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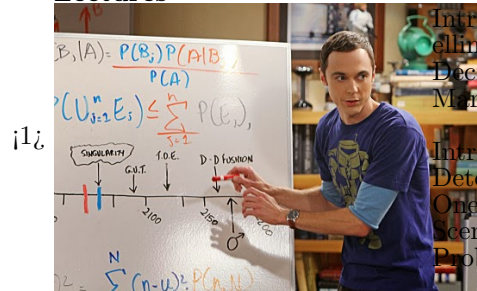
University College London



UCL was rated 2nd in the UK for research power in the Research Excellence Framework 2021
UCL is ranked 8th in the 2022 QS World University Rankings
The Department of Statistical Science has played a major role in the development of the subject ever since its foundation in 1911 as the Department of Applied Statistics

Objectives

Lectures



Introduction to Health economics modelling
Decision trees
Markov models

Introduction to sensitivity analyses
Deterministic
One-way & multi-way scenario
Probabilistic

Computer practicals



Emphasis on practical examples
Decision tree and Markov models using R programming language

Timetable 0:00-1:00 Health Economics modelling lecture 1:00 - 1:45 Decision tree and Markov model practical BREAK 1

More Bayesian Health Economics...

Books

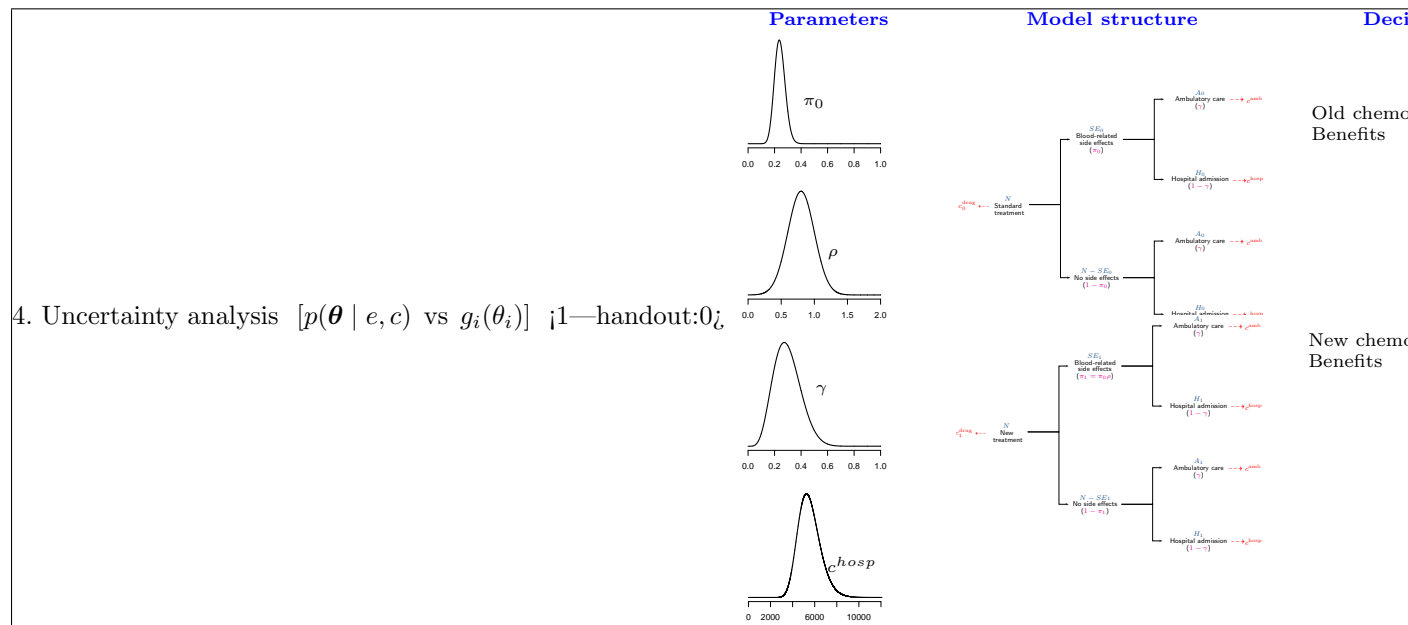


This course is only a small part of an annual week-long summer school usually in Florence, Italy
Several books available
Edition two of BCEA book in the pipeline and a Health Economic in R book close to being finished!

Summaryxxx

References *Bayesian Methods in Health Economics*, chapter 1.

Baio et al (2017). *Bayesian Cost-Effectiveness Analysis with the R package BCEA*



Is this *all* we need? (see *VoI*) The CEAC only deals with the **probability** of making the “right decision”

$\Pr(t = 1 \text{ is cost-effective}) = 0.51$

If we get it wrong: Increase in costs = £3

Decrease in effectiveness = 0.000001 QALYs

Large uncertainty/negligible consequences \Rightarrow **can afford uncertainty**

Example 2: Intervention $t = 1$ is the most cost-effective, given current evidence

$\Pr(t = 1 \text{ is cost-effective}) = 0.999$

If we get it wrong: Increase in costs = £1 000 000 000

Decrease in effectiveness = 999999 QALYs

Tiny uncertainty/dire consequences \Rightarrow **probably should think about it...**

