

Glossary of useful terms

- ⇒ **P-values** are used to illustrate a finding's **statistical significance**. Findings less than 0.05 indicate that you can be 95% sure that findings are not due to chance.
- ⇒ **Confidence intervals** are used to show the accuracy of average effects. For example, if the average (mean) weight loss after service use is 1.6, with confidence intervals of 1.2-1.8, we can be 95% confident that the true value lies between these figures.

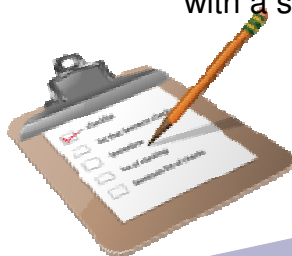
Conducting data analysis: a best practice checklist

For quantitative research, develop an analysis plan by identifying the following:

- ⇒ Who will be involved with data analysis?
- ⇒ What are the specific questions you want to answer?
- ⇒ What are the predictor and outcome variables?
- ⇒ What type of analysis would match your research question? (see website for guidance on this).
- ⇒ Can you conduct the test with the data you have? (see website for more information).

For qualitative research

- ⇒ With content analysis and thematic analysis; consider interpretations can they be supported by the data?
- ⇒ Will you perform validity checks with a second coder?



Conducting data analysis

A best practice short-guide to conducting data analysis



April 2014

Deciding which analysis you need to do...

The type of analysis that you conduct will depend primarily on whether you want to analyse qualitative data (words) or quantitative data (numbers), and what questions you want to answer. Common analytic methods are summarised within this guide.

Qualitative data analysis

Two common forms of qualitative data analysis are:

- ⇒ **Thematic analysis** involves reducing qualitative data (interviews, focus groups) into *themes*. Themes are a reductionist way of capturing the meaning within datasets.
- ⇒ **Content analysis** involves the analysis (and coding) of written text (documents, reports, websites etc) to identify meaning.

Guidance on performing these methods can be found on the website.

Quantitative data analysis

The type of quantitative analysis that you perform is largely determined by the questions that you are asking. Common questions are:

- ⇒ **Are there any differences between groups in relation to their specified characteristics or outcomes?**

For example, are there differences between the characteristics of women and men using services? Are there differences in outcomes (e.g. weight loss, increased physical activity) between different services or pathways? Do outcomes change following service use?

For these questions perform t-tests, ANOVA

- ⇒ **What factors are associated with, or predicative of specific outcomes?**

For example, is age associated with weight loss outcomes? Does deprivation predict service uptake or completion?

For these questions calculate correlations and odds ratios

Definitions of quantitative statistics

T-test: A way of testing whether two groups (or outcomes measured on two different days) are statistically different.

ANOVA: Similar to t-tests, but extend the comparison to three or more groups or time points.

Correlation: Provide an indication of the strength of relationship between variables.

Odds ratio: Calculates the comparative odds of a person in one group experiencing an outcome, relative to the odds of a person in another group. For example, the likelihood of a person who completed a 12 week intervention losing weight compared to those who dropped out after using 1-2 sessions.

This short best practice guide is bought to you by the University of Bath in collaboration with Bath & North East Somerset Council.
For more information contact the Active Lifestyles and Healthy Improvement Team on 01225 396429