Choosing Who or What to Include

There are several methods of choosing which cases to include in your audit. The most commonly used in clinical audit are:

Random Sampling: assumes your audit population will remain the same throughout the audit period and that each subject will have an equal chance of being chosen, either by drawing names out of a hat or choosing every n^{th} subject from a list (e.g. choosing every 3rd or 5th donor).

Interval Sampling: assumes your audit population will change over the period of the audit. In these circumstances, the audit sample is often determined by a period of time, e.g. all patients transfused during May and June.

Consecutive Sampling: is closely linked with interval sampling. You simply choose the first agreed number of subjects after an agreed start date.

Stratified Sampling: is a method used to ensure that the proportions of different groups in the population are reflected in the sample. For example, if investigating donor deferrals, and male blood donors make up 40% of the donor population, you would ensure that 40% of your sample are male.

Rapid Cycle Sampling: can be used where you know there may be a problem and you want to get results as quickly as possible. Here you select a relatively small sample size to get the results to show the nature of the problem. Then you implement changes and re-audit another small sample to determine if improvements have been made. This method uses lots of small data sets to continually improve and monitor care and can make the change cycle quicker.

Convenience Sampling: a non scientific method of sampling where you take the convenient sample available. For example, if you were interviewing patients, you would just pick patients from those available at the time when you are interviewing

Sampling Bias: if you do not choose your audit sample carefully it can skew your audit results and give inaccurate information. If this is the case, it could lead to difficulties when you try to change practice as staff could see weaknesses in your audit design and results.

If you need further advice on sample sizes, sampling or any aspect of clinical audit, please contact the clinical audit department.

Blood and Transplant

How to Select an Audit Sample

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Clinical Audit and Effectiveness

Populations and Samples

Clinical audit involves comparing some aspect of patient or donor care against an agreed standard. The subjects (patients or donors) who have received this aspect of care are known as your **AUDIT POPULATION.**

For example, *if you were auditing consent for stem cell storage and processing, your audit population would be all stem cell donors.*

To obtain adequate information about the intervention you are auditing, ideally, you should include all subjects who have received the intervention.

However, if this group of subjects is larger than 100, this can be impractical due to lack of resources or the time available.
To make the audit more manageable, we need to select a smaller group from this population. This is your **AUDIT SAMPLE.**

You need to be sure that the information you get from your audit sample is similar to the information you would get if you audited the whole population. Therefore, you need to ensure that your sample size is **large enough** and is **representative** of your audit population to give robust audit results.

How big should my sample be?

Clinical audit is not research, so where a research study will need large numbers of subjects to show which intervention is best, clinical audit only needs to determine if

practice complies with standards. You can usually get the information you need from smaller sample sizes.

However, there is no magic number as to exactly how many subjects should be included and it will depend on the area being evaluated, the amount of information being collected, how easy it will be to obtain that information and the resources available.
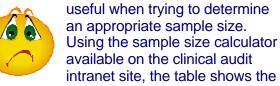
You need to be confident that the information collected from your sample is similar to what you would get from your whole population. For audits to be robust, you should aim for a sample size that will allow you to be 95% sure that the results you obtain from your sample will be within 5% of the results you would have got from your audit population.

Don't Panic - Sample size calculators are useful when trying to determine an appropriate sample size. Using the sample size calculator available on the clinical audit intranet site, the table shows the

sample size required to be 95% confident that your sample will give results within 5% of your audit population.

Population Size	Sample Size
50	44
100	79
150	108
200	132
250	151
500	217
750	254
1000	278
1500	306
2000	322
2500	333
3000	341
4000	350
5000	357

You can see from this that, as your population gets larger, you need proportionally fewer subjects to be certain that your sample will give results similar to your population. However, this is only a guide and you may feel that you need fewer subjects if you have a lot of information to collect.

It is not only the size of your sample that will affect your results; the way you choose your subjects will also affect the validity of your results. This is known as **SAMPLING.**