

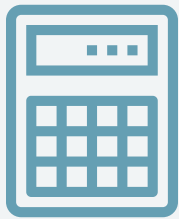
SAMPLE SIZE CALCULATIONS AT THE BENCH

[sam-pl-saize]

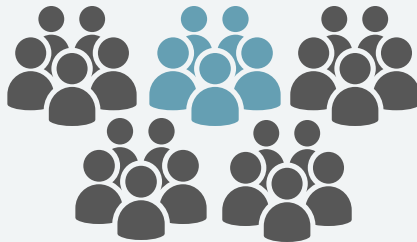
Simply the number of subjects included in a study determined by a calculation.

Why calculate sample size?

Any hypothesis postulated requires an *a priori* sample size calculation.



A sample size calculation determines the number of subjects needed to detect a relevant effect.



If sample size is not calculated ahead of time, you may be at risk of including too many subjects (waste of time and resources) or too few subjects (inaccurate study results).



Best Practices

#1 Generate *a priori* null and alternative hypotheses and study primary outcomes.

Primary outcome: Difference in mean tumour size between mice that received the treatment and mice that received the control.

H_0 : There is no observed difference in mean tumour size between groups.

H_A : There is an observed difference in mean tumour size between groups.

#2 Use literary evidence, expert opinion, or pilot studies to determine the variables below.

μ_1 : Expected mean tumour size of population 1 (control group).

μ_2 : Expected mean tumour size of population 2 (treatment group).

σ Sigma: Expected population standard deviation.

#3 For a simple two group comparison, use a statistical package. For more complex comparisons (ANOVA), consult a statistician.

Input variables into [University of British Columbia Power/Sample Size Calculator](#).

Tools and more information

Resources



- University of British Columbia Power/Sample Size Calculator.



Publications

- Effect size, confidence intervals and statistical significance: a practical guide for biologists. Cambridge Philosophical Society, 2007.