

Type I Error

Type I Error occurs in statistical hypothesis testing when a null hypothesis, which is actually true, is incorrectly rejected. Type I errors are also known as 'false positives'; they are the detection of a positive effect where no effect actually exists.

As a stark example, Type I errors could kill a patient – for instance, if a study incorrectly found that the standard of care was not better than the new treatment, and consequently the new treatment was given to patients, the results may be catastrophic.

Type I errors cannot be completely avoided, but researchers should decide on an acceptable level of risk of Type I error when designing clinical trials. A number of statistical methods can be used to control the Type I error rate. The methods to be used in a clinical trial should be detailed in the study protocol or the statistical analysis plan for that trial.