Module C1 – Building Statistical Models

Overview

Purpose
This course provides participants with an understanding of regression, the statistical process for estimating relationships amongst variables. From basic concepts to higher level technical analysis, participants will learn how to quantify and understand relationships between variables through building statistical regression models. In so doing participants will develop the skills required to estimate relationships and predict outcomes by changes in variables. The first part of the module will introduce statistical models for the analysis of data when the response is a continuous outcome (e.g. school test scores, population in an area; temperature; wealth or income). The second part focuses on statistical methods for the analysis of categorical response outcomes (e.g. alive or dead; yes/no; eye colour; social class; attitudes).

Learning objectives
On completion of the module, participants will have an understanding of:

1. The different types of data and how this affects the choice of analytic method
2. How to look for relationships in data
3. Correlation and association
4. How to define a linear regression model
5. How to use a linear regression model
6. How to make inferences from regression models
7. How to analyse relationships with more than one explanatory variable
8. Logistic regression for categorical data

Who should attend, and module pre-requisites
This module is designed for people who work in research and policy, but who may not be directly involved in day-to-day data analysis, and for people who are keen to understand the process of using statistical data to build relationships. This training can provide necessary insight into key research problems and policy questions, and will assist people who need to understand the relationships between variables required to inform policy. This training will be of benefit to anyone who has a dataset and needs more than a descriptive analysis of this data, and is interested in exploring differences between variables and determining predictive models. This training will provide early career researchers with the skills required for quantitative data analysis in their writing.

Although an understanding of some statistics is needed, participants will benefit from having a sound understanding of how to formulate research questions and look for patterns in data to fully benefit from the course. Some experience of the use statistics to explore and describe relationships would be beneficial. This module combines theory and hands-on training using the statistical analysis software, Stata.

Registration
Price: $1100 (student discount 25%)
Enrol today