

APPENDIX B

STATISTICAL METHODS FOR NTR

The statistical methods described were used to summarise the data collected from the National Transplant Registry (NTR). These analyses were generated for different types of transplant, such as bone and marrow, bone and tissue, cornea, heart and lung, and liver as well as deceased organ and tissue donation. Analysis was carried out using combination of Microsoft Excel 2007 and Statistical Package for Social Sciences (SPSS) version 20. For kidney transplant, NTR obtains already analysed data from National Renal Registry (NRR).

1. Checking duplicate values and outliers

Duplicate values and outliers were checked thoroughly at the raw data. Duplicate values were verified with the respective SDPs and removed upon confirmation. Out-of-range values, known as outliers, are values that fall outside the range of values of the majority of responses. These values were also verified with the respective SDPs and altered upon confirmation.

2. Overall

The stock and flow tables summarised transplant activity in Malaysia. Places and centres of transplant activities were also reported. Treatment rate was calculated by the ratio of the count of number of new patients or prevalent patients in a given year to the mid-year population of Malaysia in that year, and expressed in per million-population.

3. Recipient's Characteristics

The information on recipient's characteristics was summarised in this section. These tables included the recipient's age, gender, ethnic group, serology data, primary disease(s), indication for transplantation, current immunosuppressive drug(s) treatment, etc. For summarising continuous data, the mean, standard deviation, median, minimum and maximum were reported. On the other hand, both the count and percentages were reported for discrete data. Invariably, there are situations where there is missing data. For purposes of analysis, subjects with missing continuous data had their values imputed by using the mean from measures of other records. For discrete data, analysis was confined to available data and no imputation was done.

4. Transplant Activity

These tables provided the information on transplant activity, such as the time of transplant, type of transplant, duration of surgery etc.

5. Outcome

The outcome of a transplant activity was tabulated in this section. Kaplan Meier method (SPSS) was used to estimate the probability of survival at different durations. In preparing Kaplan-Meier survival analysis, each subject is characterized by three variables: 1) their serial time, 2) their status at the end of their serial time (event occurrence or censored), and 3) the study group they are in. For the construction of survival time probabilities and curves, the serial times for individual subjects are arranged from the shortest to the longest, without regard to when they entered the study. By this maneuver, all subjects within the group begin the analysis at the same point and all are surviving until something happens to one of them. The two things that can happen are: 1) a subject can have the event of interest or 2) they are censored.