

BAYESIAN METHODS

Lab notes

Lab 2 AN INTRODUCTION TO BUGS AND BAYESIAN UPDATING, INFERENCE AND PREDICTION
IN 2 STANDARD DATA MODELS: NORMAL AND POISSON

Two educational BUGS examples for one-dimensional parameter models

- Example 1** The univariate Normal model with unknown mean μ but known variance σ^2
- Reference** *Congdon's book*: pag. 17, Example 2.1 Systolic Blood Pressure
- Language** BUGS *Program 2.1 Systolic Blood Pressure*
- Subject** *Which is the mean blood pressure in the particular diagnostic group of the survey? and its likely level in a typical new patient in the same group? Has the particular diagnostic group blood pressure mean above or below the typical blood pressure of all adult males (= 125)?*
- Example 2** The Poisson model for event counts
- Reference** *Congdon's book*: pag. 36, Example 2.15 Area mortality comparisons
- Language** BUGS *Program 2.15 Trent Leukaemia Mortality*
- Subject** *In 1989, was the mail myeloid leukaemia mortality in Derby similar to that in the remainder of the Trent region of England (of which Derby is part)?*

The text of the examples (from *Congdon's book*) and the related bugs programs (which can be downloaded at <http://www.mrc-bsu.cam.ac.uk/bugs/weblinks/webresource.shtml>) are written down in *norm1.b* and *pois.b* (at the course web page).