

Analysis of the potential for solid organ donation in the UK

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Against a background of increasing demand for organ transplantation, and a decreasing availability of organs, UK Transplant is undertaking a national audit of deaths in Intensive Care Units (ICU's) to identify potential organ donors. The main purpose of this Potential Donor Audit (PDA) is to provide an up-to-date assessment of the potential for donation of solid organs, that is kidneys, pancreata, livers, hearts and lungs, from ICU's throughout the UK. In particular, the audit will identify the number of patients who could become solid organ donors and will help to establish what are the obstacles to donation.

An evaluation of data from the period April – September 2003 has shown that death was confirmed by brain stem death tests in 545 patients in 267 hospitals, and yet only 250 (46%) became deceased heartbeating solid organ donors. Data from the PDA are used to identify why the remaining 54% did not become solid organ donors, but the main reason appears to be that the next of kin did not consent to organ donation. Indeed, of the 481 patients for whom the possibility of solid organ donation was known to have been suggested to the relatives, consent was refused in 43% of cases.

Data in this study are hierarchical, and so multilevel logistic regression models are used in modelling the dependence of the probability of refusing consent on factors such as the age, gender and ethnicity of the patient. This analysis also enables us to explore the extent of heterogeneity between the 267 different hospitals, the 21 donor transplant coordinator teams that undertake the audit work, and different regions of the UK. Trends in the relative refusal rate over time can also be assessed.

In this presentation, the use of multilevel models in evaluation of data from a longer time period than that covered by this abstract will be described and illustrated, with different approaches being compared. The impact of these results on campaigns designed to increase solid organ donor rates and the future of this audit will be discussed.