COGHE-03

Undertake econometric analysis of healthcare data

Overview

This standard identifies the competencies you need to undertake econometric analysis of healthcare data.

You will be required to demonstrate that you can prepare healthcare data in appropriate formats for analysis, and determine the most appropriate statistical and analytical methods for the analysis of this data. You must be able to carry out the econometric evaluation of the data using these methods and, if necessary, develop computational code to facilitate the analysis.

This activity is likely to be undertaken by individuals (Health Economists) working at the interface between the NHS and pharmaceuticals, and may include jobs in Life Science, Pharmaceutical, Chemical Biology, Biotech and FMCG industries.

Performance criteria

You must be able to:

P1 process data from a variety of sources and formats into suitable datasets for analysis.
P2 apply quantitative methods to empirical applications using social demographic data.
P3 apply statistical approaches commonly used in quantitative analysis of healthcare data.
P4 carry out the econometric analysis of healthcare data using the most suitable analytical methods.
P5 where necessary, develop new computational code for the analysis of healthcare data..

Knowledge and understanding

You need to know and understand:

K1 programming and scripting languages used for statistical analysis.
K2 algorithm design, testing and performance evaluation.
K3 general statistical and mathematical modelling concepts as used in healthcare economics.
K4 evaluation of standard decision analysis models.
K5 use of alternative decision analyses in combination with standard approaches.
K6 principles for the synthesis of evidence into evidence-based modelling and analytics.
K7 the use of cost effectiveness acceptability curves.
K8 application of the incremental cost effectiveness ratio.
K9 multiparameter evidence synthesis techniques.
K10 the calculation and utility of the Quality Adjusted Life Year (QALY) metric.
K11 data format requirements of key scientific and statistical analysis software packages.
K12 key scientific and statistical analysis software packages – particularly SAS, EXCEL, R.
K13 key approaches for the Internal validation of models.
K14 key approaches for the External validation of models.

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Developed by	Cogent
Version Number	1
Date Approved	September 2018
Indicative Review Date	September 2022
Validity	Current
Status	Original
Originating Organisation	Cogent
Original URN	COGHE-03
Relevant Occupations	Science and mathematics Science; Science; Science Professionals
Suite	Health Economists
Keywords	statistical, mathematical, modelling, concepts, healthcare, economics