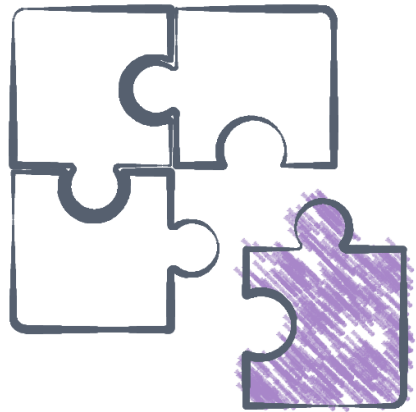


### What?



Pareto analysis is a simple technique that helps you to focus efforts on the problems that offer the greatest potential for improvement by showing their relative frequency or size in a descending bar graph.

Pareto's 80/20 principle states that roughly 80% of the effects come from 20% of the causes.

### How?

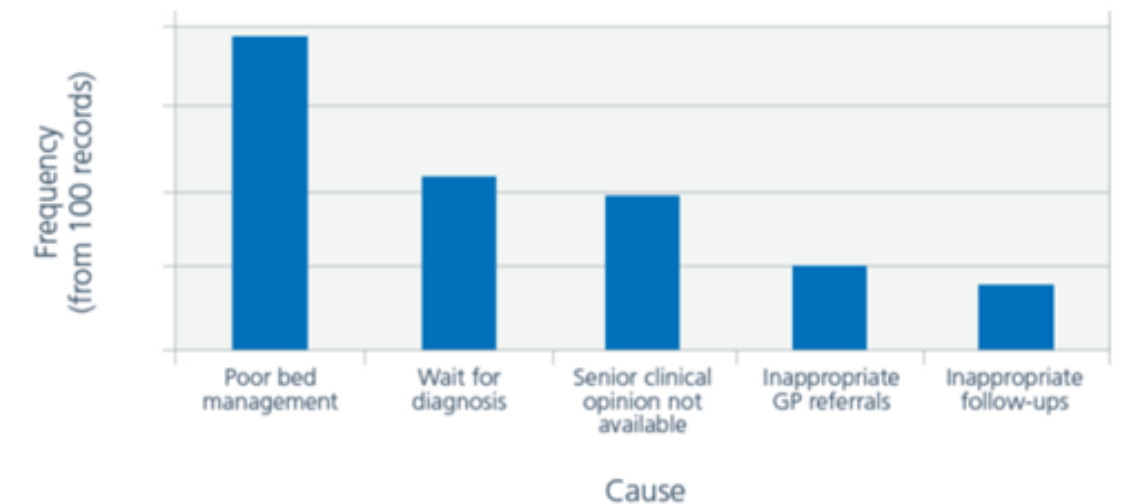


1. Identify the problem area you want to know more about and the possible causes. This can be done using a cause and effect (fishbone) diagram or brainstorming.
2. Collect and analyse data to verify the causes you have identified. Choose the most meaningful unit of measurement that relates to your problem – often frequency or cost. Rank the causes from largest to smallest i.e. compare the relative frequency of the cause.
3. Draw a Pareto graph to illustrate the findings by listing the problem categories on the x-axis (horizontal) and the frequency or cost on the y-axis (vertical). This simple bar chart will help to ensure that your findings are quickly and easily understood by others

Example:

An improvement team set out to reduce delays in its hospital but was unsure which of the most common causes to tackle first. After collecting data on the causes of delay, the team produced this Pareto chart:

Cause of delays – hospital example



### Why?



When analysing a problem, this tool will quickly identify the major causes so that resources can be directed accordingly.

You may find it helpful to use a Pareto chart after you have completed a cause and effect (fishbone) diagram to identify which causes to work on first.

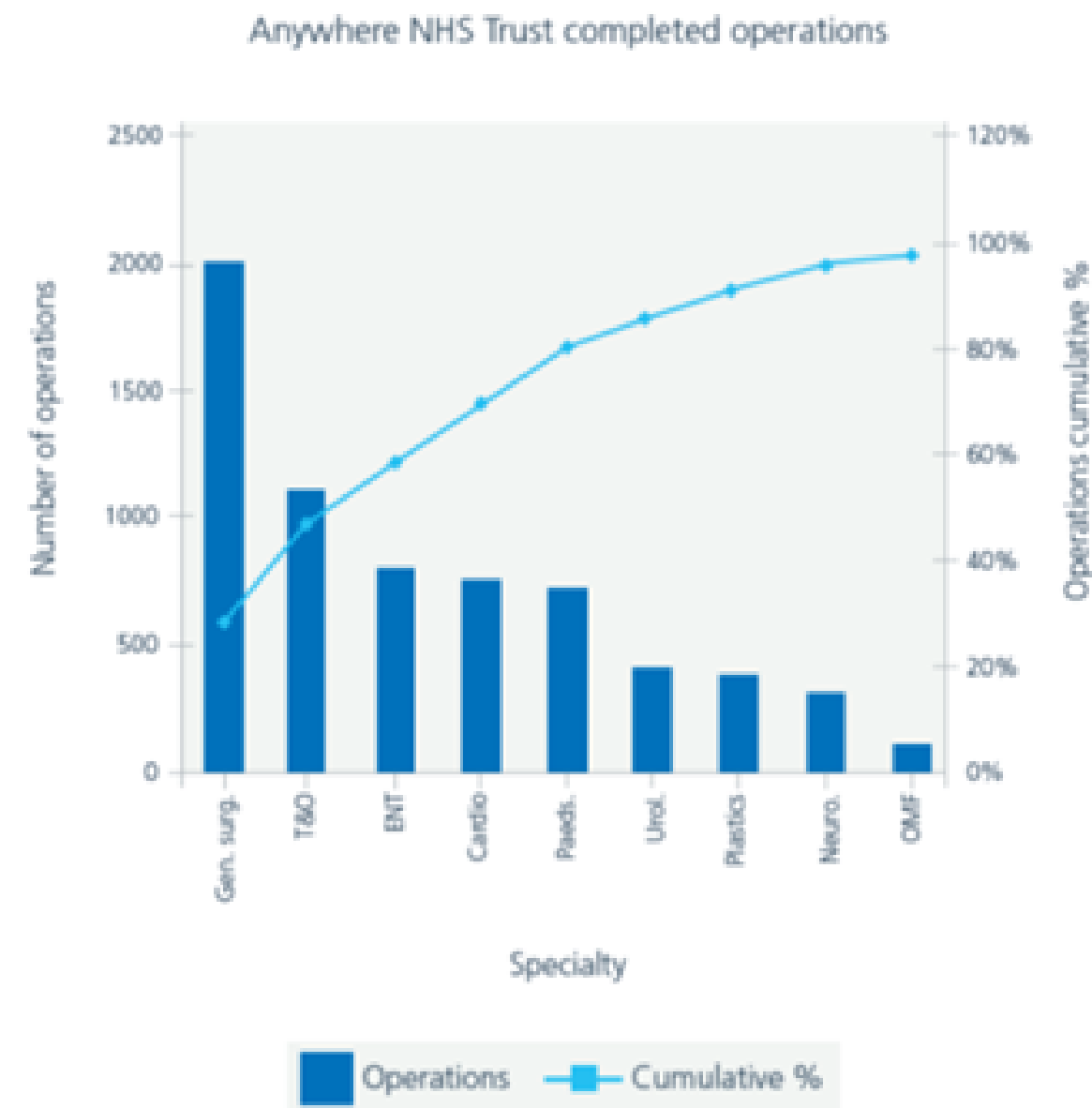


### Taking it further:

You can further enhance the basic Pareto by using a cumulative frequency graph

- Draw the cumulative percentage line showing the proportion of the total number that each problem category presents.
- On the y-axis line, record 100% opposite the total number and 50% at the halfway point.
- Fill in the remaining percentages drawn to scale. Starting with the highest problem category, mark the upper right hand corner with an X or a dot.
- Add the total of the next problem category to the first and draw a dot above the bar showing both the cumulative number and percentage.
- Connect the dots and record the remaining cumulative totals until 100% is reached

(See example shown)



### Tips when using the Pareto tool:

You can use the Pareto principle to give an insight into a wide variety of issues, for example:

- 80% of interruptions come from 20% of the people
- 80% of an equipment budget relates to 20% of the items
- 80% of benefits come from the first 20% of effort
- 80% of complaints are about 20% of your services
- 80% of a nurse's time is spent on 20% of the patients
- 80% of the decisions made in meetings come from 20% of the meeting time
- 80% of innovation comes from 20% of the staff
- 80% of staff problems come from 20% of the staff
- 80% of your success comes from 20% of your efforts.

Tackle the causes with the highest score/frequency first as these offer the greatest benefit if resolved. Causes with the lowest scores/frequencies may not be worth tackling as solving these problems may not give a good return on investment of time or resources.

### What next?

After using the Pareto technique to identify the causes that have the most potential for improvement when solved, you can produce an action plan to outline the next steps