often seen in effectively communicating this to treatment practices within the clinical community to the Primary Care Trust (PCT) level. Such delays can result in the continued prescribing of less cost-effective drugs. We, therefore, looked at several potential approaches to enhance communications through improved user interface capabilities of existing Excel-based models. Three approaches were considered, all utilising existing Windows-based tools and programming languages: HTML, Visual Basic, or HTML/Visual Basic (hybrid). RESULTS: We successfully developed a two-step methodology, based on a HTML/Visual Basic approach, which can be used to quickly develop sophisticated graphical user interfaces directly within the structure of an existing economic model. The advantage of this novel approach is that there is no longer a need to rely on full replications of models in a separate programming language (such as shockwave), which carries consistency issues, or the limited basic spreadsheet interface. Also, the approach can be applied iteratively during model design for submission to a regulatory body, which is a more efficient development process. CONCLUSIONS: A new method of presenting pharmacoeconomic results has been developed, which can be designed within existing Excel-based economic models, providing an enhanced, user-friendly, interactive tool which can replicate real-world prescribing patterns for a given scenario. These tools can greatly improve communications of economic and clinical messages to PCTs.

Abstracts

A MISSING DATA THRESHOLD AS APPLIED TO HEALTH OUTCOMES DATA: DIFFERENTIAL IMPLICATIONS FOR COST-UTILITY ANALYSIS BY DIAGNOSIS

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OBJECTIVES: To determine a rule or the threshold beyond which missing data affects utility estimates, thus requiring resort to imputation techniques. This analysis examined UK data and is based on patient and payers’ perspectives. This paper moves beyond the now established consensus against listwise and pairwise deletion of missing data toward comparably simple methods of analysis that achieve greater accuracy. METHODS: EuroQoL EQ-5D measurements of health utility obtained by survey of secondary care patients after hospitalisation were examined in order to develop missing data thresholds beyond which overall data quality would be compromised and thus imputation techniques required. Using gender, index age, length of stay in hospital, number of comorbidities, and cost of care, patients were stratified according to a primary diagnoses of 5 major chronic conditions, in terms of cost. Each dataset, consisting of between 150 and 450 patients, was randomly assigned missing values, based on two broad classes of randomness in the literature: missing at random data and not missing at random data. Not missing at random data was defined as data containing paired variables with correlation coefficients of greater than 0.50. Comparisons among primary ICD-10 diagnoses set at 5%, 10%, 15%, and 20% were examined. The missing data threshold for each diagnosis was then calculated by model simulation using various degrees of missing data. RESULTS: For cardiovascular diseases, the missing data threshold was between 8.5% and 12%. Rates of missingness beyond these levels tended to decrease the accuracy of utility measures when compared with the full baseline dataset. For diabetes, chronic pulmonary disease, and muscular skeletal disorders, the range was lower. Therefore, for a given cost of care, cost-utility ratios decline due to the increase in uncertainty of the estimates. CONCLUSIONS: Descriptive measures of health status are affected by diagnosis and other factors. The development of a rule that enables researchers to determine whether missing data is likely to have a material effect on the measurement of health status can lead to improved research quality and, in turn, better allocation of health care resources.

SOCIAL DISCOUNTING IN THE ECONOMIC EVALUATION OF HEALTH CARE PROGRAMMES

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OBJECTIVES: To provide a ready-to-use framework for computing the social discount rate, the proper rate for discounting of social programmes, including health care programmes, given the inoptimality of market mechanisms to derive the optimal discount rate. METHODS: A social time preference methodology derived from Feldstein work (“The derivation of social time preference rates”, Kyklos 18, 1965) is applied to calculate social discount rates as social time preference (STP) rates across 167 countries for a specific year (2006) and across time from 2005–2030 for a country case (Brazil). STR rate derived is defined as \( d = (1 + \pi )^{-a(1 + \gamma )} (1 + r) - 1 \), where \( \alpha \) is the population weight, \( \pi \) the population growth, \( \gamma \) the per-capita income growth, \( \sigma \) the coefficient of risk aversion and \( r \) the pure time preference rate. Data were obtained in the literature and databases (World Development Indicators (World Bank, 2007), World Economic Outlook (IMF, 2007) and IBGE (Instituto Brasileiro de Geografia