interRAI™

Better Assessment, Better Care, Better Outcomes

Using the InterRAI Data Visualisation

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Introduction

Welcome to the **interRAI Data Visualisation tool user guide**. This guide aims to provide all the information you require to use this data visualisation tool.

The interRAI Data Visualisation makes interRAI data more accessible to everyone, and it is fit-for-purpose to our stakeholders' needs.

This visualisation runs on Microsoft Power BI, which is designed to allow users to transform and visualise interRAI data freely.

Follow this guide to navigate through the interRAI Data Visualisation page by page.

Page 1: Home Page

This page provides a brief introduction to interRAI Data Visualisation and interRAI Services in New Zealand.

Use the '**<**' and '**>**' button or click on the text '**1 of 7**' for a selection list to navigate between pages.

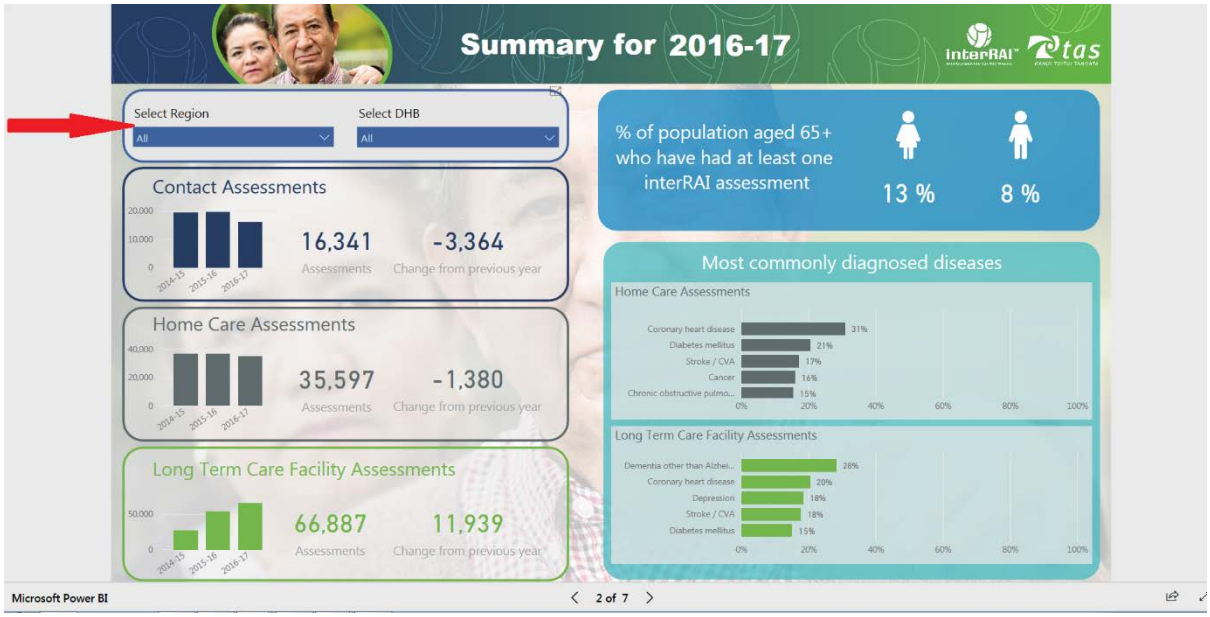
Page 2: Summary

Page 2 presents key statistics from interRAI NZ data for the time period specified in the title.

The data in this Visualisation tool refers to assessments rather than clients/residents unless specified.

Use the drop down list on the top left to select District Health Board (DHB) Region and/or DHB of interest. The DHB regions and DHBs in the drop down list are in a geographic order.

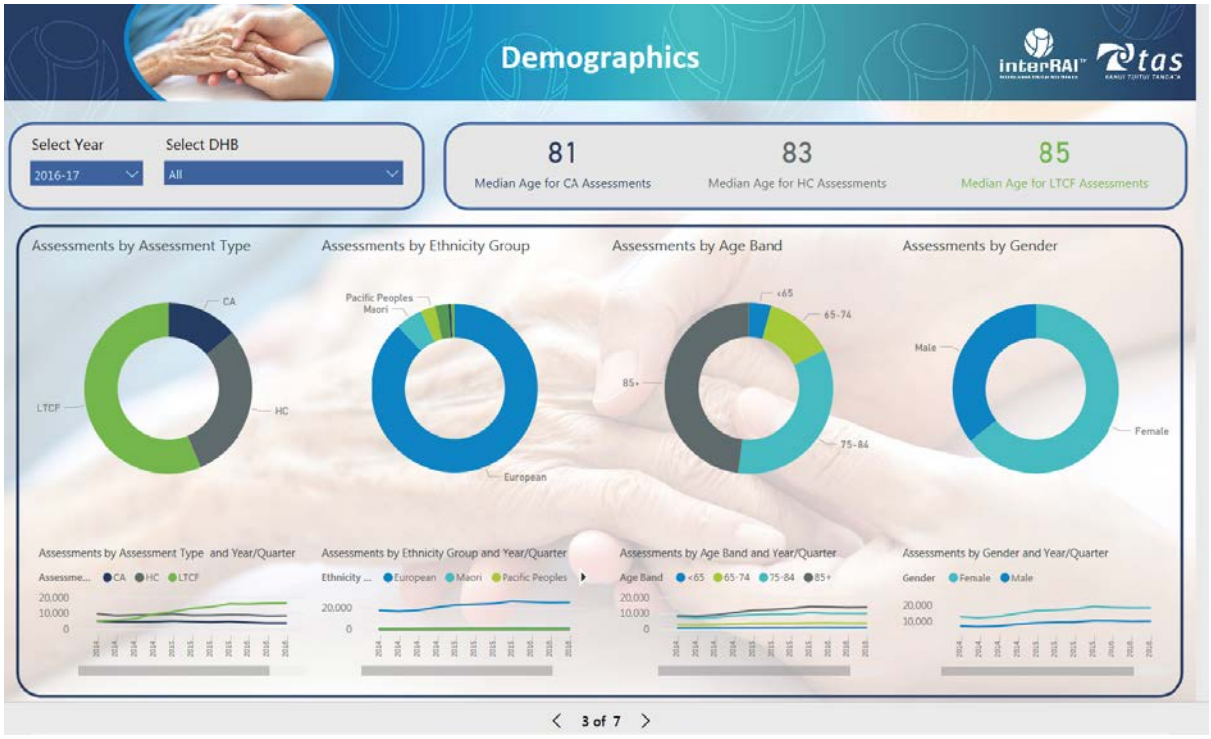
This page is updated annually once a year in July.



Page 3: Demographics

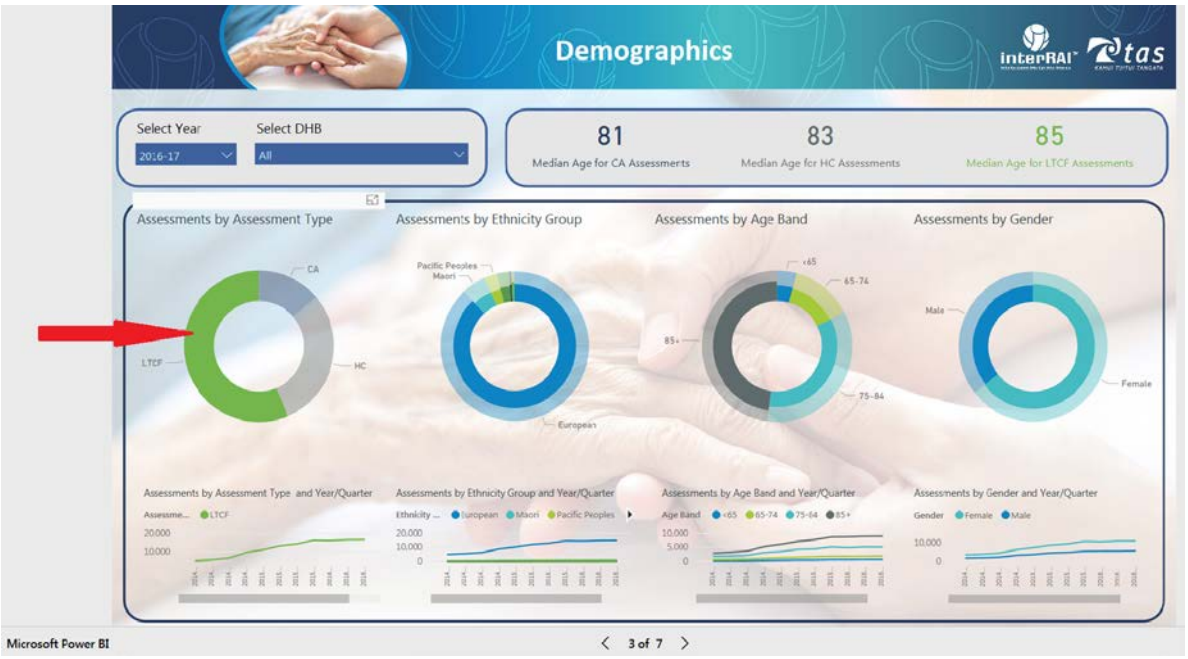
Page 3 includes key statistics describing the demographic information collected from interRAI assessments.

Use the drop down list on the top left to select year and/or DHB of interest.



You can also select different types of assessment, ethnic group, age band and gender by clicking the corresponding area on the doughnut chart. A doughnut chart is similar to a pie chart in that it shows the relationship of parts to a whole.

The screenshot below is an example where the assessment type has been selected as '**LTCF**'. The highlighted area represents the proportion of LTCF assessments out of all assessments.



There are four genders recorded in the interRAI assessment. To preserve privacy, “Unknown” and “Indeterminate” are mapped to Female in this visualisation tool.

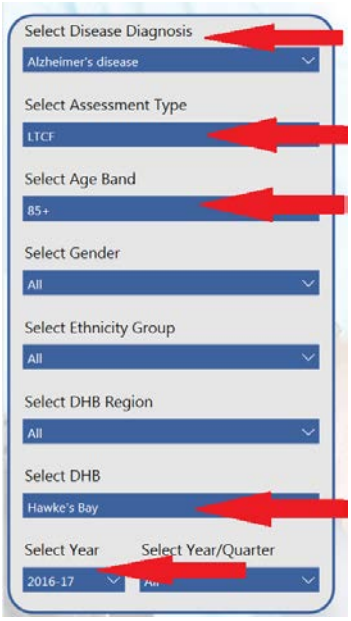
Ethnicity is shown as a modified prioritised level 1 ethnicity. The groups are European, Māori, Pacific Peoples, Asian, Middle Eastern / Latin American / African and Other Ethnicity. Other Ethnicity includes Residual groups.

This page is updated annually in July.

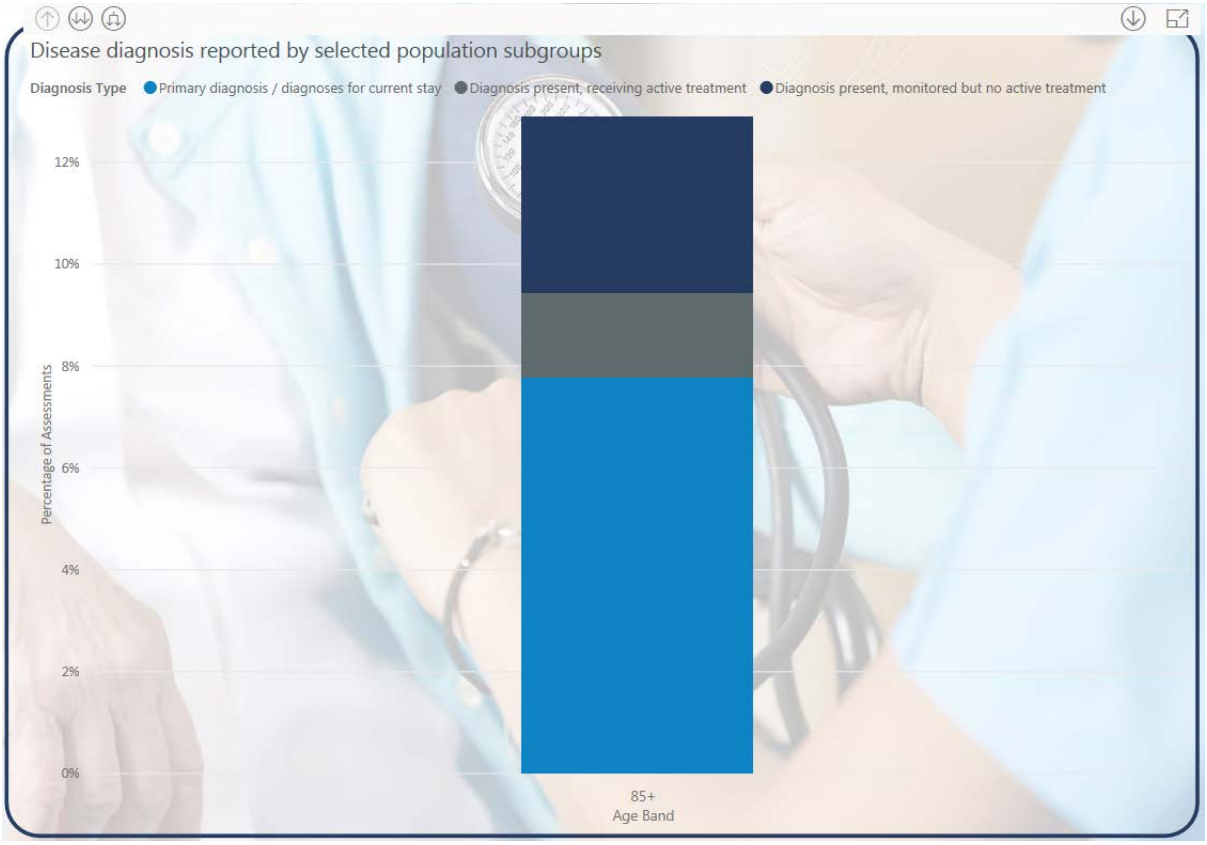
Page 4: Disease Diagnosis

Page 4 describes the disease diagnosis information collected from interRAI assessments.

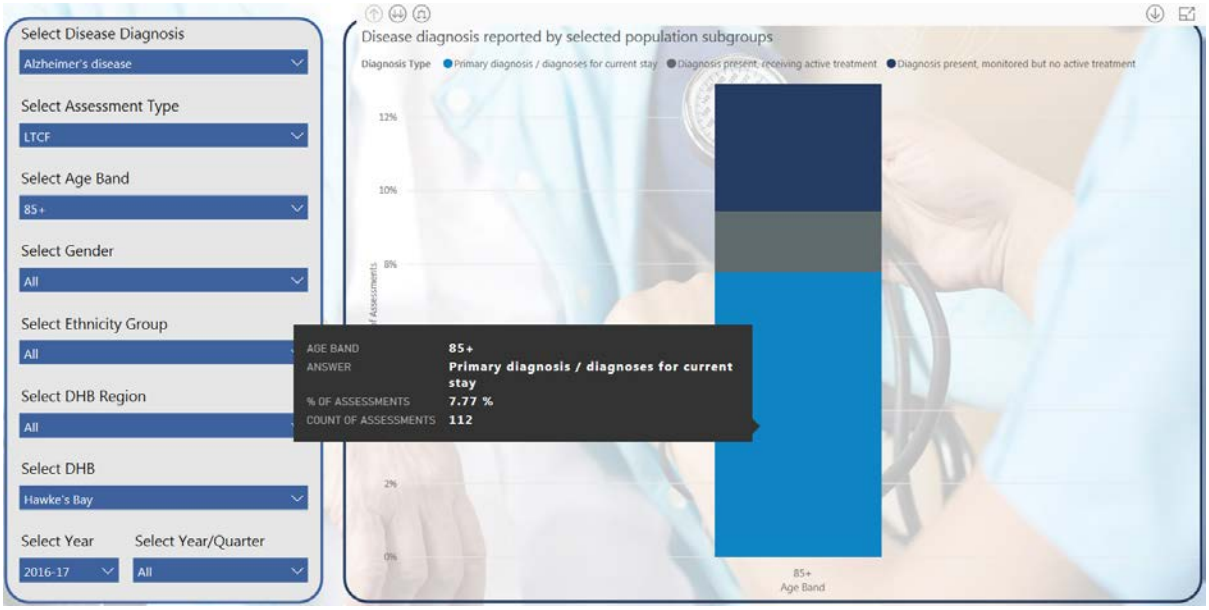
Use the filter panel on the left-hand side to choose the level of detail you would like to see. The bar chart will update accordingly. For example, if you would like to find out the proportion of LTCF assessments for people aged 85 and over, who reported Alzheimer's disease and other dementia, living in the area of Hawke's Bay DHB, in 2016-17, set the filter selection as shown.



You should get a chart like this.



If you hover your mouse cursor to the chart area, you should be able to read the exact figure from a pop-up window.

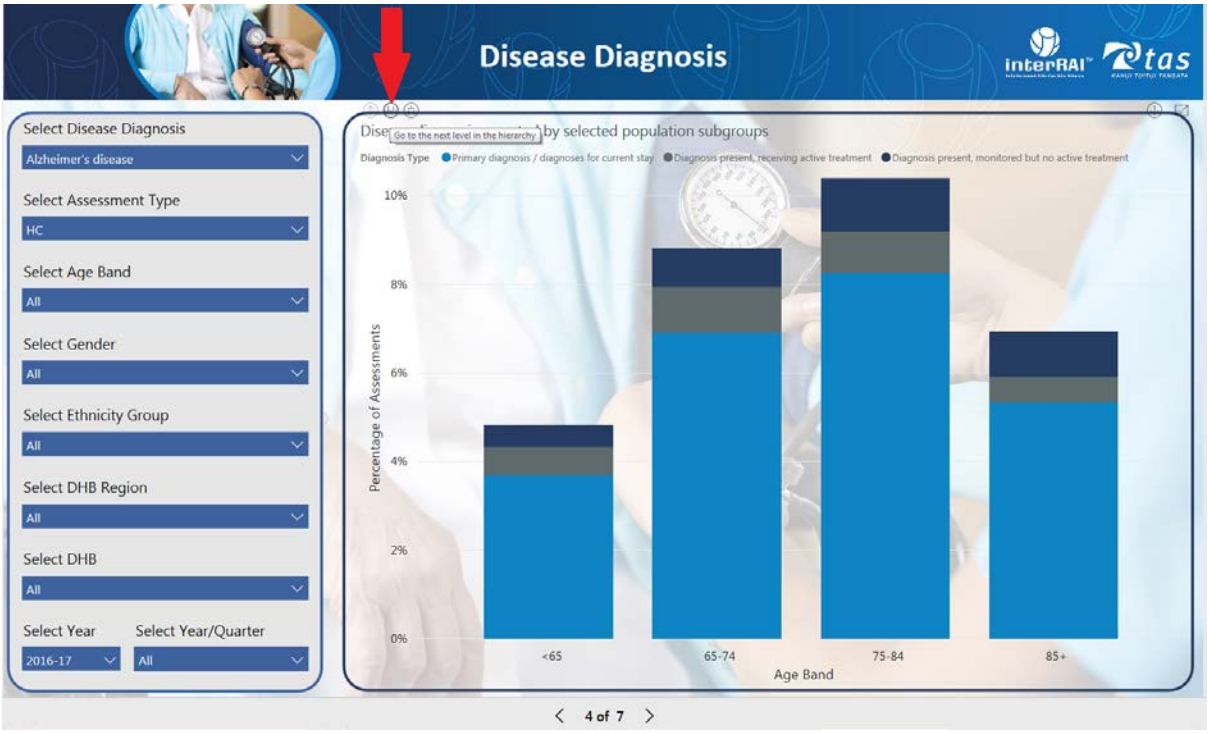


In this example, in 2016-17, 7.77% of LTCF assessments were completed for people aged 85 and over, within Hawke's Bay DHB, reporting Alzheimer's disease and other dementia as their primary diagnosis.

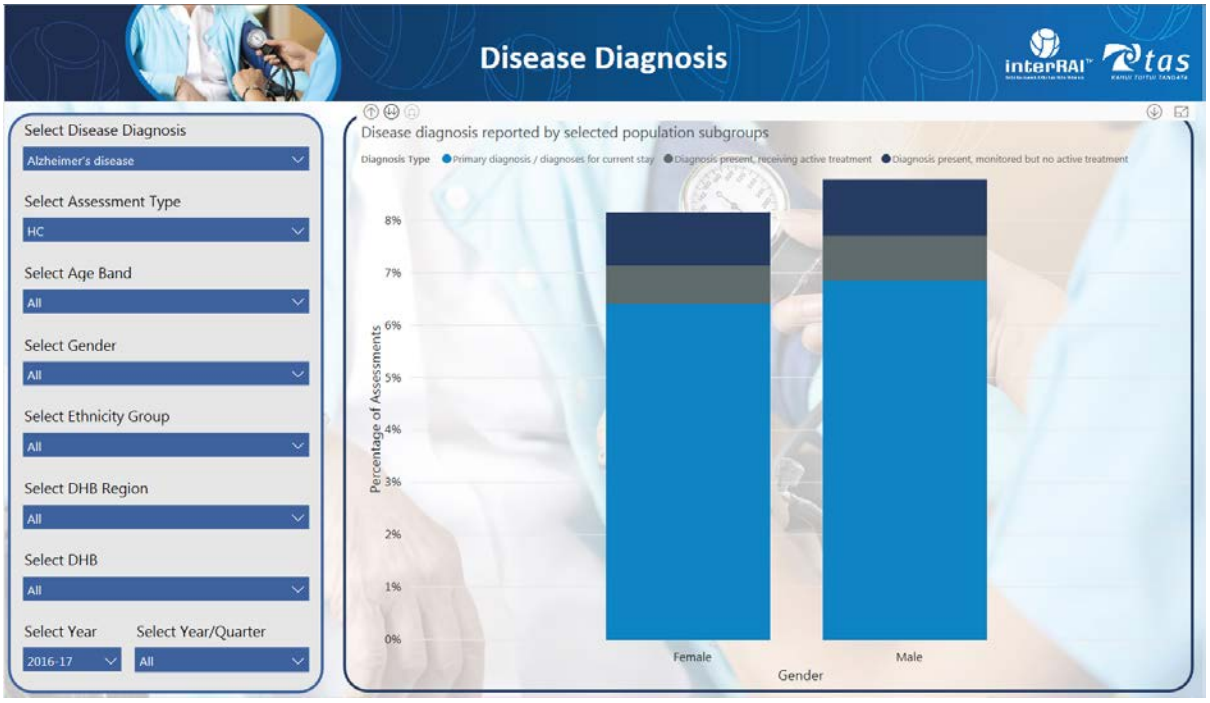
If you are interested in some comparative data, hover your mouse cursor to the chart area. You will see these three icons on the top left.

The middle icon allows you to see drill down to the next level of data. In this case, the level of data follows the order of the selection on the left-hand side.

For instance, the default view of this page is comparison by **age groups**.



Click on the once, and the chart will display a comparison by **gender**.

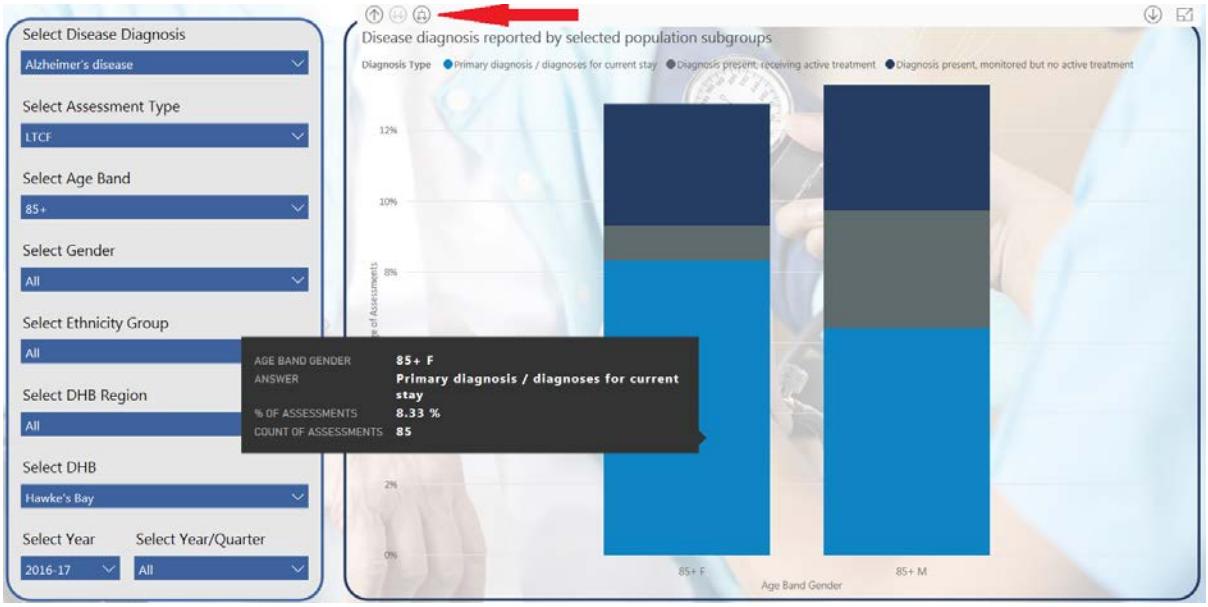


Rather than selecting a single data element for comparison, you can also expand on the number of data elements by selecting the 'Expand all down one level of hierarchy' icon .

For instance, click once on and the chart will display a comparison by **age group and gender**.

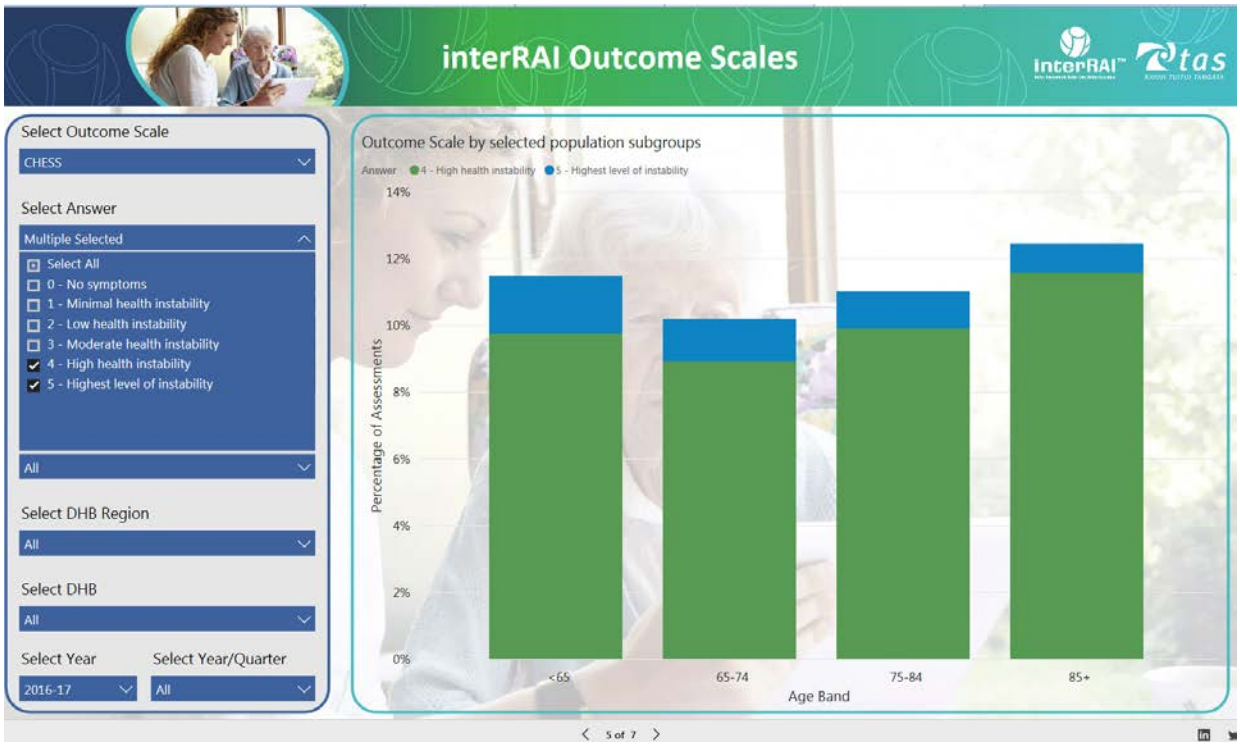
NOTE: Use the single up arrow to get back to the top level of the data element (in this case, by age groups) for the 'expand all down one level" function to work!

Following our example, if you are interested in the gender differences in Alzheimer's disease and other dementia disease diagnosis, click on . The chart should be updated as shown below.



Page 5: Outcome Scales

This page has the same functionality as the “disease diagnosis” page. In addition, there is a filter which allows only certain scores to be shown on the charts. For example, you can see the CHESS scale with only 4 and 5 scores.



Invalid selection combinations will display no data in the charts, e.g. LTCF and MAPLe.

The data on this page is updated quarterly in January, April, July and October.

Page 6: Clinical Assessment Protocols

This page has the same functionality as the “disease diagnosis” page.

Invalid selection combinations will display no data in the chart, e.g. LTCF and Institutional Risk CAP
The data on this page is updated quarterly in January, April, July and October.

Page 7: Social Wellbeing Measures

This page has the same functionality as the “disease diagnosis” page.

For the measures Advance Care Plan (ACP) and Enduring Power of Attorney (EPOA), there was a change in the question in the November 2015 software upgrade. The data for these two questions start from 01/01/2016 (2015/16 Q3).

The data on this page is updated quarterly in January, April, July and October.

Outcome Scale Definitions

Assessment urgency

The purpose of this scale is to determine whether or not the person needs further in-depth assessment. This score is calculated by referring to a number of elements in the assessment that relate to the person's physical health, person's mood, the family's ability to cope and the person's dependence with personal hygiene. The scale range is 1-6 with 6 being the most complex. Level 0 is included for those assessments where no score is calculated.

Service urgency

This score is calculated by looking at whether the person has specialist nursing needs, is dependent with personal hygiene, has had recent hospital visits and has daily pain. The range is 1-4 with 4 being the most urgent. Level 0 is included for those assessments where no score is calculated.

Rehabilitation

This score is calculated by looking at whether the person has specialist nursing needs, is dependent with personal hygiene, has had recent hospital visits and has daily pain. The range is 1-4 with 4 being the most urgent. Level 0 is included for those assessments where no score is calculated.

ADL Hierarchy

The ADL Hierarchy Scale groups activities of daily living according to the stage of the disablement process in which they occur. Early loss ADLs (for example, dressing) are assigned lower scores than late loss ADLs (for example, eating).

ADL Long Form

Scale from 0 to 28 that provides a summary of the person's ability to perform ADLs. It is based on 7 ADL items personal hygiene, toilet use, locomotion, eating, dressing, transferring, and bed mobility. The higher the score the greater the difficulty in performing activities.

ADL Short Form

Scale from 0 to 16 that provides a summary of the person's ability to perform ADLs. It is based on 4 ADL items, personal hygiene, toilet use, locomotion, eating. The higher the score the greater the difficulty in performing activities. Validated by Morris, Fries, and Morris 1999.

Aggressive Behaviour

The Aggressive Behaviour Scale (ABS) is a measure of aggressive behaviour based on the occurrence of verbal abuse, physical abuse, socially disruptive behaviour and resistance to care. Scale scores range from 0-12 with higher scores indicative of greater frequency and diversity of aggressive behaviour.

A score of 1 to 4 on the ABS indicates mild to moderate aggressive behaviour, whereas scores of 5 or more represents the presence of more severe aggression. This scale has been validated against the Cohen Mansfield Agitation Inventory.

Body Mass Index (BMI)

The Body Mass Index (BMI) is a measurement which represents the ratio of a person's height to weight. In the interRAI assessment suite, it is recorded to monitor nutrition, hydration status, and weight stability over time. The under-nutrition CAP triggers (3 levels) are based on the BMI. It is defined as the weight in kilograms divided by the square of the height in metres (kg/m2).

CHESS

The Changes in Health, End-Stage Disease, Signs, and Symptoms Scale was designed to identify individuals at risk of serious decline. It can serve as an outcome where the objective is to minimise problems related to declines in function, or as a pointer to identify persons whose conditions are unstable. CHESS, originally developed for use with nursing home residents, has been adapted for use

with other instruments in the interRAI suite. It has a 6 point scale from 0 (not at all unstable) to 5 (highly unstable) with higher levels predictive of adverse outcomes such as mortality, hospitalisation, pain, caregiver stress, and poor self-rated health. The CHESS Scale is calculated by adding sign and symptom variables up to a maximum of 2, then adding three other variables (Change in decision making, Change in ADL status, and End-stage disease), giving the highest CHESS score of 5.

Cognitive Performance Scale (CPS)

The Cognitive Performance Scale (CPS) combines information on memory impairment, level of consciousness, and executive function, with scores ranging from 0 (intact) to 6 (very severe impairment). The CPS has been shown to be highly correlated with the MMSE in a number of validation studies.

Communication

This scale is derived from expressive and receptive communication. The higher the score on the communication scale, the poorer the communication.

Depression Rating Scale (DRS)

The Depression Rating Scale (DRS) is used as a clinical screen for depression. The higher the score the stronger the clinical indicator. Validation studies were based on a comparison of the DRS with the Hamilton Depression Rating Scale and the Cornell Scale for Depression.

IADL Capacity

The Instrumental ADL Scale is based on a sum of eight items: meal preparation, ordinary housework, managing finances, medications, phone use, stairs, shopping, and transportation. Individual items are summed to produce a scale that ranges from 0 to 48, with higher scores indicating a greater difficulty for a person to carry out an activity.

IADL Performance

The Instrumental ADL Scale is based on a sum of eight items: meal preparation, ordinary housework, managing finances, medications, phone use, stairs, shopping, and transportation. Individual items are summed to produce a scale that ranges from 0 to 48, with higher scores indicating greater dependence on others for instrumental activities for daily living.

MAPLe

MAPLe differentiates people into five priority levels, based on their risk of adverse outcomes. People in the lowest priority level have no major functional, cognitive, behavioural, or environmental problems and are considered self-reliant. The highest priority level is based on the presence of ADL impairment, cognitive impairment, wandering, behaviour problems, and the interRAI nursing home risk CAP. Research has demonstrated that the five priority levels are predictive of risk: Individuals in the highest priority level are nearly nine times more likely to be admitted to a long-term care facility than are the lowest priority persons. MAPLe also predicts caregiver stress.

Pain

Scale that attempts to define levels of pain. The scale is highly predictive of pain on the Visual Analogue Scale (Fries et al 2001). Pain that is adequately managed does not feature in the scale.

Pressure Ulcer Risk

Scores from 0 (lowest risk) to 8 (highest risk) for development of pressure ulcers. This scale complements the Pressure Area CAP and should always be reviewed when that CAP is triggered.

Range of Values

The following table defines the range of valid values for each scale and identifies which assessment type each Scale is applicable to:

		Applicable to:		
Outcome Score	**Range of Values**	**CA**	**HC**	**LTCF**
Assessment - Urgency	0,1-6	Y		
Service Urgency	0,1-4	Y		
Rehab	0,1-5	Y		
ADL Hierarchy	0-6		Y	Y
ADL Long Form	0-28		Y	Y
ADL Short Form	0-16		Y	Y
Aggressive Behaviour	0-12		Y	Y
CHESS	0-5		Y	Y
Cognitive Performance Scale (CPS)	0-6		Y	Y
Communication	0-8		Y	Y
Depression Rating Scale (DRS)	0-14		Y	Y
IADL Capacity	0-48		Y	
IADL Performance	0-48		Y	
MAPLe	1-5		Y	
Pain	0-4		Y	Y
Pressure Ulcer Risk	0-8		Y	Y

Clinical Assessment Protocol (CAP) Definitions

Abusive Relationship
To identify potential abuse/neglect situations — fearful of a family member, caregiver, close acquaintance, unusually poor hygiene, unkempt appearance, neglected, abused, or mistreated.

Activities
This CAP identifies persons with some cognitive reserve who have either withdrawn from activities or who are uneasy entering into activities and social relationships.

Activities of Daily Living
To improve ADL performance or prevent avoidable functional decline — receive some ADL help; potential to improve self-performance.

Appropriate Medications
To identify and promote appropriate medication management — 9+ medications and 2 of the following: chest pain, dizziness, oedema, shortness of breath, poor health, or recent deterioration.

Behaviour
To prevent, manage behavioural problems — wandering, verbally abusing others, physically abusing others, socially inappropriate, disruptive behaviour, inappropriate disrobing, public sexual behaviour or resisting care.

Bowel Conditions
To facilitate improvement and prevent a decline in bowel function — risk of decline and improvement and bowel continence.

Cardiorespiratory Conditions
To assess and manage cardiorespiratory conditions — symptoms of chest pain, shortness of breath, irregular pulse, dizziness and test results such as BP, respiratory rate, heart rate, and oxygen saturation.

Cognitive Loss
The definition of this CAP changed in the version 9.3 assessment upgrade that occurred in November 2015. This CAP now has only two trigger levels: 0 (not triggered) and 2 (prevent cognitive decline).

Communication
To improve communication ability and to prevent avoidable communication decline — moderate–severe communication issues in understanding/expression.

Dehydration
To identify and treat underlying causes of dehydration — insufficient fluid intake; and diarrhoea, vomiting, delirium, fever, dizziness, syncope, constipation, weight loss.

Delirium
To identify persons with active symptoms of delirium — acute change in mental status and behaviour appears different from usual functioning.

Falls
To identify and change any underlying risk factors for falls — report of a single fall or multiple falls.

Feeding tube
To identify persons with a feeding tube and manage — has a feeding tube and some residual cognitive abilities/absence of cognitive abilities.

Home Environment Optimisation
To improve the safety of an environment — problems with lighting, flooring, bathroom, toilet, kitchen, heating, disrepair, squalor, and indicators of frailty.

Informal Support
To identify where a person needs help — not independent with meals/housework/shopping/transport and alone for long periods or lives alone and no primary informal helper present.

Institutional Risk
To avoid premature admission to LTCF — identify the person with impaired functioning who is at high-risk of institutional placement.

Instrumental Activities of Daily Living
To improve IADL self-performance and capacity — identify person who have the capability and interest to carry out instrumental activities of daily living more independently.

Mood
To identify, treat and monitor mood issues — negative statements, persistent anger, expressions of unrealistic fears, repetitive health complaints, repetitive anxious complaints, sad, crying or tearfulness. Depression Rating Scale (DRS) score medium to high.

Pain
To identify and treat underlying reasons for pain — high-risk trigger for people with severe, horrible or excruciating pain or medium-risk trigger for people with daily mild/moderate pain.

Physical Activities Promotion
To increase levels of exercise and physical activity — identify person does less than two hours physical activity over a three- day period; moves and goes up/down stairs without help; increased independence possible.

Physical Restraints
This CAP identifies persons who are physically restrained.

Pressure Ulcer
To prevent, identify and treat pressure ulcers — has or is at risk of developing a pressure ulcer.

Prevention
To prevent illness and disability — blood pressure, colonoscopy, dental exam, hearing exam, fluvax, mammogram, or Pneumovax.

Social Relationship

To identify factors associated with reduced social relationships and facilitate engagement, such as mental health problems and poor health.

Tobacco and Alcohol Use

To identify strategies to help people cease smoking and cut back on excessive drinking.

Under-nutrition

To address and manage under-nutrition based on a person's BMI score.

Urinary Incontinence

To facilitate improvement and prevent decline in bladder function — reoccurring episodes of incontinence, minimal cognitive abilities, locomotion impaired; possibility of improvement.

Range of Values

The following table defines the range of valid values for each CAP, and identifies which of the assessment types each CAP is applicable to:

		Applicable to:		
CAP	**Range of Values**	**CA**	**HC**	**LTCF**
Functional Performance CAPS				
1. Physical Activities Promotion	0-1		Y	Y
2. Instrumental Activities of Daily Living	0-1		Y	
3. Activities of Daily Living	0-2		Y	Y
4. Home Environment Optimisation	0-1		Y	
5. Institutional Risk	0-1		Y	
6. Physical Restraints	0-2			Y
Cognition/Mental Health CAPS				
7. Cognitive Loss	0,2		Y	Y
8. Delirium	0-1		Y	Y
9. Communication	0-2		Y	Y
10. Mood	0-2		Y	Y
11. Behaviour	0-2		Y	Y
12. Abusive Relationship	0-2		Y	
Social Life CAPs				
13. Activities	0-1			Y
14. Informal Support	0-1		Y	
15. Social Relationship	0-1		Y	Y
Clinical Issues CAPs				
16. Falls	0-2		Y	Y
17. Pain	0-2		Y	Y

18. Pressure Ulcer	0-3		Y	Y
19. Cardiorespiratory Conditions	0-1		Y	Y
20. Under-nutrition	0-2		Y	Y
21. Dehydration	0-2		Y	Y
22. Feeding Tube	0-2		Y	Y
23. Prevention	0-2		Y	Y
24. Appropriate Medications	0-1		Y	Y
25. Tobacco and Alcohol Use	0-1		Y	Y
26. Urinary Incontinence	0-3		Y	Y
27. Bowel Conditions	0-2		Y	Y