Percentages – basically translates as 'per hundred". They are useful when comparing groups of different sizes.

For example – two teams investigated the appropriateness of donor deferrals. Team 1 healthscreened 256 donors and 15 were deferred inappropriately. Team 2 healthscreened 156 donors and 12 were deferred inappropriately. Although team 1 deferred more donors, they also screened more donors. As a percentage, team 1's inappropriate deferral rate was 5.9% whereas team 2's inappropriate deferral rate was 7.7%, showing that team 2 deferred proportionately more donors inappropriately than team 1.

Analysing Qualitative Data

Qualitative information is usually descriptive rather than numerical and needs to be analysed differently. Although this type of data can give you lots of information, it can be time consuming and there is a risk that comments could be misinterpreted. Qualitative data is difficult to interpret, so if you intend to investigate this type of information, seek the assistance of your local clinical audit staff.

Charts and Graphs

Charts are a useful way of presenting and comparing information in a simple, easy to understand format**.** There are several different types of chart available and there are no hard and fast rules as to which one should be used. Use those that best show the point you are trying to make.

Bar Charts – used for distinct categories, such as blood group and gender. There are spaces between each bar as the data is *discrete.*

Histograms – used for ranges of data, e.g., blood pressure, height and weight. There are no spaces between each bar as the data is *continuous*.

Pie Charts – used for showing proportions / percentages within different groups.

Line Graphs – are useful for comparing changes over time, and are better than bar charts for comparing changes between different groups.

Scatter Charts – are used when looking for associations or patterns between two factors.

Don't Panic – the clinical audit and effectiveness department can provide advice and support if you are not sure how you should analyse your data.

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NHS Blood and Transplant

How to Analyse Your Clinical Audit Data

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Analysing your audit data

The basic aim of data analysis is to convert data into useful. You are looking for patterns in the data that will tell you how well you comply with your audit standards.

Ideally you should have identified how you were going to analyse your audit data before collection. This helps to ensure that you collect data that is relevant. This leaflet gives brief details of the tools you can use to obtain information from your data.

The main aim of data analysis is to answer the questions posed by the audit objectives. If you collect the right data, it will be easy to analyse and get the information you want.

Remember - Objectives are specific and measurable.

For example: *To determine the number of donors deferred inappropriately according to the Donor Selection Guidelines. You would obtain information regarding donor deferrals and use a method, such as peer review, to determine which deferrals were appropriate. You would then be able to say what number and percentage were deferred inappropriately.*

The type of data analysis depends on the type of information you have collected. This can range from simple averages and percentages to sophisticated statistical techniques.

Remember – Keep it as simple as possible.

Although statistical techniques can be useful, will everyone understand them? If the results of the audit are to change practice, the results and analysis must be simple enough for **everyone** in the care process to understand.

Different Types of Data

There are two main types of data, Quantitative and Qualitative

Quantitative data *is concerned with numerical or specific data. E.g. Yes/No, Age, Gender, Blood Pressure, Blood Groups. The analysis of this type of data is performed using simple mathematical techniques.*

Qualitative data *is usually descriptive rather than numerical. e.g comments on questionnaires, donor complaints. This data needs to be analysed differently and carefully, as it can often be subjective and open to interpretation.*

Analysing Quantitative Data

The following descriptive statistics are the most commonly used data analysis tools.

Averages – There are three types of average.

Mean –the mathematical average, you add all the values up and divide by the number of data points.

The other 'averages' can be used to determine if your data is skewed. i.e. if you have one or two extreme values at one end of your data range. If they differ from the mean, your data is skewed and these averages may describe your data more effectively.

Mode – is the most commonly occurring data point.
Median – when the data is sorted into numerical order, the median is the middle value.

Standard Deviation - gives information about the spread of data around the mean. The value of the standard deviation should be compared relative to the mean. A large standard deviation, when compared to the mean, implies the data is widely spread whereas a small standard deviation implies the data is mainly concentrated around the mean.

For example*: patients have a mean age of 32y with a standard deviation of 1.2y. This means the majority of patients will be 32 or very close to it. Whereas a standard deviation of 10.5y would imply that the age range of the patients was more widely spread.*

Confidence Intervals – unless your audit population was small, you have probably used a sample of subjects. Confidence intervals are useful as they tell you whether you have got the same information as you would have got, had you audited the whole population.