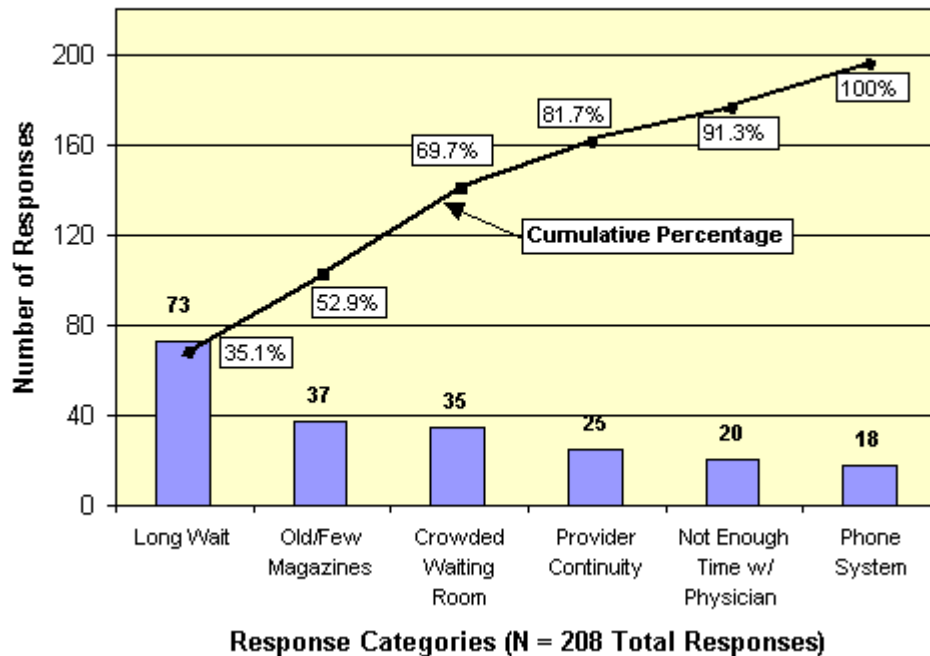


How to Create a Pareto Chart

Pareto Chart of HHC Patient Concerns



Pareto charts are commonly used tools in improvement projects. A Pareto chart or diagram is a vertical bar chart where each bar represents the number of events, items, or causes. To construct a Pareto chart, the most frequent item is used as the first bar on the left, and this continues sequentially until the last bar on the right represents the least frequent item. This arrangement lets you see at a glance the relative number of the events. The cumulative frequency (or percent) of these events is often plotted as a line on the diagram above the bars.

1. Collect data about the contributing factors to a particular effect (for example, the types of errors discovered during surgical setup).
2. Order the categories according to magnitude of effect (for example, frequency of error). If there are many insignificant categories, they may be grouped together into one category labeled "other."
3. Write the magnitude of contribution (for example, frequency of error) next to each category and determine the grand total. Calculate the percentage of the total that each category represents.
4. Working from the largest category to the smallest, calculate the cumulative percentage for each category with all of the previous categories.
5. Draw and label the left vertical axis with the unit of comparison (for example, "Number of Occurrences of Error," from 0 to the grand total).
6. Draw and label the horizontal axis with the categories (for example, "Type of Error"), largest to smallest from left to right.

7. Draw and label the right vertical axis “Cumulative Percentage,” from 0 to 100 percent, with the 100 percent value at the same height as the grand total mark on the left vertical axis.
8. Draw a line graph of the cumulative percentage, beginning with the lower left corner of the largest category (the “0” point).
9. Analyze the diagram to indicate the cumulative percentage associated with the “vital few” (for example, three error types account for 80 percent of all errors).

Adapted from the Institute for Healthcare Improvement and the Healthcare Improvement Skills Center, Module 4