

## Visualising aggregated outcomes data

The main priorities for the visualisations for VOCAL was to clearly communicate the scores given by the carers the organisation supports to a number of specific audiences: the board and funders, managers, and staff and carers themselves. As a programme that staff already use, it was decided that Excel should be used, so that VOCAL staff can easily update the visualisations themselves.

A very important consideration for the visualisations was the matching of colour palette to the scale. It was decided that the scale would not run from green (indicating improvement) to a traditional red (indicating decline) because in the caring situations VOCAL deals with no deterioration is considered a significant benefit. In many ways worsening of the situation may be expected, and so we wanted to find a colour palette which would reflect this fact. We opted for three greens to represent 'big improvement', 'small improvement' and 'no deterioration', and a neutral grey for "worse".

The different audiences are presented with visualisations that aid them to draw conclusions and make the decisions. Below are examples of the visualisations with details of the reasoning behind the choice of visualisation.

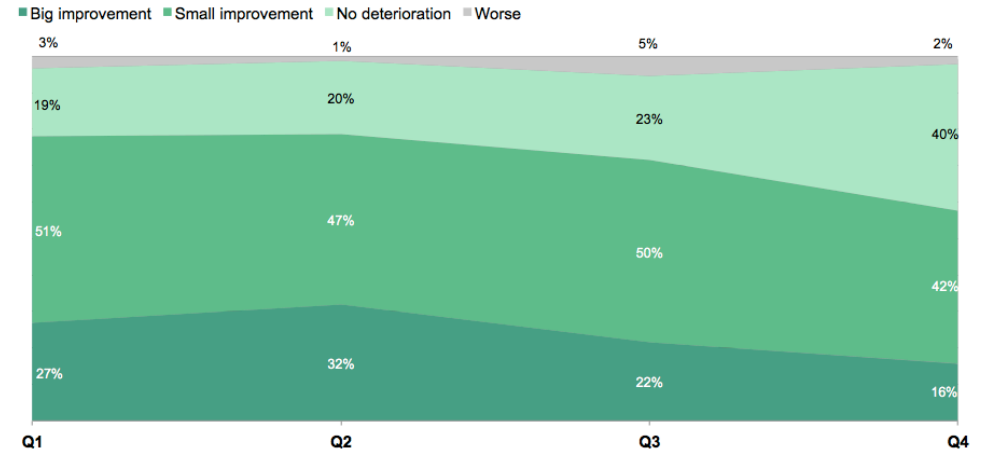
Quarterly results are shown in the format of a column chart. Presented this way it is easy to see the relative differences in results for the variables.

To enhance the easy reading of the proportion of scores considered positive against the portion which is not, the 'worse' category segments have been placed below the x-axis. This benefits the reading of the graph firstly because the 'worse' segments are easily identifiable as different to the others. Secondly it forces the stacked columns to fluctuate in height (above the line) thus clearly illustrating which variables have better overall results.



Annually the results are presented in a stacked area chart which represents the last four quarters of aggregated outcomes scores. In this type of chart the colour is the predominant guide to interpreting the results.

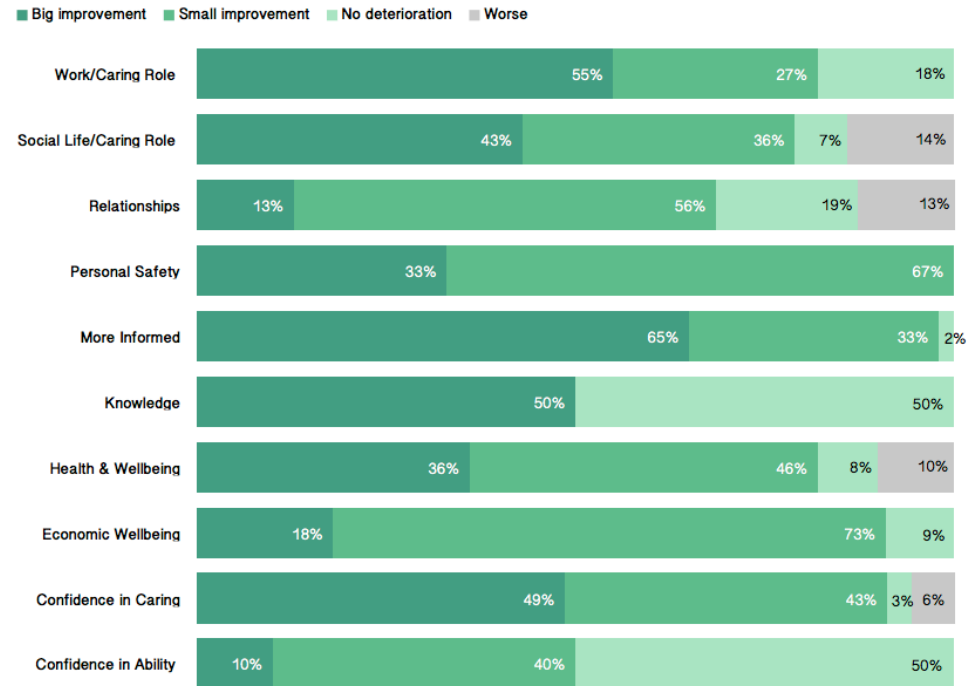
The blocks of each colour shows the fluctuations in the quarterly results. Data labels have been added to provide precise information which can be used in decision making and discussion about the results.



An alternative version to the column chart is the horizontal bar chart. When presenting the quarterly data in this way it offers a different way to read the same data. Neither chart type is better than the other, and both have benefits which may be preferable to certain audiences. When trying to decide between chart types it is best to test out with each audience.

The benefit with the horizontal layout is that the titles of the variables are more easily read, and the direction of reading is aligned with the chart elements. Furthermore the chart can be read from either side, depending on whether the reader's focus is on improvement or decline.

Again, to provide precise numbers, data labels have been added within each data zone.

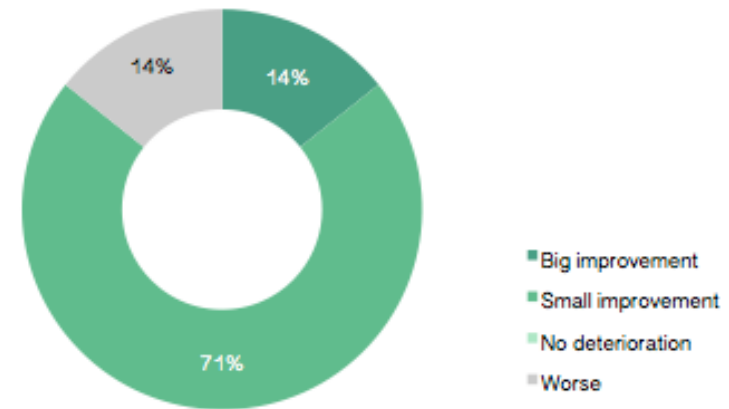


We also decided to experiment with donut charts for the annual reporting of each variable. This was considered a potentially effective way of communicating results to staff within the organisation. The ten variables would be presented as small multiples on one page (for the purpose of easy reading only two variables are shown here).

Essentially the donut chart is just a circular bar chart. However, this method strengthens the communication that the data represents the 'whole picture'.

This method of showing data is equally effective for quarterly and annual data. The frequency is not important. What is important, however, is that the data is systematically presented in the same way every time it is communication. This will ensure that the readers become familiar with, and therefore proficient in, reading the data.

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