

ASSIGNMENT 25

Patients with advanced cancers of the stomach, bronchus, colon, ovary or breast were treated with ascorbate. The purpose of the study was to determine if the survival times differ with respect to the organ affected by the cancer.

Construct a model in BUGS to assess if there are differences in the survival times for the different organs suffered by cancer. Infer on the expected survival time for each group. Which cancer is the most fatal? Are there any outliers? Does the model fit adequately the data? What distribution did you choose and why?

Reference: Cameron, E. and Pauling, L. (1978) Supplemental ascorbate in the supportive treatment of cancer: re-evaluation of prolongation of survival times in terminal human cancer. *Proceedings of the National Academy of Science USA*, 75, 4538-4542. Also found in: Manly, B.F.J. (1986) *Multivariate Statistical Methods: A Primer*, New York: Chapman & Hall, 11. Also found in: Hand, D.J., *et al.* (1994) *A Handbook of Small Data Sets*, London: Chapman & Hall, 255.

Data file: Cancer Survival data.htm

Variable Names:

1. Survival: Survival time (in days?)
2. Organ: Organ affected by the cancer