

Type II Error

Type II Error occurs in statistical hypothesis testing when the null hypothesis is incorrectly accepted. Type II errors are also known as 'false negatives'; they are the failure to detect a positive effect where the effect does exist.

Type II errors mean that potentially valuable research goes to waste. As no positive effect is detected, research may be halted. This research may have been useful, but as no further study takes place, no harm is done to patients.

Type II errors cannot be completely avoided, but researchers should decide on an acceptable level of risk of Type II error when designing clinical trials. To reduce the risk of Type II errors to acceptable levels, the power or sample size (the number of participants in a study) can be increased.