Preparing the cards

The individual returns were given unique numbers incorporating the month and year, so that everything could be retraced to the original data. The data was then entered in a spreadsheet. A numerical value was assigned to the tick boxes with 1 being 'extremely likely' and 6 being 'Don't know'. The free text was typed in verbatim, with no corrections for spelling or grammar so that the true voice of the patient could be heard. Where handwriting was illegible a note was made. Separate columns were used for the free text for the different questions and a note was made if the patient did not want the data to be used publically.

id	No. value	age	sex	Free text	PPG question	Public?
0716-001	1	65-74	F	Good service & nice people	Better car parking	
0716-002	1	65-74	M			
0716-003	2	16-14	m	No		
0716-004	1			Extremely accommodating despite being clearly overstretched		Do not make public

Table 1 An example of the spreadsheet with the unique number based on the month and year, and the information from the FFT form including the verbatim free text.

A second worksheet was used to prepare the cards for printing for use in the card sort. The free text from each question was treated separately. Sometimes patients put more than one concept in a comment. For example:

'Very efficient at sorting out repeat prescriptions. Like all the GPs and Nurses at this practice, staff are polite Drawback (as with all practices) length of time to see GP of your choice'

When patients included more than one concept, these were duplicated with an alphabetical suffix.

Id	No.value	Text	Public?
0816-012a	2	Receptionists are great. ~~Waiting time to see doctors could be improved some doctors are always very late keeping apt. times~~	
0816-012b	2	~~Receptionists are great.~~ Waiting time to see doctors could be improved some doctors are always very late keeping apt. times	
0816-13	3	Waiting time for bloods should be able to have them sooner	
0816-14	2	Excellent doctors when you can get apt. No "battle" to get appt	

Table 2 An example of data as prepared for using Mail Merge in Word to print the cards for the card sort.

The cards were printed onto normal paper using mail merge in MS Word. Each card contained the unique id, the rating number, and the text. Where patients ticked the box asking for their comments to not be made public, the words ‘do not publish’ were added.

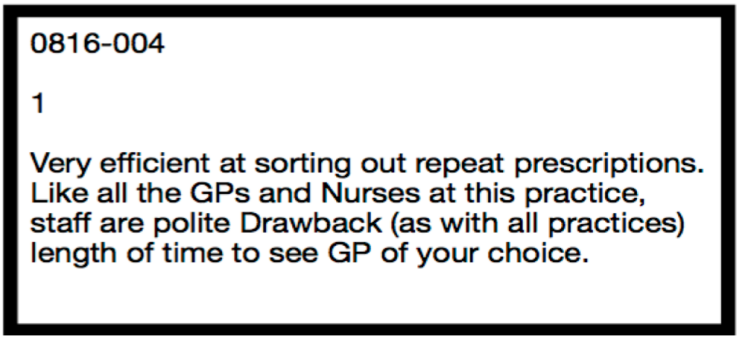

Figure 2 Example of a card ready to use for the sorting task. If the patient had ticked “Please tick if you DO NOT wish your comments to be made public” then “do not publish” would also be printed on the card.

The sheets of paper were cut into individual cards. Where there was more than one concept and multiple cards were printed, a line was drawn though all concepts except one on each of the cards so that it was clear that although there was more than one concept, only one concept was the subject of

each card. This allowed the context of the comments to be understood. A closed card sort was used to sort the free text responses from the official NHS question to the into four categories known as the four Cs.

Preparing control charts

The control charts used were XmR charts as set out in the book *Understanding variation: The key to managing chaos* by DJ Wheeler. The number of each category, i.e. the number of people that said they would be extremely likely to recommend the surgery, was entered into a spreadsheet. The average of the monthly scores was calculated adding them up and dividing by the number of months. This result from the first year was used as the average for the second and subsequent years. The average moving range is calculated by adding up the differences between the totals for each month, then dividing by the number of months. These two figures are then combined with scaling factors to produce charts with an upper natural process limit for the moving range, and an upper and lower natural process limit for the main chart. The following formulas from the book were used:

Upper Control Limit or Moving Range: - 3.72 x average moving range
Upper Natural Process Limit: - multiply the average moving range by the constant 2.66 then add the result to the average of the monthly figures.
Lower Natural Process Limit: -multiply the Average Moving Range by 2.66 then subtract the result from the average of the monthly figures.

These figures are then used to plot the complete XmR chart. Although the X chart and the R chart are usually positioned together, as the X chart is the most important chart for the current purposes, the R chart will only be shown in the example below but for brevity will not be shown in the main paper.

Figure 1 Example of an XmR chart