



## How we calculate national training survey indicator outcomes

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## How your answers to questions become a single score

An indicator is a score or result (called an outcome) made by grouping together the responses to questions of similar themes.

Your report group (for example, your specialty in your trust) has a result that is based on the average scores of this group compared to a benchmark.

The process starts with your answers to the questions for the indicator.

Your scores for each question are averaged to give an overall indicator score.

In the background, every answer you give has a score assigned to it.

How much do you agree or disagree with the following statements:

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not applicable
1) The ice cream in your department is of the highest possible quality.	100	75	50	25	0	-
2) You enjoy eating the ice cream that is available in your department.	100	75	50	25	0	-
3) There is a good range of ice cream flavours available in your department.	100	75	50	25	0	-

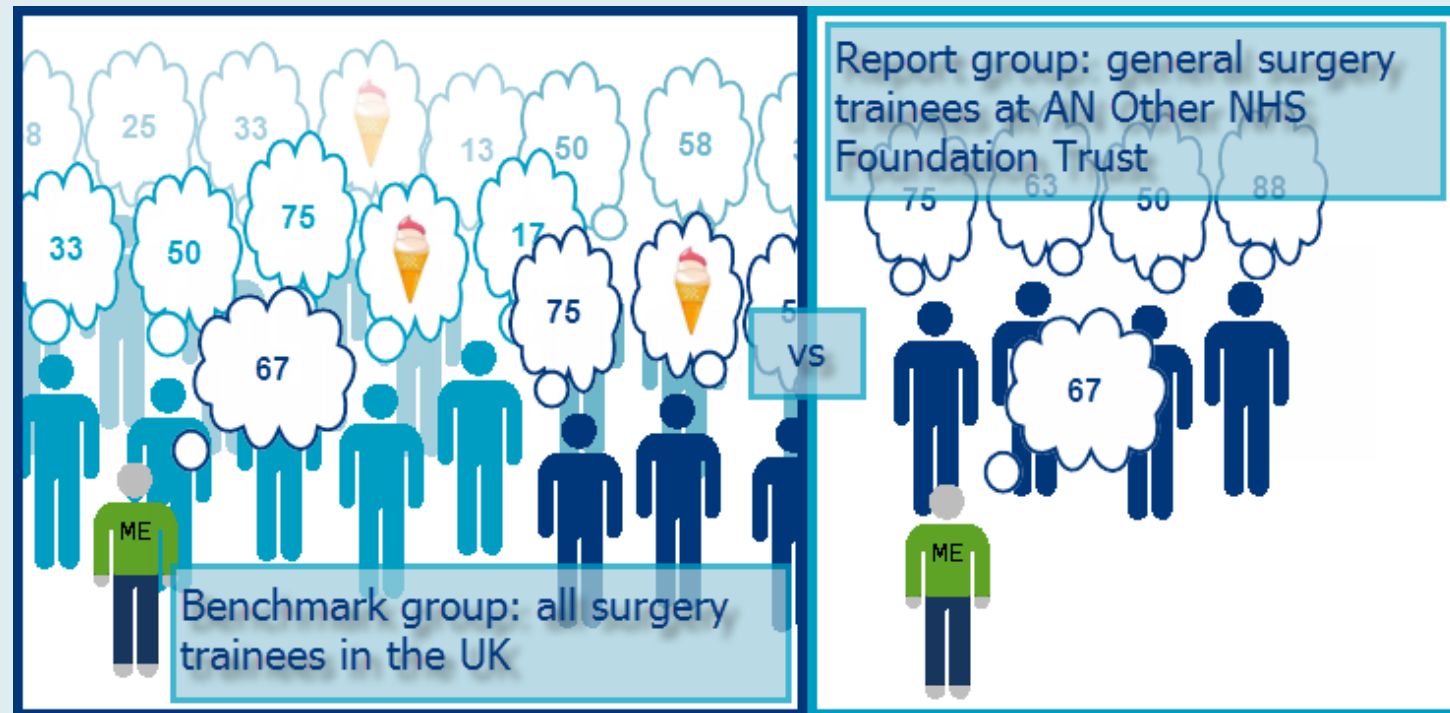
$50 + 50 + 100 = 200$   
 $200 / 3 = 67$

**67**

## Two groups to compare

Your score will now contribute to two different groups, which we compare. Firstly a benchmark group of all similar respondents (such as 'all surgery trainees'). This group gives us a figure for how good or poor your national peer group perceives the concept being measured (ice cream in our example).

Secondly, your score contributes to a smaller 'report' group. This could be your department (such as 'general surgery at AN Other NHS Foundation Trust'). By comparing your report group's score to your benchmark group's score we can determine how good or poor you and your colleagues perceive 'ice cream' to be locally, relative to your national peer group's perception.

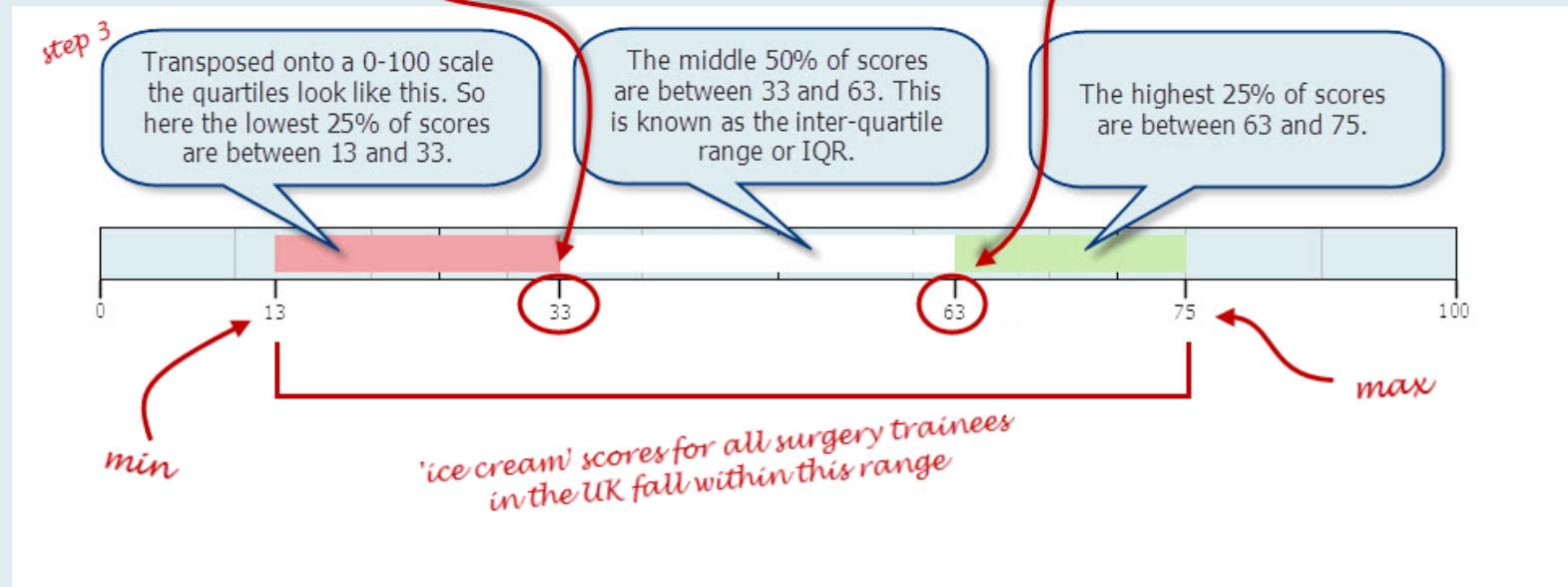
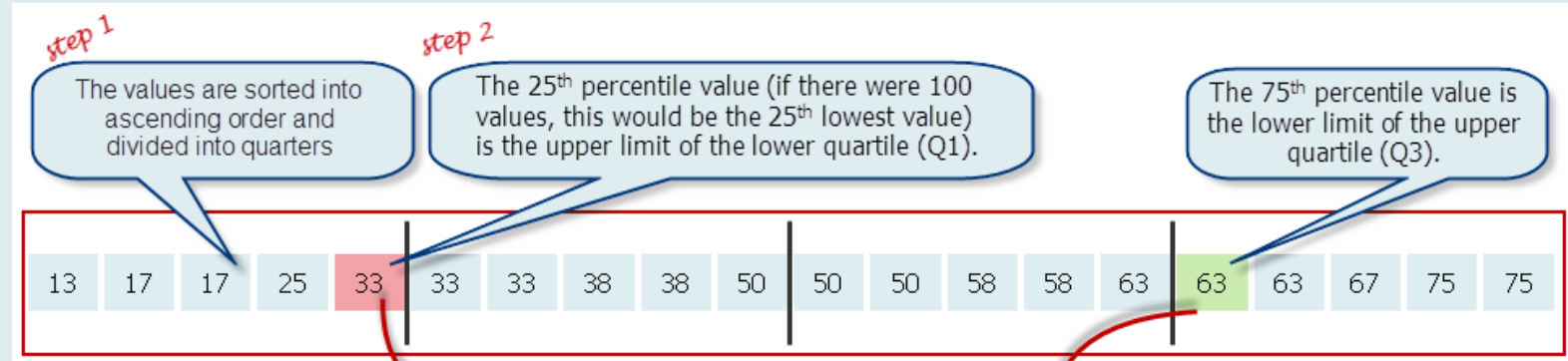


### Calculating the benchmark group

Step 1 is to take the indicator score for every respondent within the benchmark group and sort them into ascending order.

In step 2, we split that list of numbers into quarters to find the quartiles.

For step 3, we transpose quartiles onto a 0-100 scale.

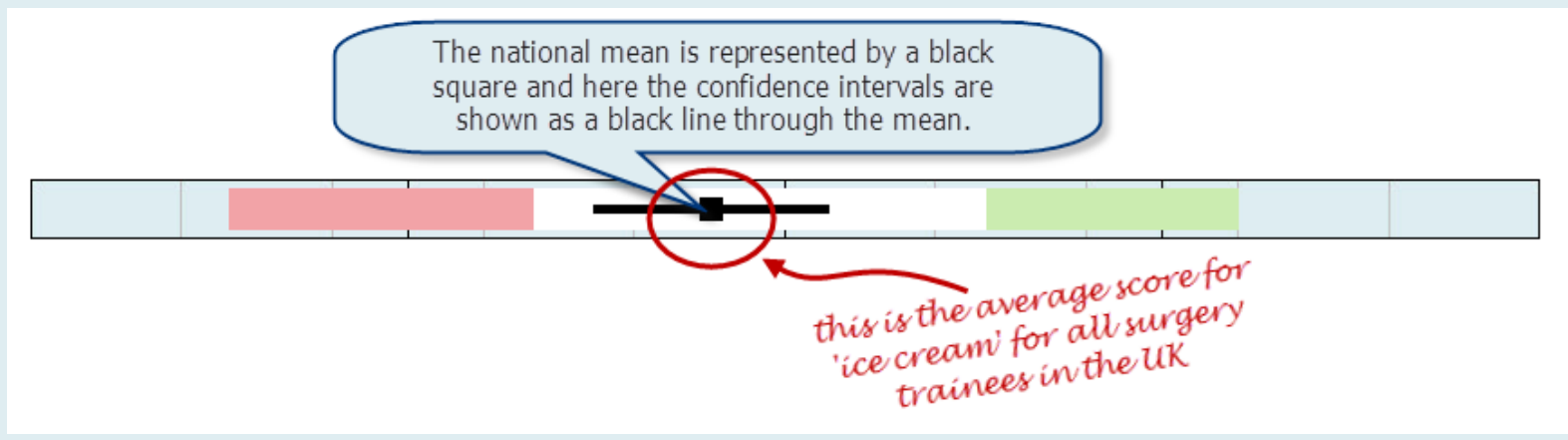
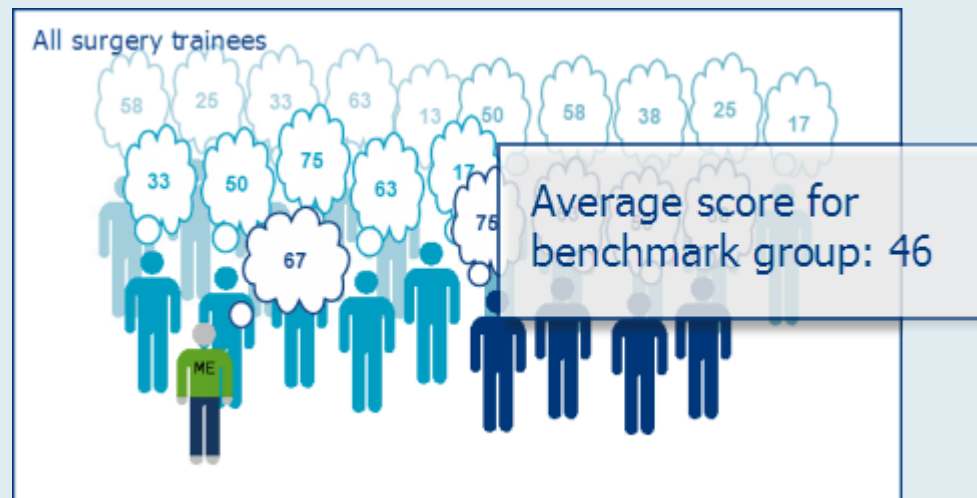


## Calculating the benchmark mean

Next, we calculate the average for the benchmark group (**national mean**). This is the sum of the scores divided by the number of contributing scores (N).

Then, we calculate the **confidence intervals\*** for the national mean.

This gives us the comparator. The outcome depends on where the report group score falls on this scale.



\*Confidence intervals show how statistically confident we can be that our mean score represents a true average. The smaller the confidence intervals, the more confident we can be. You might see confidence intervals represented as a line through the mean (black square) like in the picture above. In some charts, we show the upper and lower *confidence limits* with a black cross (+).

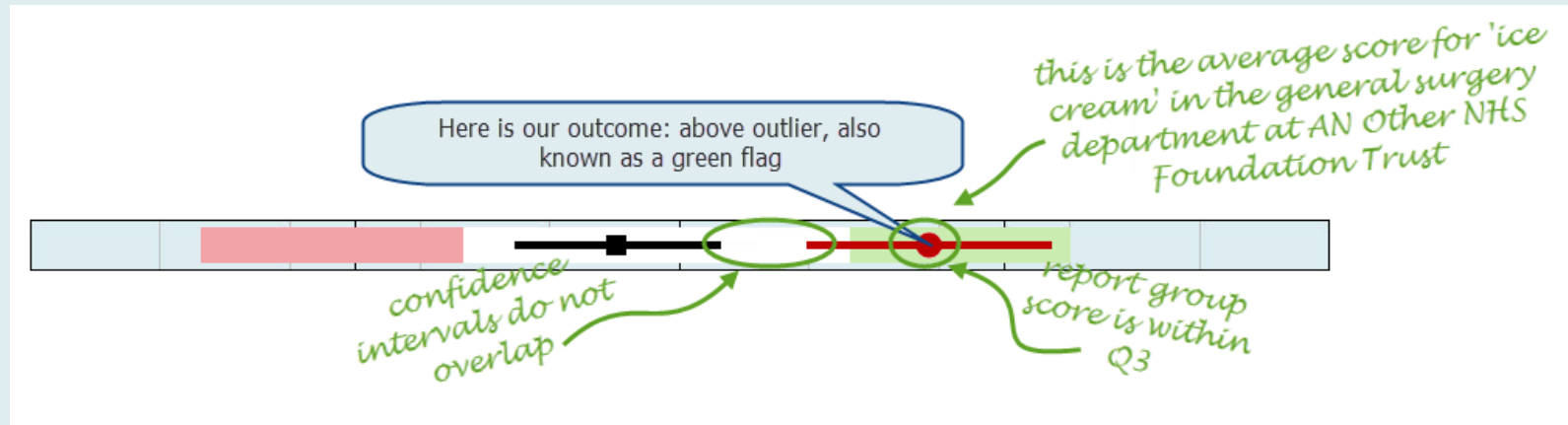
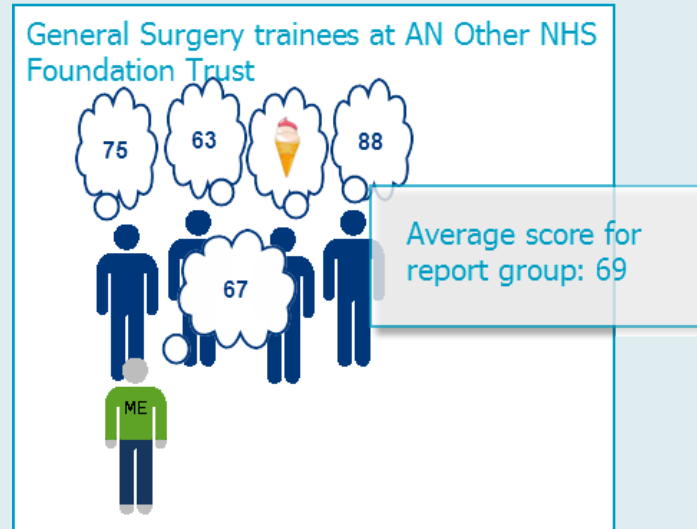
Calculating the report group mean and comparing it to the benchmark

Now we calculate the report group mean.

In our example, you are a general surgery trainee at AN Other NHS Foundation Trust. The report group includes the scores for all the general surgery trainees in your trust.

Next we compare the report group score to the benchmark we calculated earlier.

The red dot is your department's score. It's in the top quartile (Q3), and the confidence intervals do not overlap those of the national mean, which makes this an above outlier, or green flag.



## Displaying the results

Now we know how your department feels about ice cream (the report group score) and how your peer group feels about ice cream (the benchmark group score). And in comparing the two scores, we have established that your department scores relatively highly for 'ice cream' and is an above outlier (or green flag).

We can now show it as a green box on an outlier summary grid like this.

Each box on the grid is calculated by the method described above.

Post Speciality	Trust / Board	Indicators							
		Overall Satisfaction	Hot drinks	Ice cream	Sandwiches	Salad	Hot dinners	Puddings	Bread
Anaesthetics	AN Other NHS Foundation Trust	Red	Red	Light Green	Pink	Red			Green
Cardiology	AN Other NHS Foundation Trust							Light Green	
Gastroenterology	AN Other NHS Foundation Trust			Green					Red
General surgery	AN Other NHS Foundation Trust	Light Green	Light Green	Green			Green		
Paediatrics	AN Other NHS Foundation Trust			Red				Green	
Urology	AN Other NHS Foundation Trust	Red	Pink			Red			

*this is what our outcome looks like on an 'outlier report' in the NTS reporting tool*

There is a more detailed version of this guide in the NTS reporting tool user guide, which you can find on our website at [www.gmc-uk.org/nts](http://www.gmc-uk.org/nts)