Western Health

Biostatistics Toolkit

Welcome to the Biostatistics Toolkit, a comprehensive resource designed to empower researchers in conducting their own statistical analyses.

As research at Western Health grows, requests for access to Biostatistical support is also increasing, outstripping WH biostatistician availability. We are keen to ensure that all researchers at Western Health have access to essential biostatistical resources which can be applied to projects that do not require complex statistical methodologies and analysis. This toolkit provides a selection of essential resources, including textbooks, guides, and tools that cover a wide range of statistical methods and techniques. Whether you're just starting or looking to deepen your understanding, our toolkit offers the knowledge and support you need to confidently perform your analyses and enhance the quality of your research.

1) An introduction to analysing quality improvement and assurance data

A nice resource from the Healthcare Quality Improvement Partnership (HQIP) in the UK.
https://www.hqip.org.uk/wp-content/uploads/2018/10/final-an-introduction-to-data-analysis-october-2018.pdf

2) Tip for setting up good surveys

REDCap is a secure web application for building and managing online surveys and databases and is the preferred tool of choice for Western Health Research projects. The following two links contain valuable resources to assist in setting up your surveys and databases:

Western Health REDCap information
https://www.westernhealth.org.au/EducationandResearch/Research/Research%20Facilitation/Pages/REDCap.aspx

REDCAP resource videos
https://projectredcap.org/resources/videos/

3) Free online learning resources

UCLA Statistical Methods and Data Analytics (All examples in SPSS, SAS and STATA)
https://stats.oarc.ucla.edu/

SPSS

UCLA Statistical Methods and Data Analytics (SPSS)
https://stats.oarc.ucla.edu/spss/

Discovering Statistics Using IBM SPSS Statistics – Andy Fields
https://edge.sagepub.com/field5e

R

> *A quick introduction to R for biostatistics Dr Juan H Klopper*
> https://rpubs.com/juanhklopper/intro_to_R_for_biostats
>
> *Descriptive statistics in R - Antoine Soetewey*
> https://statsandr.com/blog/descriptive-statistics-in-r/

4) eBooks available in the WH Library

Barton, B. and Peat, J., 2014. *Medical statistics: A guide to SPSS, data analysis and critical appraisal*. John Wiley & Sons.

Moscarelli, M., 2023. *Biostatistics With'R'*: *A Guide for Medical Doctors*. Springer.

5) Some Specific Introductory Statistics Resources

Introduction to:	SPSS Tutorials	R Tutorials
Correlation	https://www.spss-tutorials.com/spss-correlation-analysis/	https://statsandr.com/blog/correlation-coefficient-and-correlation-test-in-r/
Comparing means	https://www.spss-tutorials.com/t-test/	https://www.rpubs.com/nmccurtin/ comparingtwomeans
Comparing categorical data	https://www.spss-tutorials.com/chi-square-test/	https://rpubs.com/juanhklopper/tests_for_ categorical_variables

6) Informative YouTube videos

SPSS Video tutorials
https://edge.sagepub.com/field5e/spss-video-tutorials

R Video tutorials
https://edge.sagepub.com/salkindshaw/student-resources-0/r-tutorial-videos

Stata Video tutorials
https://www.stata.com/links/video-tutorials/