performance Scales
2015-16	0.36	0.11	0.16	-0.21
2016-17	0.35	0.10	0.18	-0.20
2017-18	0.35	0.10	0.18	-0.21

Table 8: Trends in convergent validity (Pearson's R correlation coefficient) between interRAI outcome measures over three years in LTCF assessments.

Year	Activities of Daily Living Hierarchy (ADL) and Cognitive Performance Scales (CPS)	Pain and Depression Rating (DRS) Scales	Changes in Health End-stage Disease Signs and Symptoms (CHESS) and Cognitive Performance Scales	Pain and Cognitive Performance Scales
2015-16	0.55	0.16	0.13	-0.14
2016-17	0.55	0.16	0.12	-0.15
2017-18	0.54	0.16	0.12	-0.15

Table 9: Trends in convergent validity (Pearson's R correlation coefficient) for Home Care assessments over three years.

Year	Instrumental Activities of Daily Living (ADL) Capacity scale and Cognitive Performance Score (CPS)	IADL Performance scale and CPS	Method of Assigning Priority Level (MAPLe) and CPS	IADL Capacity scale and IADL Performance scale
2015-16	0.55	0.53	0.68	0.98
2016-17	0.55	0.52	0.68	0.98
2017-18	0.54	0.54	0.68	0.97

Generally, we see a stronger correlation of clinical variables (for example, larger correlation coefficient values) in LTCF assessments.

A weak positive correlation is observed between Pain and Depression Rating Scale; and CHESS and Cognitive Performance Scale, however, the correlation coefficients remain stable for both assessment types and over the three years.

A stable and weak negative correlation indicates the relationship between two scales, where one scale increases as the other decreases and vice versa.

We observe a moderate correlation between the Activities of Daily Living Hierarchy and Cognitive Performance Score for both Home Care and LTCF assessments. This is not surprising as both outcome measures draw on items related to 'eating ability'. Similarly, moderate correlation was also observed for Instrumental Activities of Daily Living Performance scale and Cognitive Performance Score.

A very strong correlation was observed between Instrumental Activities of Daily Living (Capacity) and Instrumental Activities of Daily Living (Performance) scales, which is very reassuring as both scales are based on eight identical items. The Instrumental Activities of Daily Living Capacity measures the level of difficulty for a person to carry out an activity whereas the Instrumental Activities of Daily Living Performance measures the level of dependence on others to carry out an activity.

The above finding is supported by international literature (Hirdes et al², 2011; Hogeveen et al, 2017³) using the Canadian Home Care (RAI-HC) and interRAI Community Health Assessment (CHA) in Ontario and Home Care (RAI-HC) in British Columbia (BC).

Evaluation of the convergent validity of interRAI clinical variables and the stability of the correlations over time gives strong confidence in the quality of interRAI assessment instruments and data management.



² Hirdes JP, Poss JW, Caldarelli H, Fries BE, Morris JN, Teare GF, et al. An evaluation of data quality in Canada's continuing care reporting system (CCRS): secondary analyses of Ontario data submitted between 1996 and 2011. *BMC Medical Informatics and Decision Making* (2013) 13:27. DOI: 10.1186/1472-6947-13-27.

³ Hogeveen et al. *BMC Medical Informatics and Decision Making* (2017) 17:150. DOI: 10.1186/s12911-017-0547-9.

Two data quality issues

There is always the possibility of unintentionally introducing errors during data administration. This chapter gives two examples of data quality issues and our response.

Data validity – Invalid National Health Index

The National Health Index (NHI)

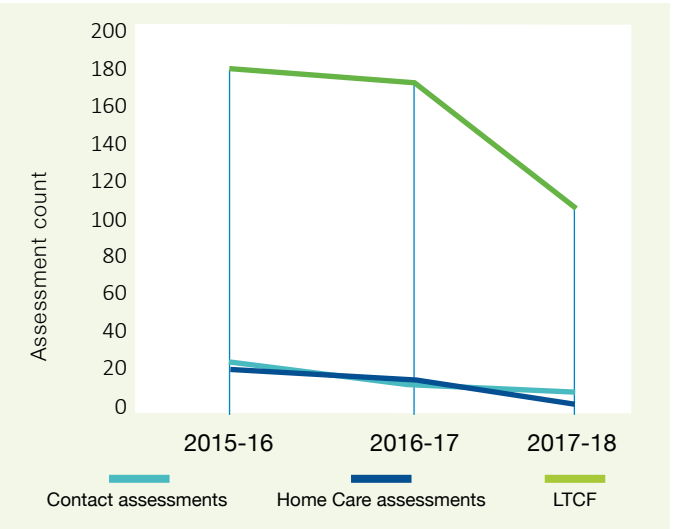
The National Health Index (NHI) is a unique identifier assigned to every person who uses health and disability support services in New Zealand.

An NHI number has a specific format. It is seven characters in length including a check digit as the seventh digit. Any NHI number that does not fit the correct format or that has an incorrect check digit is referred to as invalid.

An NHI number is fundamental for services to link information and get a better understanding of each person’s needs.

To date, there are close to 200,000 people who have had an interRAI assessment in New Zealand. As part of an ad-hoc request from the Ministry of Health, it became clear that there were about 350 invalid NHI numbers (or equivalent of 850 assessments) in the interRAI database. The number of invalid NHIs has reduced over time, with greater improvement in LTCF assessments (Figure 5).

Figure 5: Number of invalid NHIs by assessment type over a four year period.



We investigated how the error was introduced.

The existing NHI checking process includes a built-in ‘look up’ function. When an assessor adds a new NHI, the system automatically populates demographic details and other information held on the NHI system.

An incorrect NHI triggers an error message and the system will prevent any further information to be entered.

However, there is a second process that allows the incorrect NHI number to be manually entered into the system.

Knowing where most invalid NHI numbers come from and how errors were entered, the interRAI Services team worked to improve business processes to help eliminate this type of error in the future. We:

- corrected any known NHI numbers
- updated the list of invalid NHI numbers of existing assessment records
- emphasised the importance of entering correct NHI during assessor training and in communications
- worked with the group of assessors most likely to introduce errors to enhance the NHI interface and workflow for adding a new client.

In a future release of the interRAI software we are also going to hide the field leading to wrong entries.

Data completeness – Missing height and weight information

Older adults have an increased risk of mortality associated with undernutrition and a low BMI. By recording height and weight in interRAI assessors can make sure that undernutrition is recognised.

The Undernutrition Clinical Assessment Protocol (CAP) triggers when a Body Mass Index (BMI) is less than 21 and no clear indication that death is near indicating the person is undernourished.

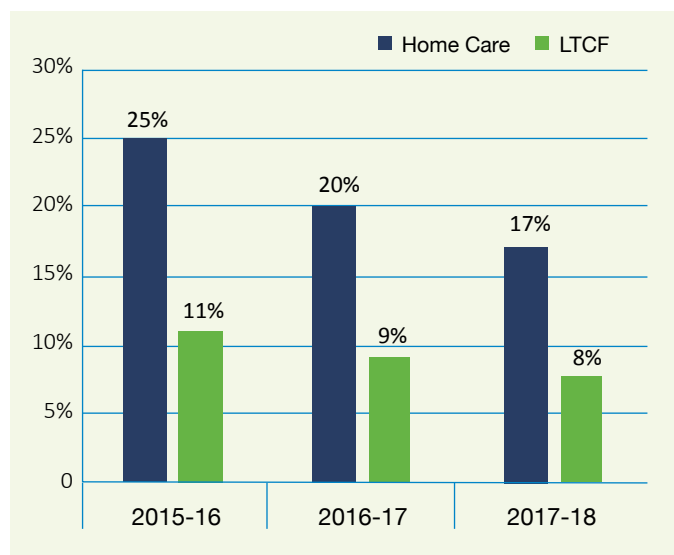
A Quality Indicator (QI) looks at prevalence of unexplained weight loss. This QI derives from a question asking about weight loss of 5% or more in last 30 days, or 10% or more in last 180 days.

Height and weight information are not mandatory fields and there may be a clinical rationale for these measurements not to be taken, for example, when a person is too frail to move. If these values are not recorded, however, a client's or resident's undernourishment problem may remain undetected. From an analytical perspective, this also reduces the sample size.

Figure 6 presents the proportion of interRAI assessments missing height and weight information. For this analysis we excluded assessments of people who:

- have high health instability indicated, for example, by a high CHESS Score (Changes in Health, End Stage disease and Signs and Symptoms)
- are bed bound
- are unable to move themselves to a standing position
- have end stage disease or
- receive palliative care.

Figure 6: Proportion of interRAI assessments missing height and weight information by assessment type.



Generally, LTCF assessments are less likely to have missing height and weight information compared to Home Care assessments. The two year comparison also shows that the completeness of the data has improved for both assessment type.

We will:

- continue monitoring this data issue
- emphasise the importance of height and weight information at training sessions and in communications
- identify and engage with individual DHBs and facilities with a higher proportion of assessments with missing measurements.



quality (noun):

1. (uncountable)

Level of excellence

interRAI Quality Indicators:

Measuring the quality of care

We introduced Quality Indicators for Aged Residential Care this year.

Quality Indicators show patterns in service delivery over time. Providers may use the information to reflect on their practice, make changes and measure progress.

We derive Quality Indicators from interRAI Long Term Care Facilities (LTCF) assessment data. Each Indicator has an explicit definition and inclusion/exclusion criteria.

While Quality Indicators are defined in terms of individual characteristics, they are only meaningful when expressed as summarised averages at the facility or care provider level. These summary measures reflect presumed quality of care. Quality Indicators are regarded as pointers that indicate potential problem areas that need further review and investigation.

Reports for facilities and DHBs, and nationwide

We produce four Quality Indicator reports each year for all aged residential care facilities and providers, District Health Boards (DHB), DHB regions and nationally.

Each report contains charts for each level of care a facility provides.

Quality Indicators can be used to:

- better understand the quality of their service
- identify areas where your facility are doing well
- identify opportunities to improve quality of care
- track quality over time
- evaluate the impact of service improvement exercises
- evaluate the influence of policy decisions.

Reporting interRAI Quality Indicators

We share Quality Indicator reports with individual facilities, large providers, District Health Boards and DHB regions through the Connex secure website.

Find definitions for each Quality Indicator, an education package and national Quality Indicators reports on the interRAI NZ website at www.interrai.co.nz/data-and-reporting/quality-indicators

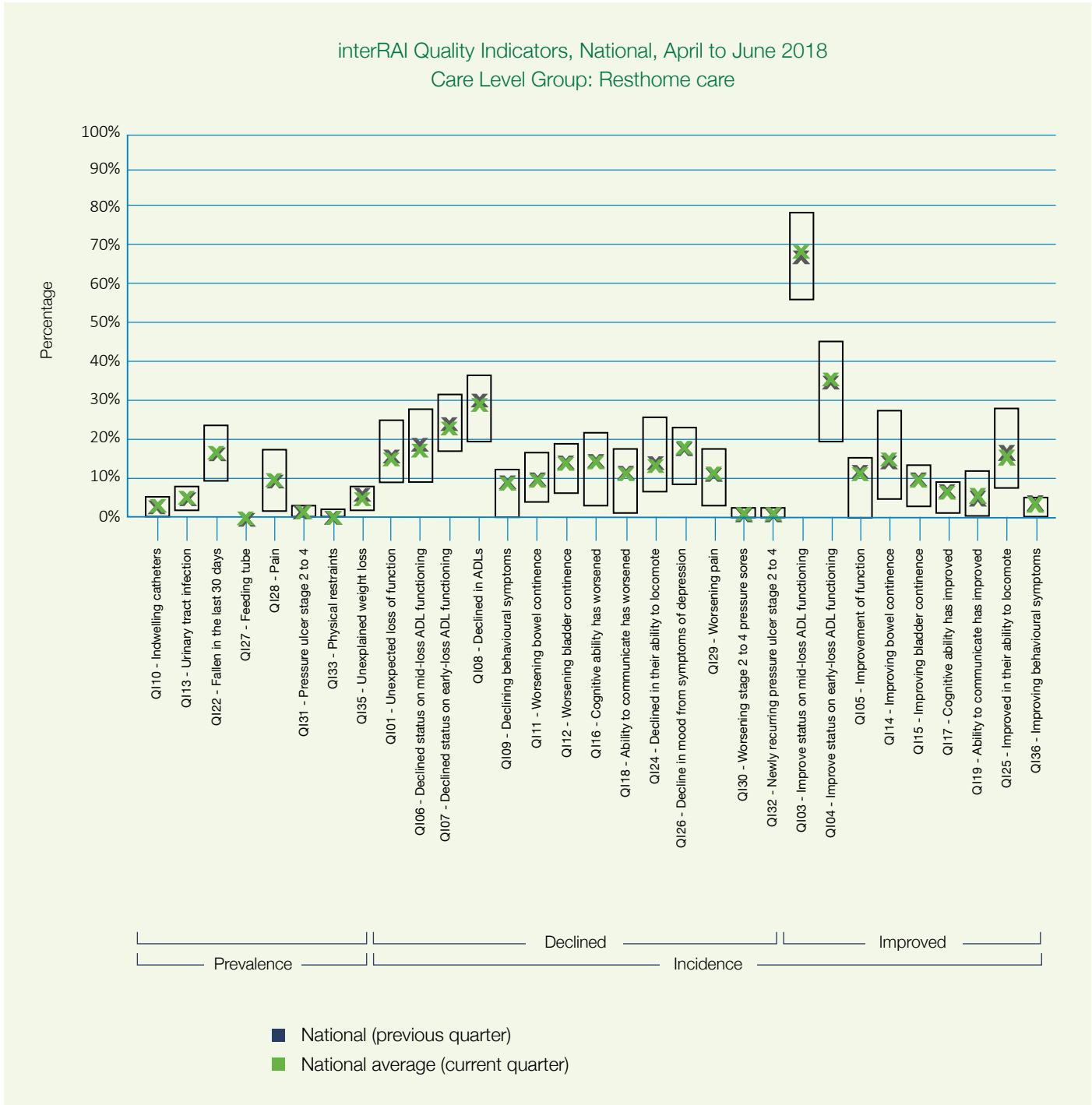
Thirty-one Quality Indicators cover areas such as:

- safety
- medication
- cognitive functioning
- pain
- nutrition
- physical function
- ulcers
- weight and
- incontinence.

National Quality Indicators – first results

Figure 7 shows all 31 Quality Indicators for resthome level residents in the quarter April to June 2018.

Figure 7: Resthome care Quality Indicators, New Zealand.



How to read the chart in Figure 7

The 31 Quality Indicators are divided into prevalence and incidence indicator measures.

Prevalence indicators highlight a particular care problem that a resident experiences in a reference time.

Incidence indicators identify where the resident has had an improvement or decline in a particular care problem between two assessments.

The black crosses are previous quarter's values.

The green crosses are the current national values.

For Prevalence and Declined incidence measures, the black cross above the green cross shows an improvement over time. Whereas for improved incidence measures, the green cross above the black cross shows an improvement over time.

The small boxes around crosses show the range between the highest and the lowest value for each Quality Indicator.

One prevalence Quality Indicator is the percentage of residents with pain. Nationally, one in ten residents has daily moderate pain or describes the pain intensity as severe, horrible or excruciating. The percentage differences for DHBs range between 4% and 18%.

One incidence Quality Indicator is the percentage of residents who improve status on mid-loss functioning transfer, or remain completely independent in mid-loss activities of daily living (ADL). Three ADL items used for evaluating the status on mid-loss functioning are toilet transfer, walking and locomotion.

Nationally, close to 70% of residents in resthome care improved on this indicator, whereas 20% of residents showed a decline. The percentage difference between DHBs was about 20%.

Next steps for interRAI Quality Indicators

Over time, we will introduce a risk adjustment system when comparing quality of care across providers providing services to populations with different characteristics. This will strengthen the comparison of like for like.

The interRAI services team will continue to work in partnership with Health Quality and Safety Commission and individual aged care providers, to grow understanding of Quality Indicators and to promote positive examples of quality care.



quality of life

(countable, uncountable, plural qualities of life):

1. The general wellbeing of something or someone



Quality of life: interRAI wellbeing measures

In late 2016, the Ministry of Health published the Healthy Ageing Strategy 2016. The strategy's vision is that 'older people live well, age well, and have a respectful end of life in age-friendly communities'. It takes a life-course approach that seeks to maximise health and wellbeing for all older people.

interRAI assessments collect a wealth of information on disease diagnoses and social and wellbeing measures which highlight the risks and issues people face as they age.

interRAI provides some insight into the quality of life of older people who are assessed. The measures include:

- physical and mental health status
- independence
- safety
- positive relationships
- responsibilities and directives.

Physical and mental health status

A person's physical and mental health status is a major influence on a person's wellbeing.

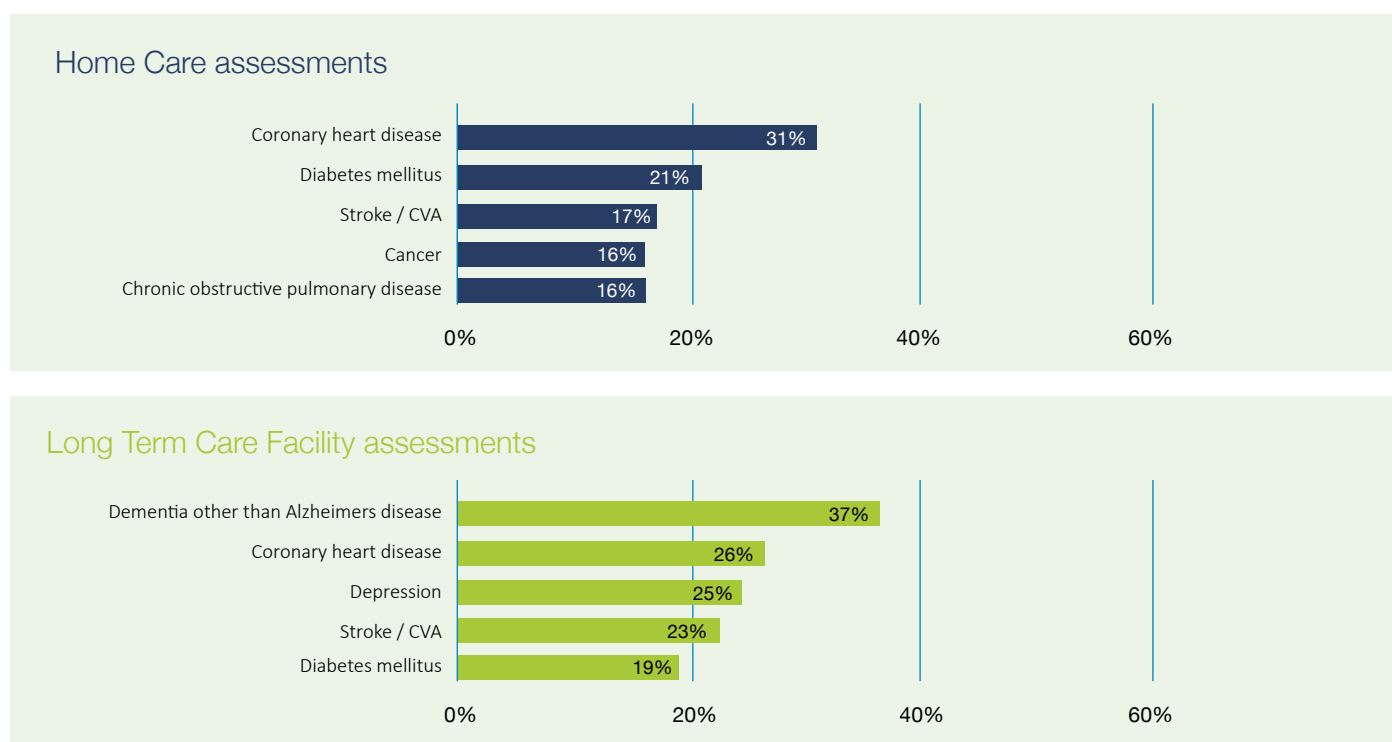
Long term conditions

As people age, the likelihood of being diagnosed with a chronic condition and living with one or more other chronic conditions increases. Figure 8 presents the top five most commonly diagnosed diseases reported in Home Care and LTCF assessments in 2017/18.

Home Care assessments are more likely to report Coronary Heart Disease, Diabetes, Stroke/ Cerebrovascular disease (CVA), Cancer (all types combined) and Chronic Obstructive Pulmonary Disease (COPD).

A diagnosis of dementia (other than Alzheimer's disease) is more prevalent in LTCF assessments (37%) than Home Care assessments (18%). LTCF assessments are also more likely to report the presence of depression (25%) than Home Care assessments (14%).

Figure 8: Top five most commonly diagnosed diseases reported in Home Care and LTCF assessments in 2017/18.



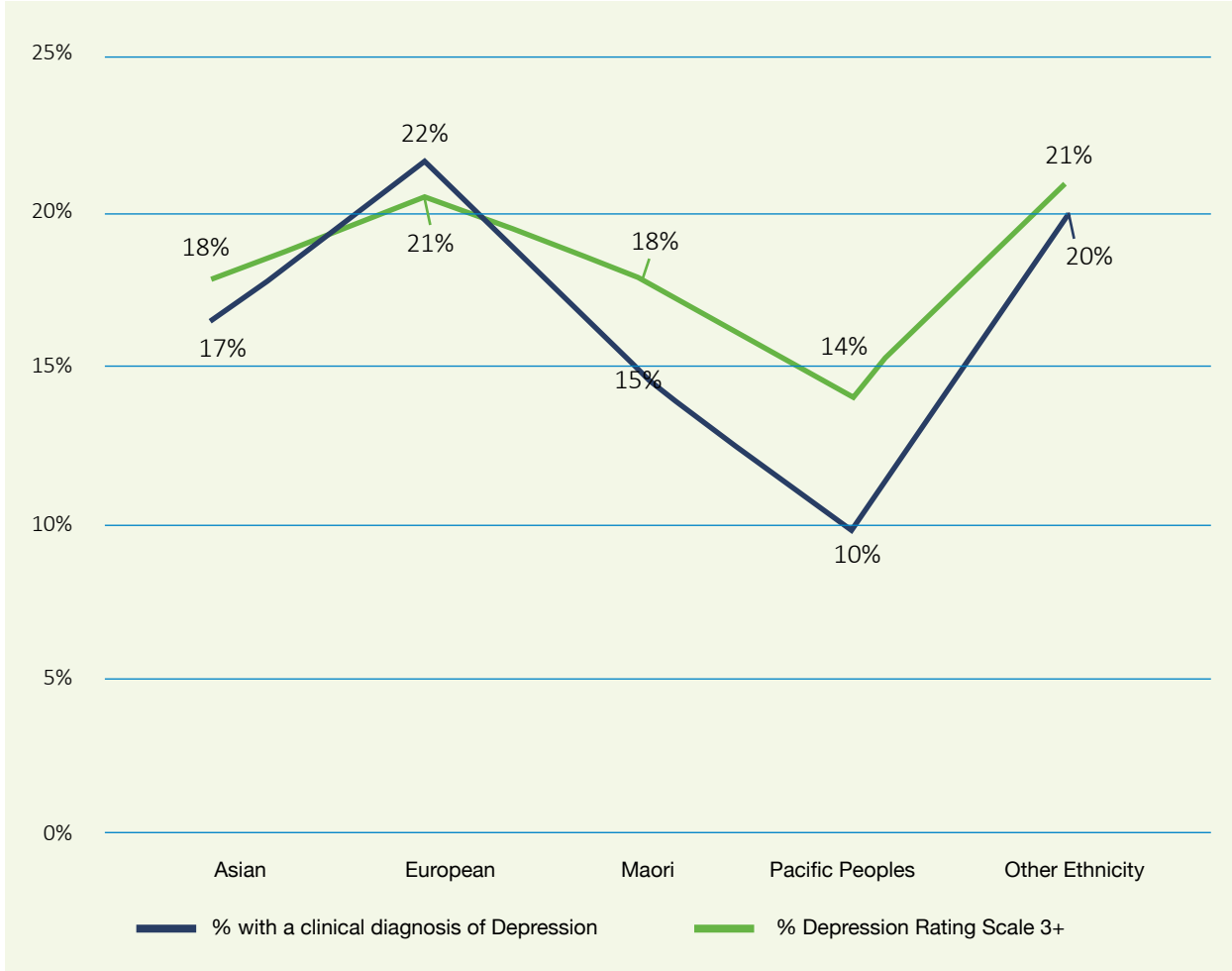
Depression

Depression is an important measure of quality of life and is frequently underdiagnosed among older people. The interRAI Depression Rating Scale (DRS) is an embedded screener to assist the early detection of depression. DRS scores of 3 or greater indicate, with increasing predictability, the presence of a minor or major depressive disorder.

Figure 9 shows the comparison between depression diagnosis and DRS of three and over by assessment type and ethnicity in 2017/18. The two lines in the figure have the same ethnicity pattern, showing how the Depression Rating Scale is a predictor of depressive disorders.

Pacific peoples are less likely to be diagnosed with depression or at risk of clinical depression compared to other ethnicity groups.

Figure 9: Depression clinical diagnosis vs. Depression Rating Scale (DRS) by ethnicity LTCF.



Pain

Pain is highly subjective. Symptoms of pain can easily be overlooked and not treated. Many people mistakenly believe that pain is to be expected as one ages and/or with chronic health conditions.

The interRAI Pain Scale screens for the frequency and intensity of pain. This scale can be used to identify indicators of pain, and monitor the person's response to pain management interventions.

One in four (24.3%) Home Care clients aged under 65 reported daily severe and excruciating pain (Figure 10). The proportion of assessments where the person reports daily severe and excruciating pain is higher in Home Care assessment compared to LTCF assessments (Figure 11).

Figure 10. Proportion of daily severe and excruciating pain reported by Home Care assessments in 2017/18 by age group.

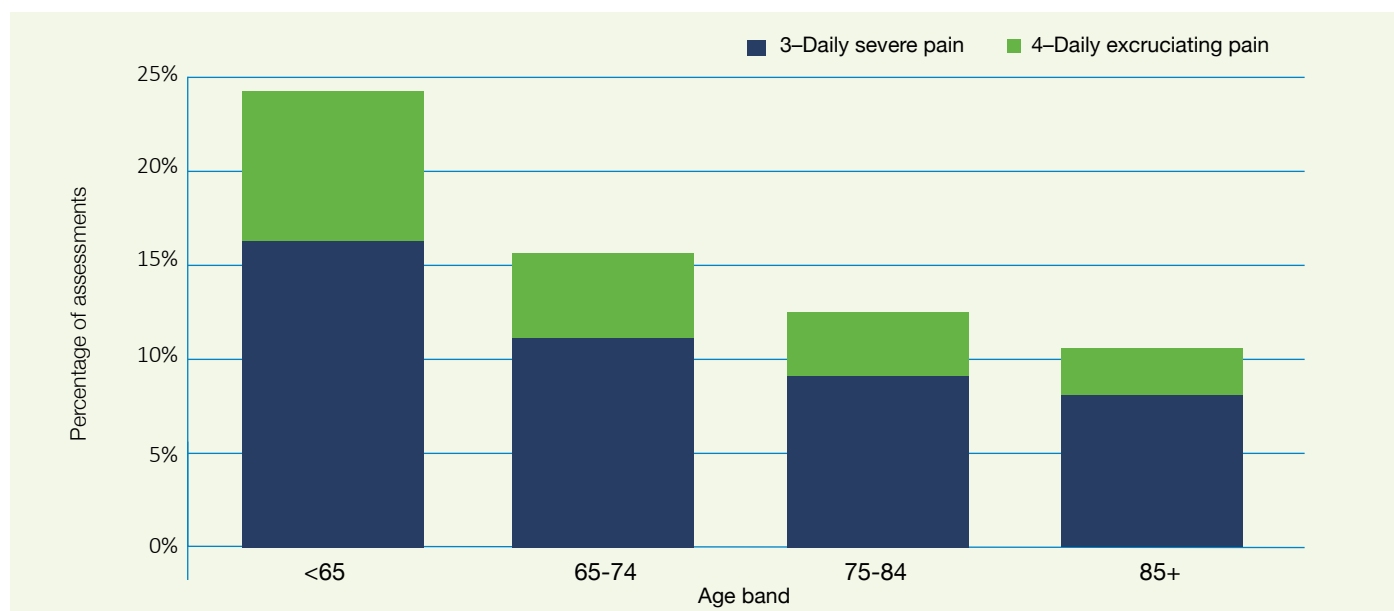
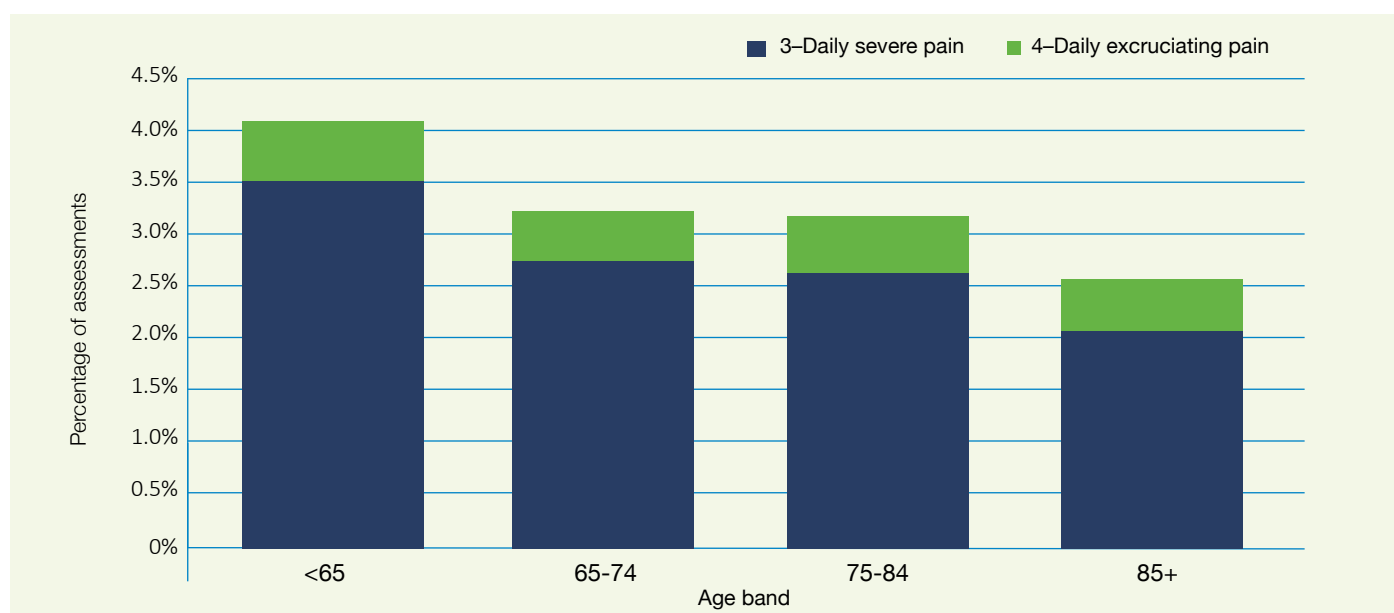


Figure 11. Proportion of daily severe and excruciating pain reported by LTCF assessments in 2017/18 by age group.



Independence

The Activities of Daily Living (ADL) Self-performance Hierarchy Scale reflects the progressive loss of function performance. This scale is based on the concept of four ADL items showing the level of difficulty in personal hygiene, locomotion, toilet use and eating. The higher the score, the higher the level of support the old person requires. This information helps to inform service provision, care planning and treatment approaches.

Figure 12 shows the proportion of people with a high ADL Self-Performance Scale (3 or more) for Home Care assessments in 2017/18 by ethnicity. A score of three and more indicates that the person can no longer live independently.

A higher proportion of Pacific peoples and Asian clients require varying levels of support compared to other ethnicities. This ethnicity trend can also be observed in LTCF assessments (Figure 13).

Figure 12: ADL self-performance scale of 3 and over for Home Care assessments in 2017/18 by ethnicity.

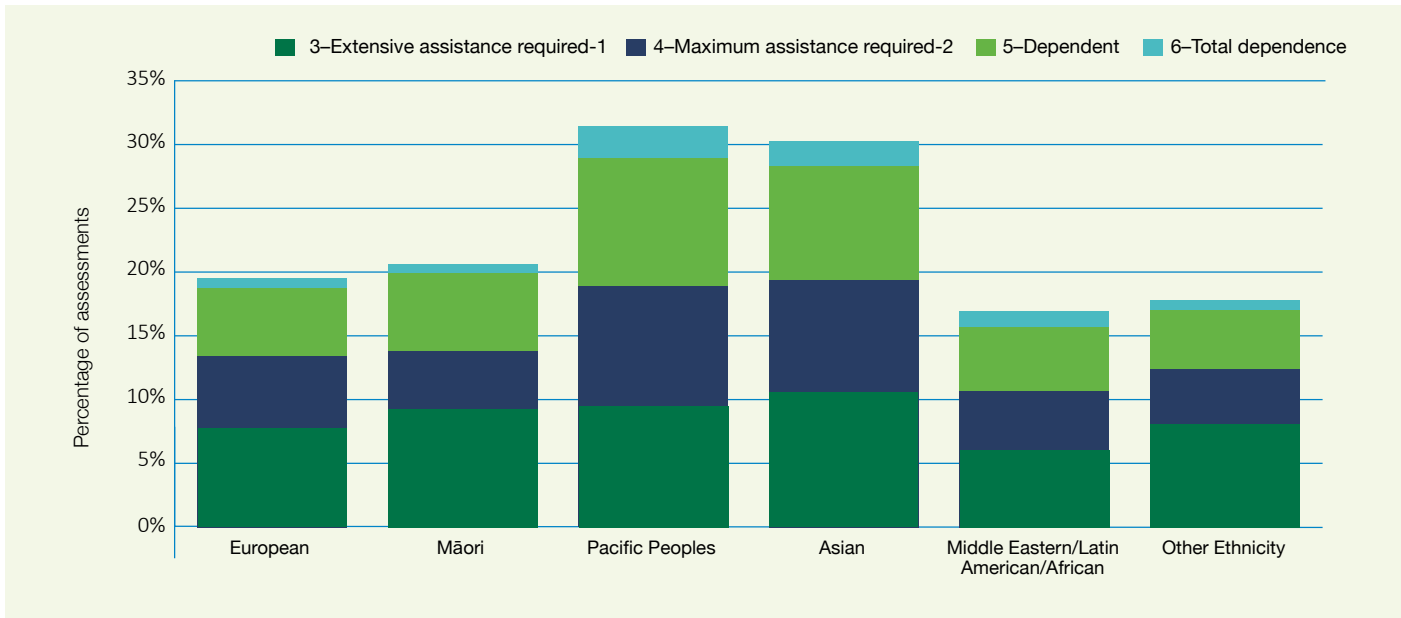
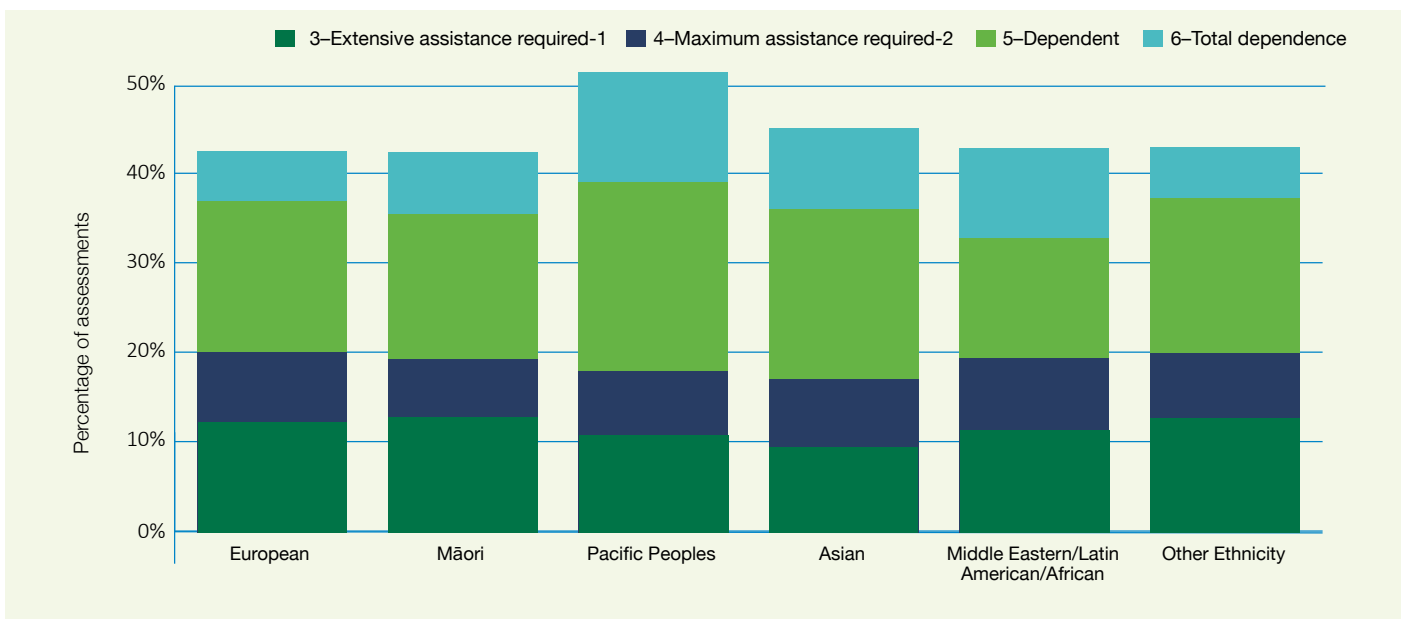


Figure 13: ADL self-performance scale of 3 and over for LTCF assessments in 2017/18 by ethnicity.



Safety

How safe a person is can be described by a variety of factors including falls risk or whether they receive appropriate medication.

Falls risk

Each year approximately one in three older New Zealanders have a fall. While over 95 % of falls occur in the community, other care settings, such as hospitals and residential care facilities, also present a falls risk⁴.

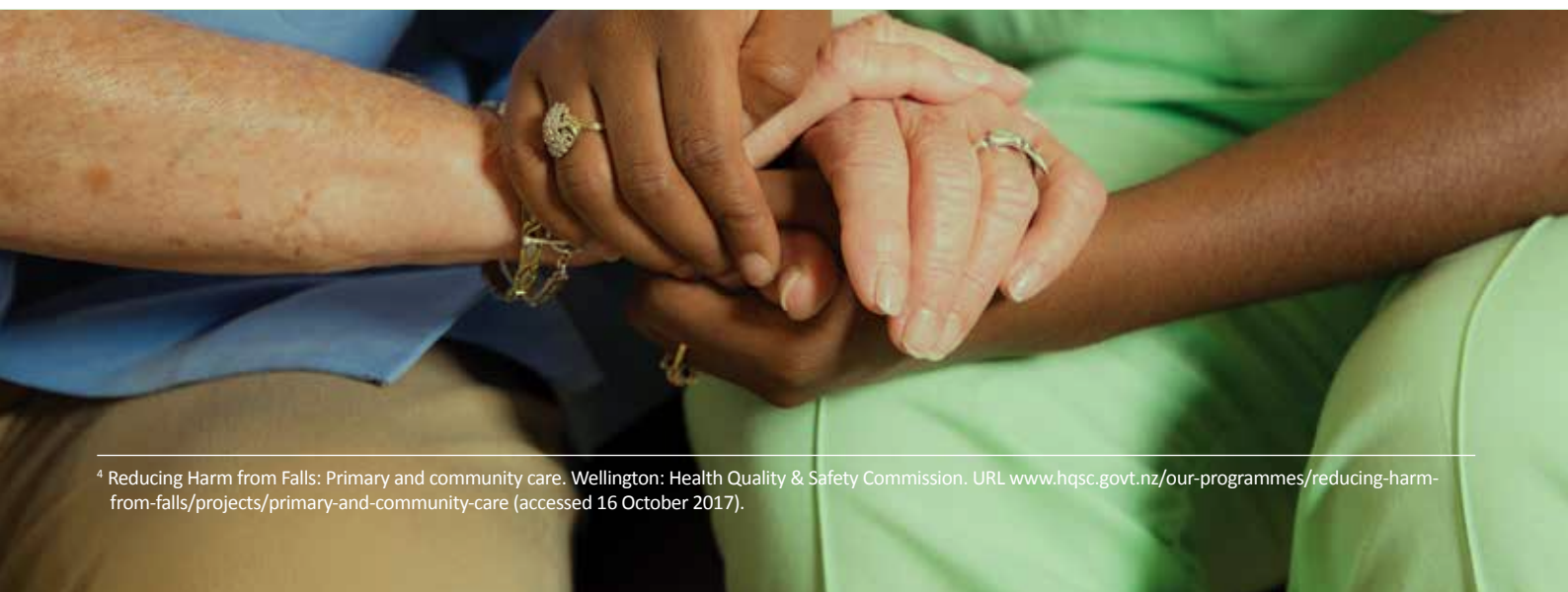
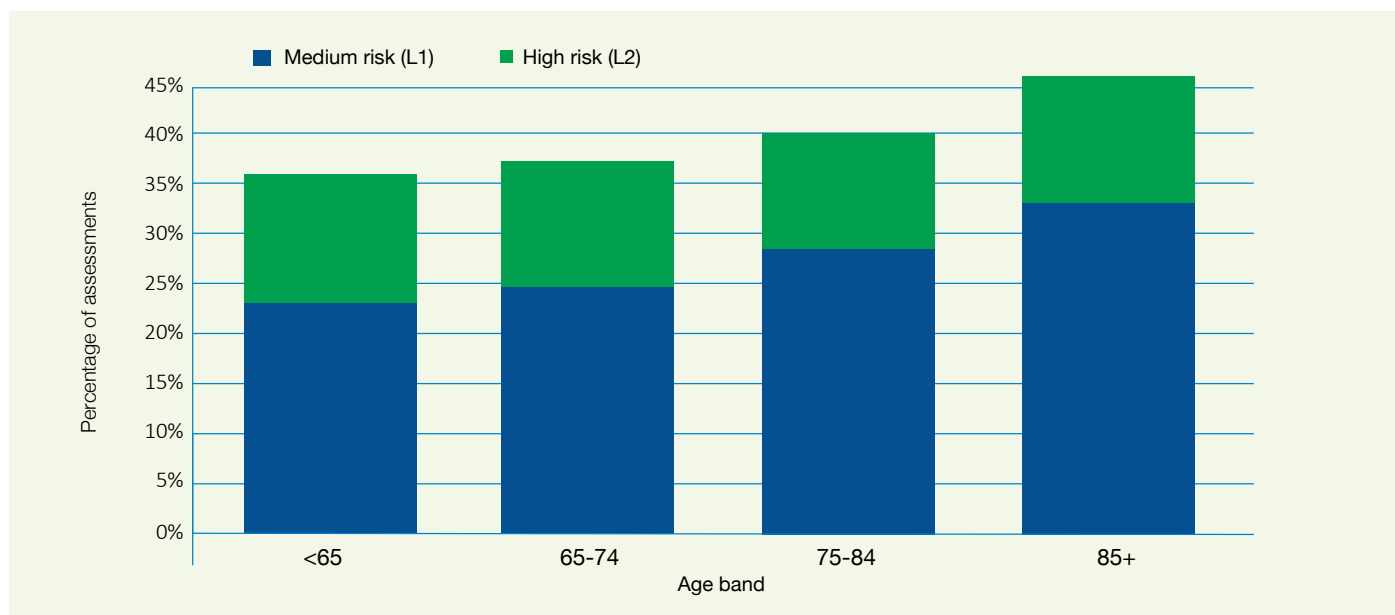
The interRAI Falls Clinical Assessment Protocol (CAP) identifies the underlying risk factors for falls.

Falls prevention is not an isolated goal but part of a larger objective of promoting physical activity and improve quality of life for older people.

The Falls CAP triggers at two levels. Level 1 triggers to identify a person as at the medium risk of future falls based on prior report of a single fall. Level 2 triggers to identify a person as at the high risk of future falls based on prior report of multiple falls.

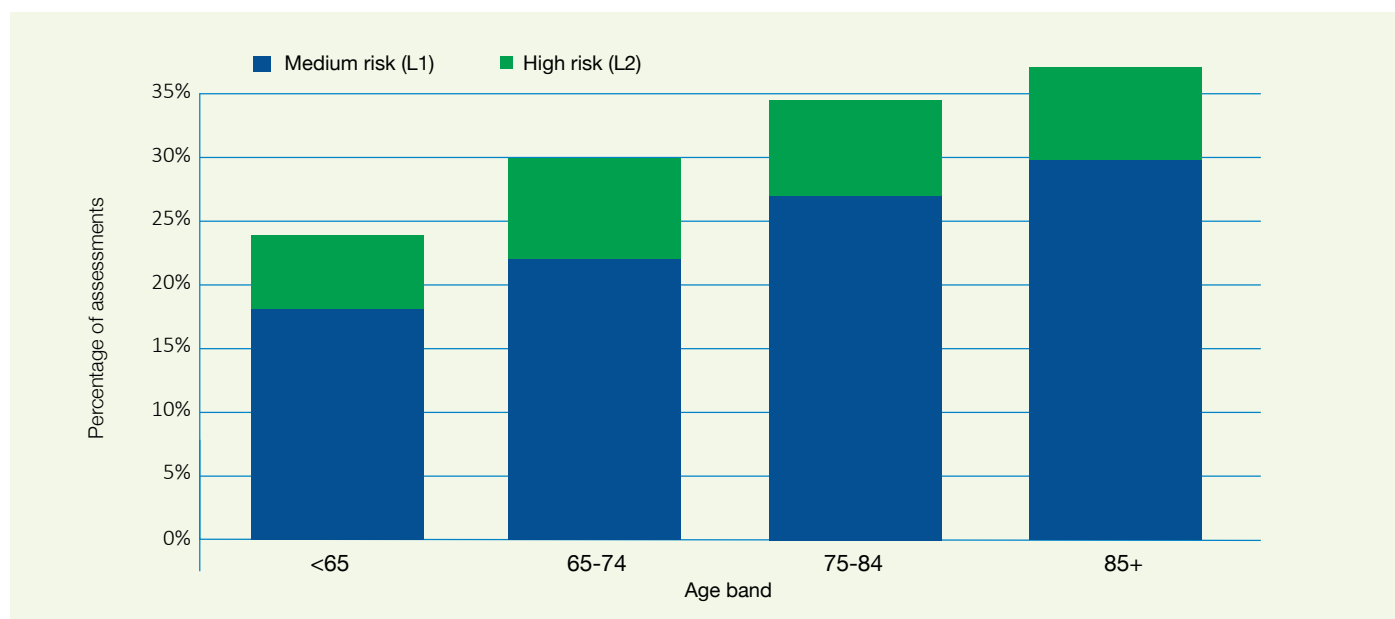
Figures 14 and 15 show that, as people age, the likelihood of falls increases. The Falls CAP is also more likely to trigger at both levels for Home Care assessments than LTCF assessments at all age groups.

Figure 14: Triggered Falls CAP by age group, Home Care assessments 2017/18.



⁴ Reducing Harm from Falls: Primary and community care. Wellington: Health Quality & Safety Commission. URL www.hqsc.govt.nz/our-programmes/reducing-harm-from-falls/projects/primary-and-community-care (accessed 16 October 2017).

Figure 15: Triggered falls CAP by age group, LTCF assessments 2017/18.



Appropriate medications

People are living longer with multiple long-term conditions, also known as multimorbidity.

Multimorbidity is often treated with multiple medications. The Health Quality and Safety Commission reported that 25% of those aged 65-74 years receive five or more medications. For people aged 85 and over, this percentage is 59%⁵.

Multiple medications may be necessary and beneficial, however, they could also be harmful where a person experiences side effects, inappropriate medication management, or decline in cognitive or functional capacity leading to a lower quality of life.

The interRAI Appropriate Medication CAP can be a helpful tool for assessing the safe use of medications. This CAP triggers when someone receives nine or more medications and presents two or more symptoms such as chest pain, dizziness, shortness of breath, edema and recent health deterioration.

The Appropriate Medication CAP is more likely to trigger for younger age groups for both female and male (Figures 16 and 17). Māori and Pacific peoples are more likely to trigger this CAP at a younger age than Asians and Europeans.

⁵ Polypharmacy in people aged 65 and over. Wellington: Health Quality & Safety Commission. URL www.hqsc.govt.nz/our-programmes/health-quality-evaluation/projects/atlas-of-healthcare-variation/polypharmacy/ (accessed 21 May 2018).

Figure 16: Triggered Appropriate Medication CAP by age group, ethnicity, in Home Care assessments of women 2017/18.

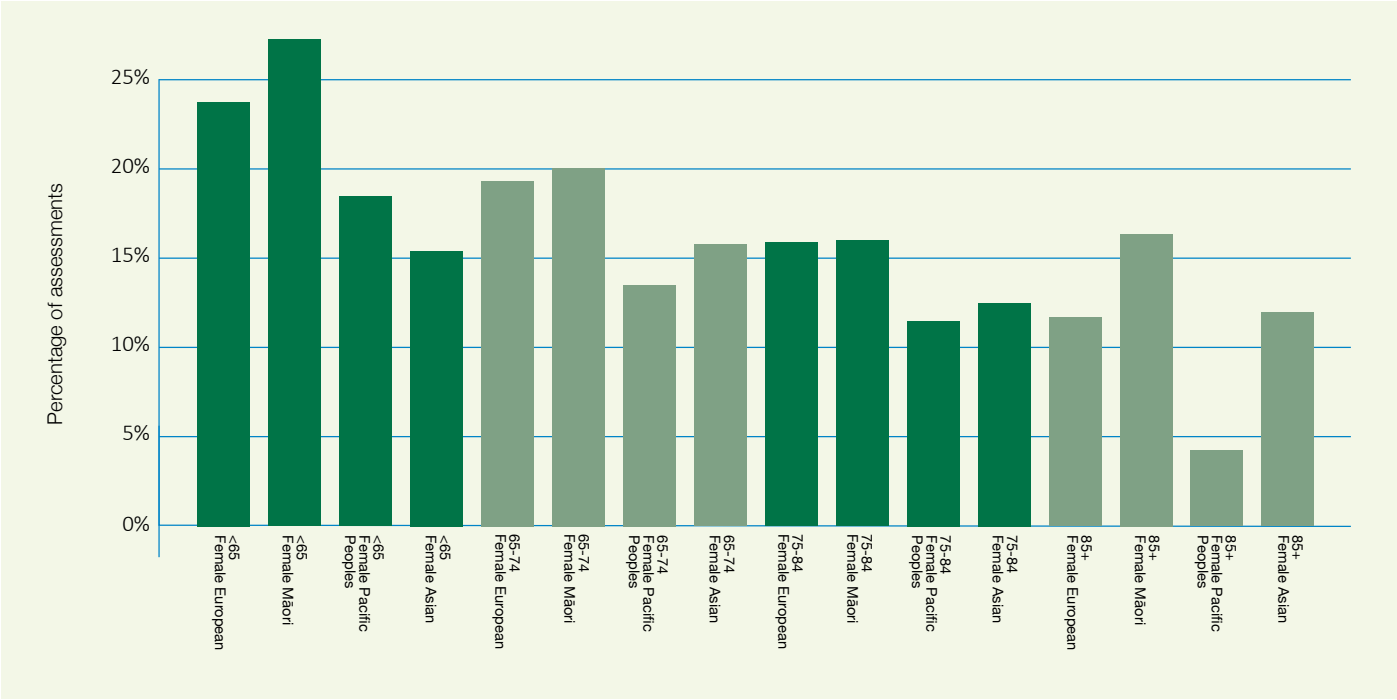


Figure 17: Triggered Appropriate Medication CAP by age group, ethnicity, in Home Care assessments of men 2017/18.



Positive relationships

Mental health problems and poor physical health are factors associated with reduced social relationships and impact on mood, behavior and physical activity.

Social Relationships CAP

The interRAI Social Relationship CAP identifies factors associated with reduced social relationships and the need to put in place interventions to facilitate social engagement if triggered.

Figures 18 and 19 present the triggered Social Relationships CAP by age group, gender and ethnicity and by assessment type in 2017/18. This CAP is more likely to trigger for younger age groups living at home. Older Asian women living at home are more likely to trigger the Social Relationships CAP compared to other women.

Figure 18: Triggered Social relationship CAP by age group, gender and ethnicity, Home Care assessments 2017/18.

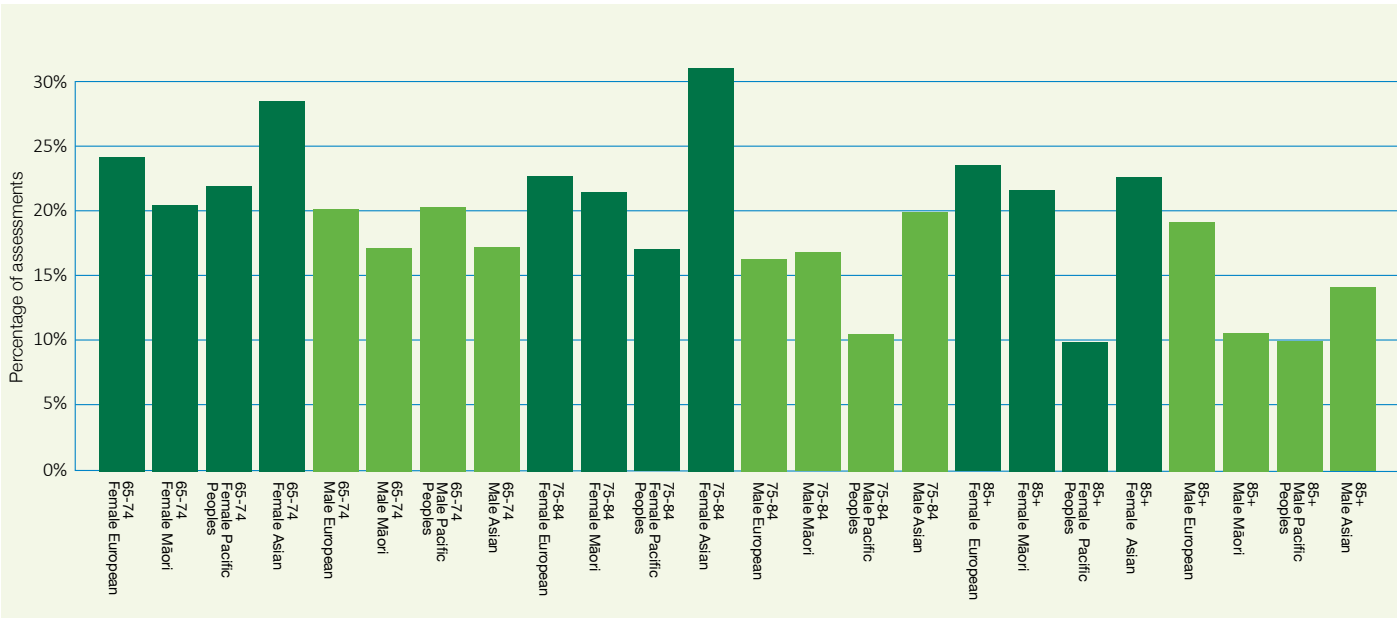
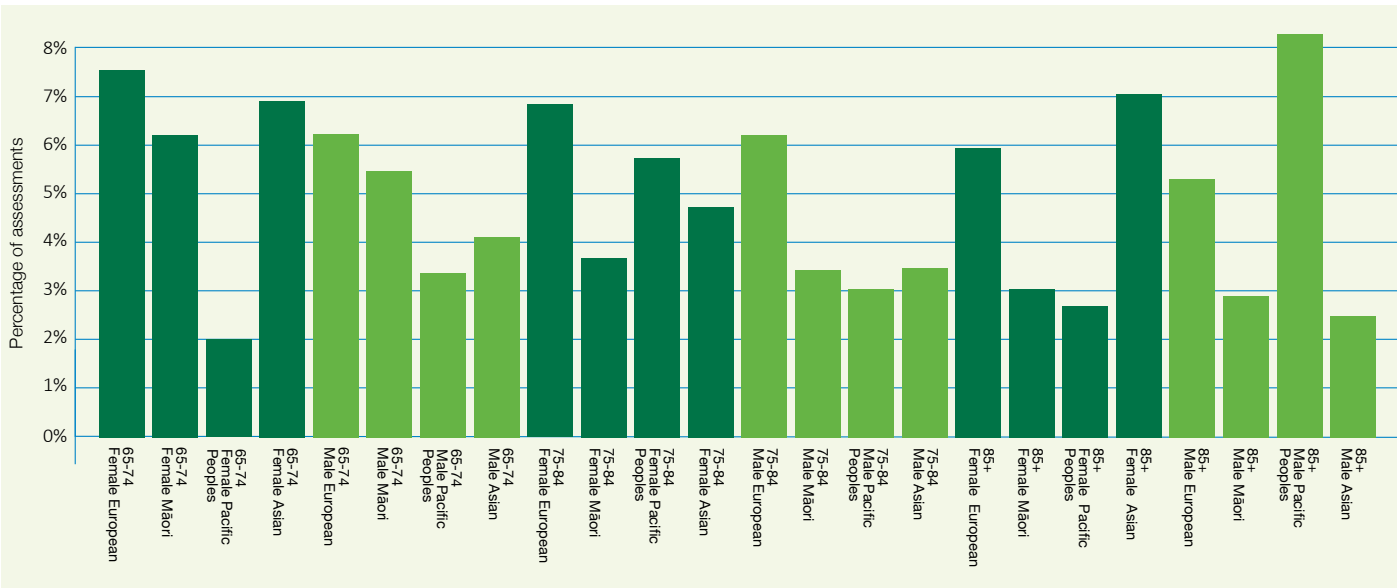


Figure 19: Triggered Social relationship CAP by age group, gender and ethnicity, LTCF assessments 2017/18.



Loneliness

Loneliness is negatively associated with physical health, mental health and quality of life. interRAI records a person's self-perceived loneliness with a binary measure of 'reported feelings of loneliness'.

In 2017/18, 22% of Home Care clients reported feeling lonely, compared to 7% of people living in aged residential care. There has been a slight decrease in the proportion of LTCF assessments reporting 'feelings of loneliness' (Figure 21) where as the proportion of Home Care assessments has remained almost unchanged in the last few years (Figure 20).

Loneliness is a complex emotion, which typically includes anxious feelings about a lack of connection or communication with others. As such, loneliness can be felt even when surrounded by other people.

In 2017, research using interRAI Home care assessment data to understand the associations between loneliness and ethnic groups as well as living arrangements for older adults aged 65 and over, found that Asian older adults had the highest loneliness rate of any ethnic group, even though most lived with others.⁶ Surprisingly, more than two-thirds of participants who were lonely lived with others. Pacific people had the lowest loneliness rate.

Figure 20: Proportion of Home Care assessments where clients reported 'feelings of loneliness' between 2014 and 2018.

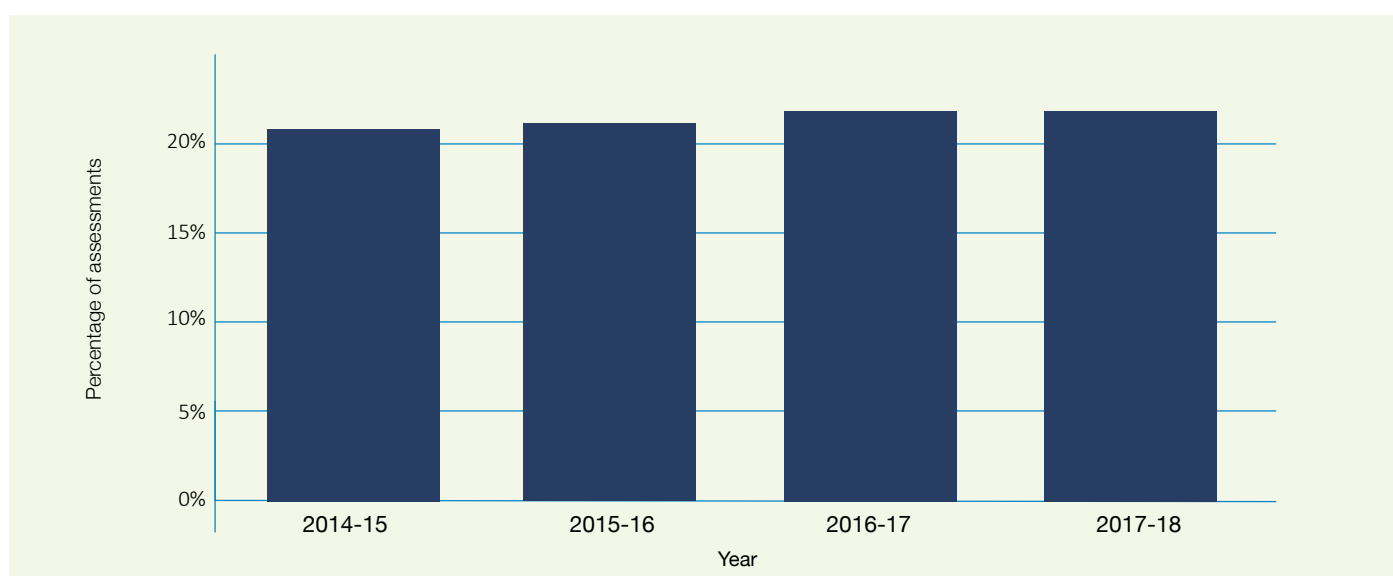
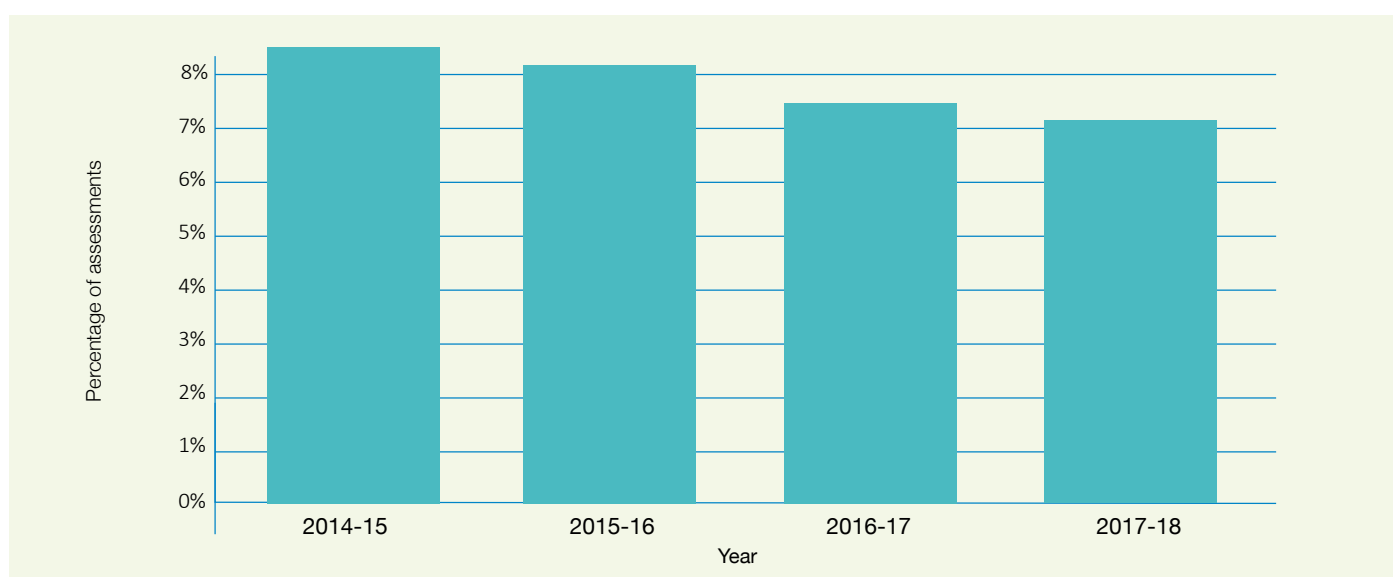


Figure 21: Proportion of LTCF assessments reported 'feelings of loneliness' between 2014 and 2018.



⁶ Jamieson HA, Gibson HM, Abey-Nesbi R, et al. 2017. Profile of ethnicity, living arrangements and loneliness amongst older adults in Aotearoa New Zealand: a national cross-sectional study. *Australasian Journal of Ageing*. doi:10.1111/ajag.12496

Responsibilities and directives

Not everyone assessed for care has planned ahead for a time when they won't be able to make or communicate decisions for themselves.

Enduring Power of Attorney

An Enduring Power of Attorney (EPOA) is a legal document in which a person appoints someone to make decisions about their life when they are not able to make or communicate these decisions anymore. These can relate to property or personal care and welfare.

A question in interRAI assessments is whether the older person has an EPOA in place. In 2017/18, 75% of people in residential care have at least one type of EPOA in place.

Looking at the percentage of LTCF assessments having an EPOA by care levels (Figure 22), people in dementia care had the highest percentage (84%) followed by people in psycho-geriatric care (80%).

Table 10 presents the association between decision making ability and EPOA status using interRAI assessment data. Decision making ability is measured by the Cognitive Performance Score (CPS) which combines information on memory impairment, level of consciousness and executive functioning. The scores range from zero to six. The higher the score, the worse the cognitive impairment. The result shows that just under a third of people with moderate to severe cognitive impairment ($CPS \geq 3$) have no EPOA.

Figure 22: Percentage of LTCF assessments reported having an EPOA by care level, 2017/18.

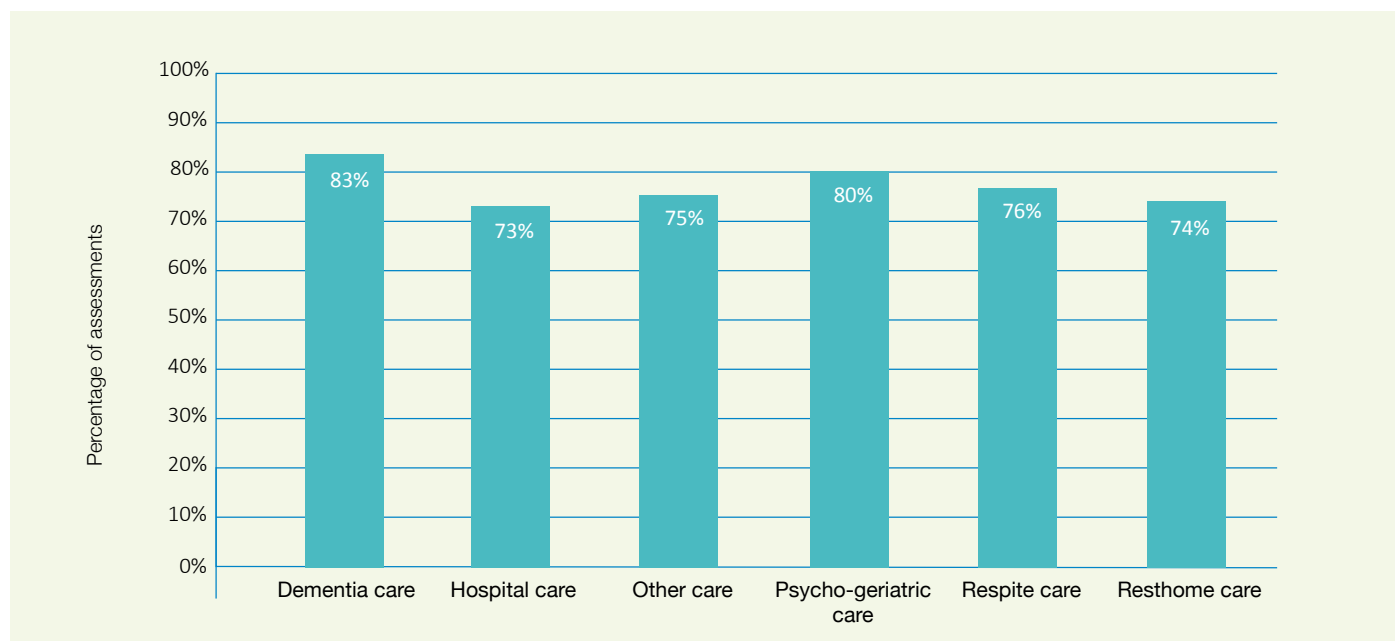


Table 10: Decision making ability and EPOA status.

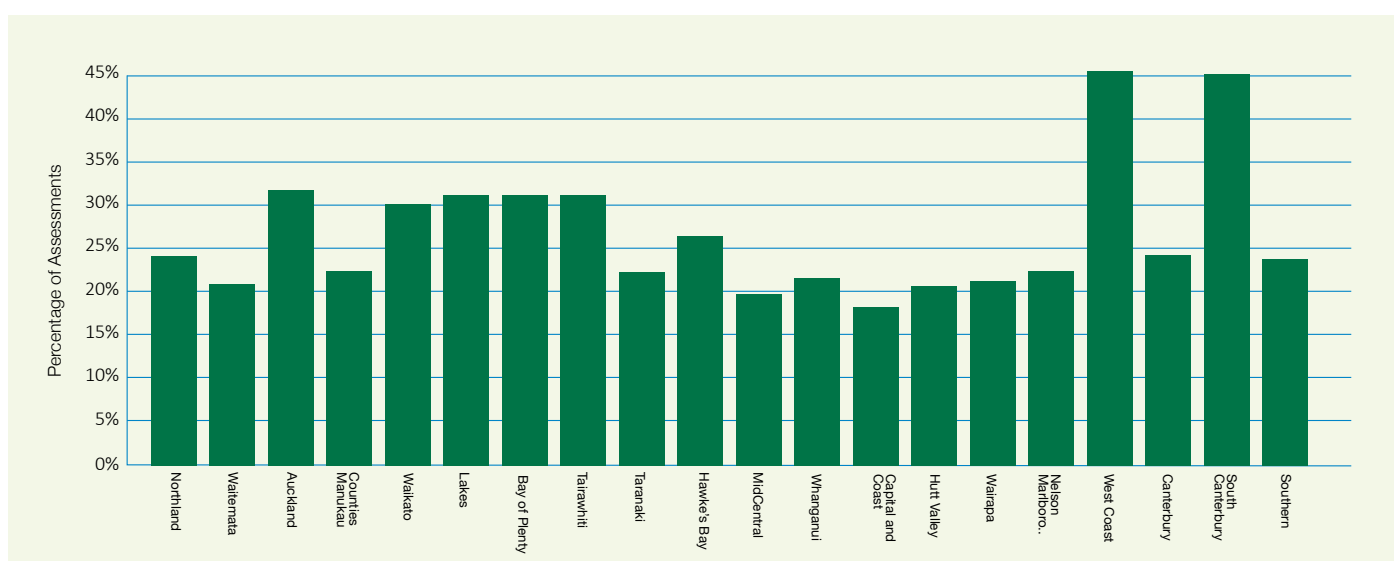
	Low CPS score (low cognitive loss)	CPS ≥ 3 (medium to severe cognitive performance issues)	Total
EPOA	36%	25%	61%
No EPOA	28%	11%	39%
Total	64%	36%	100%

Advance Care Plan

Advance care planning is another way to take control of your own health. It is a process of exploring what is important to you when you think about end-of-life care. The process involves discussion and shared planning with your loved ones and your health care team. This helps ensure that patients' wishes and preferences regarding their care at the end of life are known and respected.

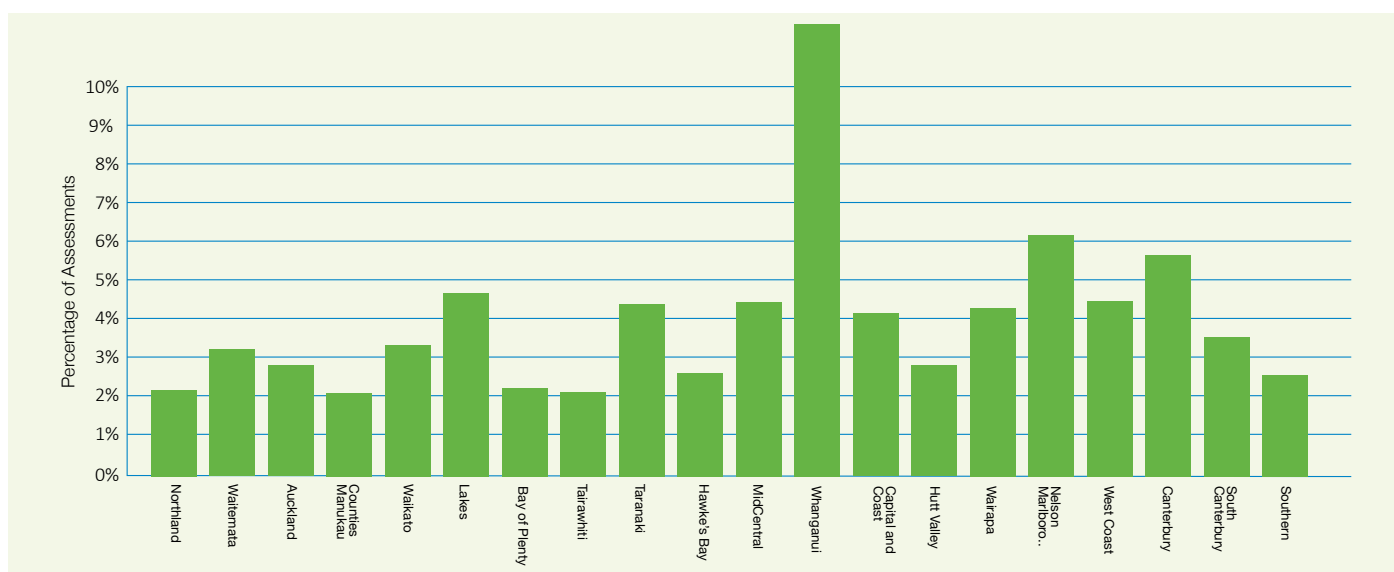
Nationally, in 2017/18, a higher proportion of LTCF residents (25%) had an advance care plan in place compared to Home Care clients (3.6%). For assessments completed in aged residential care (Figure 23), West Coast and South Canterbury DHB topped the list with 46% of assessments reported having an Advance Care Plan in place.

Figure 23: Percentage of LTCF assessments reported having an advance care plan in place by DHB, 2017/18.



For assessments completed in the home and community (Figure 24), Wanganui DHB had the highest percentage (12%) of assessments having an advance care plan in place.

Figure 24: Percentage of Home Care assessments reported having an advance care plan in place by DHB, 2017/18.



The Health Quality and Safety Commission coordinates the Advance Care Planning programme in partnership with 18 DHBs. Additional information and resources on Advance Care Planning can be found on the HSQC website.



