Online Training on SPSS for Medical Professionals

STATISTICS FOR MEDICAL PRACTITIONERS

But
HOW?

Turn Insights Into Action With Medical Statistics

With the welfare of the public as the ultimate goal, and with the uncertainty that is inherent in all health and medical related decisions, statistical sciences can play an important role in solving problems of human health & disease. Evidence Based Medicine (EBM) requires medical practitioners to carefully consider all evidence on whether a particular line of treatment works, in turn requiring evidential data to be objectively analysed. An application of statistical techniques is required to achieve this data.

Medical statistics is the science of analyzing and interpreting data in medical practice in order to locate associations and test hypothesis, while taking into account the variability inherent in biological processes. It provides an objective and formal framework for communicating findings and evidences to medical practitioners, for them to decide on a method of treatment.

Do More With Less

SPSS Licenses are expensive, and as much as possible they should be put to use for analytical work: for project reports, theses and research papers. Yet, to first pick up the analysis skills, it becomes inevitable to spend more time on the software learning it, than is spent actually getting productive work out of it. This makes it very difficult for education administrators to allocate adequate software time to a large body of students to both train as well as produce results.

The simulated environment of the SPSS Online Training course, along with statistical concepts as well as guidelines on interpreting results, makes students adept at using SPSS. So that when they are given access to SPSS they use it for producing results, not learn it. This of course helps the institute manage a bigger load of students with an optimal number of licenses.

Free Up Resources With Asynchronous Learning

In a learning institution time and space are two of the most valuable resources that need to be put to the best productive use. This includes using them to impart learning on core subject areas that are mandatory for the students with respect to their course specialisation.

SPSS, when taught as an added skill or as a part of the repertoire of tools that a doctor must acquire, is best delivered in an asynchronous mode over the web, so that it does not consume the vital resources of time and space, leaving them available for focus areas of learning.

Standardise The Training Delivery

Teaching a subject like data analysis with SPSS in a Medical course, where it needs to be taught as a skill set for future doctors rather than as a primary subject, sometimes faces a challenge when it comes to managing the need for adequate coverage while avoiding too much of technicality. And it is often left to the individual trainer to strike the right balance between these two necessities. The problem becomes further compounded as both the number of students as well as the geographic dispersion increases. SPSS online training ensures that all students undergo the same training regardless of their number or geographic location.

WHAT'S
in the training ?

In Line With Doctors' Needs

This training is meant for medical researchers. Researchers who will need to learn on how to apply statistics and SPSS to solve medical problems, rather than attempt to become statisticians or data scientists.

The training focuses therefore, on just what is needed by medical professionals while avoiding what is not.

Statistical Concepts

Trying to analyse data in SPSS without understanding the statistical concepts that underlie the techniques is not advisable. For it can often lead the researcher to either apply an incorrect technique or draw the wrong conclusions. Each section in the training therefore first explains a statistical concept before exposing the learner to the running of the analysis itself.

Simulated User Interface

A primary objective of the training is to give the learner a hands-on feel of the environment that she would encounter while working on SPSS itself. The training does provide a simulated environment, guiding the learner step by step through the analysis process, and preparing them to become completely familiar with the workings of the actual software itself.

Interpretation Of Results

Running an analysis on the data is just the beginning. Ultimately the doctor has to draw conclusions from the results SPSS produces. The training explains the SPSS output, with a variety of examples, guiding the learner through the findings the results show up. The examples are created using health related data, giving the learners an opportunity to learn the techniques in a data environment familiar to them.
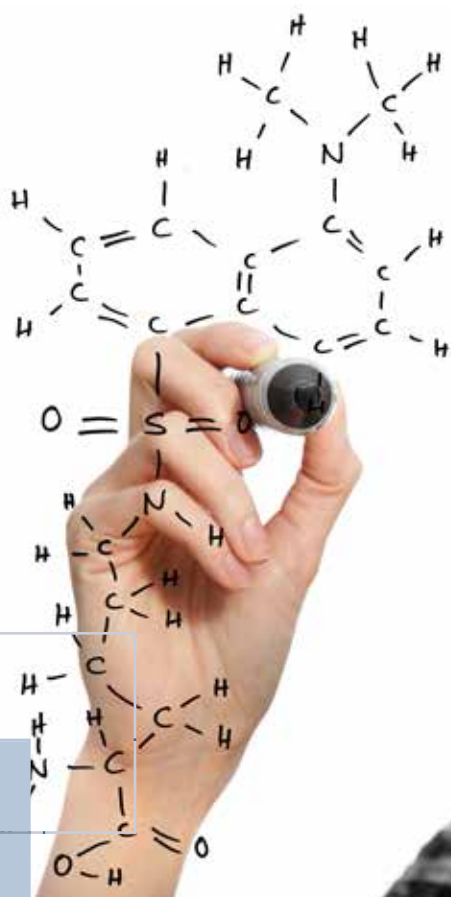
What's in the Content?

Data

- Data Measurement
- Data Type
- Data Documentation
- Visual Binning
- Data Selection

Descriptive Statistics

- Frequencies
- Measures of Central Tendency
- Measures of Position
- Measures of Dispersion
- Measures of Distribution

Graphical representation of Data

- Univariate Graphs
- Bivariate Graphs
- Multivariate Graphs
- Comparing Categories in the Same Variable
- Multiple Variable Comparisons

Tabular Representation of Data

- Comparing Categories
- Comparing Multiple Variables

Data Reports

- Olap Cubes
- Case Summaries

Relationship between variables

- Correlation
- Regression

Classification

- Hierarchical Clustering
- K Means Clustering
- Discriminant Analysis

Data Reduction

- Factor Analysis

Logistic Regression

- Binary Logistic Regression
- Multinomial Logistic Regression

Comparing Populations

- Chi Square Test
- T Test

Analysis of Variance

- One Way ANOVA
- Two Way ANOVA
- MANOVA

Non Parametric Tests

- Mann Whitney U Test
- Wilcoxon's Signed Rank Test
- Kruskal Wallis Test
- Friedman's Test

Survival Analysis

- Life Tables
- Kaplan Meier
- Cox Regression
- Time Dependent Cox Regression

Diagnostic Study

- ROC Curve