

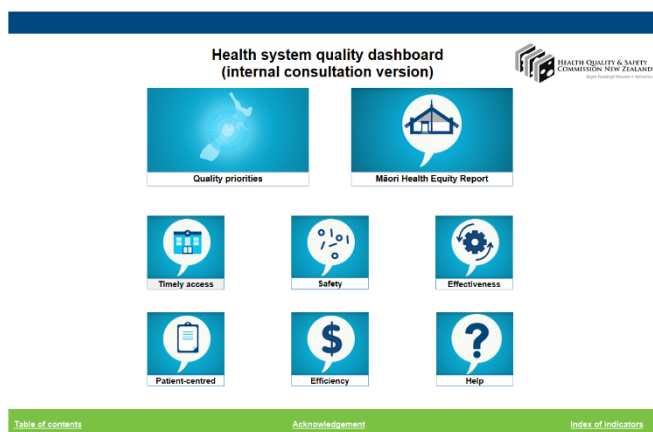
How to understand the health system quality dashboard

The dashboard brings together everything the Health Quality & Safety Commission knows about local health systems in one place.

We know quite a lot, so this raises several challenges. How do we organise everything we know? How do we provide information that is meaningfully comparable? How do we avoid bombarding users with so much information that it's impossible to see the wood for the trees? We hope this short guide will help.

Home tab

On the 'Home' tab, eight tiles lay out the structure of the dashboard.



'Quality priorities' shows a summary of priorities for understanding at a national level. 'Māori Health Equity Report' leads you to a specific tab focused on Māori health equity issues. Beneath these tiles lie five tiles that correspond to five of the six dimensions of quality identified by the Institute of Medicine:

1. Timely access
2. Safety
3. Effectiveness
4. Patient-centredness
5. Efficiency.

We treat the sixth dimension, equity, in a different way. A separate 'equity' tab is provided for each domain and can be accessed via the equity tab button on each domain tab.

The final tile 'Help' leads to the tab 'How to read the dashboard'.

Three ways of looking at data – pattern, change and variation

We try and learn three things within each domain.

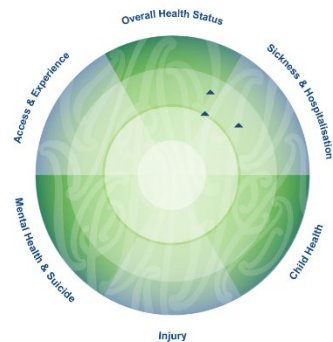
1. Overarching pattern of related indicators – are things consistently better or worse than average?
2. For individual indicators, how are things changing? Are they getting better or worse?
3. Variation in outcomes and experience – is the distribution wide or narrow?

In the new version of the dashboard we use different visualisations for each purpose.

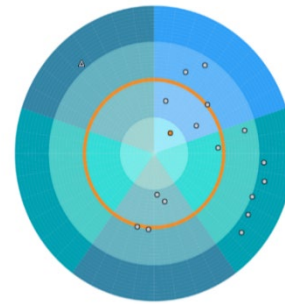
Pattern – the dashboard: hitting the target and getting the point

We continue to find the best way to visualise patterns is a target or dartboard, so we have retained this from the first version of the dashboard. We use a dartboard in both the domain tabs and the Māori Health Equity Report. This allows us to do two things:

1. We can put measures that use different units (percentages, rates per thousand, individual counts, days, scores out of 10) on the same scale.
2. By using individual segments or 'slices', we can group related measures by theme.



Dartboard used on the Māori health equity report



Dartboard used on the quality domain tabs

Slices: the dimensions of quality

Within each of the dartboard slices we present some key process indicators (ie, what was done in providing health care) and some key outcome measures (ie, indicators that describe what happened to people as a result).

The position of each indicator is deliberate. Related measures are placed next to each other so apparent clusters have meaning. For example, three measures concerning infection control may share a consistent position within the dartboard. This would indicate a consistent level of success or otherwise in preventing and controlling infections, and a natural 'cluster' of dots forms.

Closer to the centre is better: performance in relation to national average

Each slice has a different shading gradient, from lighter at the centre to darker on the outside, which indicates the comparison results with reference measure.

Dartboard on domain tab

Colour		Meaning
		Centre of the bullseye
		Three standard deviations better than national average of selected time period
		First ring from centre
		Better than national average by 1–3 standard deviations
		Second ring from centre
		Better than national average by 0–1 standard deviation
		Orange ring
		The national average of current time period or of baseline time period as selected for any given measure
		Third ring from centre
		Worse than national average by 0–1 standard deviation
		Fourth ring from centre
		Worse than national average by 1–3 standard deviation

Dartboard on Māori Health Equity Report tab

Colour		Meaning
		Centre of the bullseye
		Largest possible variation better than the reference population
		First ring from centre
		Better than reference and closer to largest possible better variation (different rules are used for defining the boundary for different measures)
		Second ring from centre
		Better than reference
		Green ring
		Reference measure of Māori or non-Māori non-Pacific as selected for any given measure
		Third ring from centre
		Worse than reference
		Fourth ring from centre
		Increasingly worse than reference (different rules are used for defining the boundary for different measures)

The basis of comparison

Another innovation in this version of the dashboard is the ability to change the reference value. By clicking on the drop-down list under 'reference' on the top left-hand quarter of each page, the orange reference ring on the dartboard can be changed between the current NZ average and the average for the baseline period for NZ. This latter view allows an understanding of the pattern of change over time (eg, if most dots are inside the orange ring, the DHB has, in general, improved for these indicators), while the former allows point of time comparison between a DHB and the rest of the country.

Maunga/dots/squares: the measures

Imagine a straight line running from the bullseye through to the outer rim of the fourth ring. We essentially plot each measure, with a maunga on the Māori Health Equity Report, a dot (outcome measure) and a square (process measure) on the domain tabs, somewhere along this line. On rare occasions, the measure will be more than three standard deviations away from the national average. In this case, the point will literally miss the target and be in the white space outside of the dartboard.

In theory, we could have an infinite number of such lines on the target. Obviously, this would be completely unreadable, so we've limited ourselves to around 25–30 per dartboard. These are organised into 'slices' which contain related measures, as mentioned above.

The maunga/dot/square shows a comparison of these measures against the national average. We need to understand how measures are changing and what their variation across the country is to get a full understanding of the situation. You can update the graphs on the right-hand side by clicking on each indicator maunga/dot/square.

From pattern to detail: measuring change and variation

Clicking on an indicator on the dartboard of a domain tab or on the 'Impact' table of the domain equity tab produces a time series showing change and a bar chart showing variation across the country on the right-hand side of the tab.

In the **measure** section, we provide the definition, value and time period for the selected measure, both for the DHB and for the reference period. This changes when a new DHB, report year or measure is selected.

The **change** section shows a time series graph for the selected group and the reference group. For the domain tabs, the DHB measure will be shown as blue or green depending on their ideal direction (with an arrow in the top right-hand corner of the screen making this clear), and the NZ reference group will be shown as black. For the domain equity tabs, the equity group will be shown as pink, and the reference group will be shown as blue. For the Māori Health Equity Report, measures will be shown as orange for the equity group and blue as the reference group.

The **variation** section on the domain tabs shows a ranked bar chart of each DHB using both the NZ baseline (red line) and NZ current (black line) averages as reference levels. The thickness of the bar in each case represents the size of the population we are interested in. For the domain equity tabs, the bars represent the equity and the reference groups selected. For the Māori Health Equity Report, the variation section simply shows the ranked bar chart of the equity group and the reference group of all DHBs.

How we present equity

We have undertaken a redesign of how we present equity in the dashboard based on plan–do–study–act methodology. In partnership with Te Tumu Whakarae, we have developed a **Māori-specific health equity report**. We have also worked closely with Māori stakeholders, the Commission's Te Rōpū Māori, and consumer advisory group, and other stakeholders and local sectors in a co-design approach. As a result, we have developed an **equity tab for each domain**, which emphasises both the scale and effects of inequity.

Māori Health Equity Report

The Māori Health Equity Report is structured similarly to the domain tabs, with filters to select the equity group and reference group from a DHB. The indicators have been selected in partnership with Te Tumu Whakarae. The filters can be used to change the sides of the comparison, so that either the results for Māori populations or the results for non-Māori non-Pacific. The dartboard shows **patterns** across measures. By clicking on a maunga on the dartboard, the right-hand side contents of measure and impact, change and variation will be displayed for this measure, following the same approach as the domain views.

Domain equity tab

The equity tab is designed for each domain of health care quality. Users can select a DHB, an equity group (at the moment these are limited to Māori and Pacific populations) and a reference group using the filters on the top left of the tab. Then the text below the filters shows the number of indicators where there is a difference between the equity group and reference group. In the 'Impact' table, the observed number is the total number for the indicator for the equity group. The expected number is what the number would have been if the rate for the equity group was the same as for the reference group. The impact is the difference between the two. Presenting information in this way shows the scale of the impact of inequity between the two groups. A *p*-value is presented to indicate the statistical significance of the difference. As with the domain tab, clicking on a measure from the table on the left-hand side of the tab will change the right-hand side of the tab to show details of the measure, changes over time and variation between DHBs about the selected measure.

Other features

- **Filters to select groups of interest:**

For the domain tabs, the group of interest is a DHB. The reference group can be selected as either the NZ baseline or NZ current. This shows how a DHB has improved compared with the baseline national value or how the DHB is performing currently.

For the Māori Health Equity Report, both Māori and non-Māori non-Pacific groups can be selected as the equity or reference groups. This will allow users to change the sides of the comparison.

For the domain equity tabs, the equity group can be selected as Māori or Pacific. The reference group can be selected as either the DHB value of non-Māori non-Pacific to provide a comparison in local scale or the NZ value of non-Māori non-Pacific to provide a comparison of national scale.

- **Compare:** The 'Comparison' tab shows dartboards of any two selected DHBs.
- **Download dashboard:** The dashboard is downloadable in PDF, PowerPoint, image and Tableau workbook format by clicking the download button at the bottom right of the dashboard window.
- **Download data:** The 'Download data' tab leads you to a downloading page for you to download the whole data set or specific indicators.
- **Help:** On the Home page, the blue help button gives more information.
- More functions may be added over time, such as links to the Health Quality & Safety Commission website and other webpages containing original data.