lel sample ($n = 137$) the average quarterly costs had increased by 13% (ns). CONCLUSIONS: Computerised data collection performed by the doctor provide detailed information about diagnosis, treatments, and referrals making possible the study of patient pathways and costs. DPMA is cost-effective in provision of care.

ASTHMA

ASTHMA—Methods and Concepts

A COMPARISON OF TWO APPROACHES TO ESTIMATE ANNUAL MEDICATION COSTS IN THE KORA ASTHMA AND ALLERGY STUDY

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OBJECTIVES: Comparison of annual medication costs in a population-based study using a prediction formula based on 7 day medication history to cost data provided by health insurance companies. METHODS: The KORA Asthma and Allergy study evaluated cost of illness due to asthma and allergies in a population-based case-control design. Medication costs originated from a 7 day medication history (interview) and from health insurance data. Drugs documented per interview were assigned an average price per defined daily dose (DDD) for each standard package size group. Weekly medication costs were extrapolated by multiplying price per DDD (medium package size) by predicted length of intake according to general ATC group. For consenting subjects, all medications reimbursed by the health insurance companies for 1998 were obtained. The annual total costs as well as cost differences between disease groups were compared between both approaches. RESULTS: Of 1334 participants in the KORA study, 1249 were insured publicly and 63.8% of those consented to release their health insurance data. Of 614 persons with prescribed medications according to insurance data, 233 (38%) reported no prescribed medications during the interview. Median (inter-quartile range) annual costs for this group were 37€ (16–103€). For the other 381 subjects (62%), annual insurance costs were 260€ (116–638€) whereas predicted costs were higher (364€ (104–863€)). For subjects with asthma or allergy, predicted costs agreed better with annual costs. Costs extrapolated from interview data correlated significantly ($r = 0.63$) with the annual costs. CONCLUSIONS: Estimation of annual medication costs for chronic disease patients from seven day medication history data is feasible and estimates of group averages are similar to full annual data from health insurance companies. For population-based samples the latter approach is logistically more difficult, is less accepted by subjects, and does not encompass costs of most of OTC drugs.

COST ESTIMATION IN CLINICAL PIGGY-BACK STUDIES WITH DISCONTINUATIONS—COMPARISON OF DIFFERENT APPROACHES

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OBJECTIVES: Estimating costs for different pharmaceutical treatments based on data from clinical studies with discontinuation is a problem with no general solution. Especially early discontinuations are often correlated with high initial costs, which may have large impact on the estimates. A number of approaches suggested in the literature for dealing with this problem were investigated using data from clinical studies in the respiratory field to see if a consistent pattern could be found. METHODS: Data from three large clinical studies (two concerning asthma, one concerning COPD) were investigated for three different approaches: PYA, Patient-Year Approach (linear extrapolation for each patient to nominal duration of study), GMI, Group Mean Imputation where missing data for a certain period is replaced by the relevant group mean for corresponding period, and GSA, Group-Sum Approach where data are summed over treatment groups, implying that data are weighted according to time in study for each patient. While the first two approaches are based on individual data and variation in estimates are easily found by standard methods, precision in GSA estimates is found by non-parametric bootstrapping. RESULTS: Data show that discontinuations, and especially early discontinuations due to exacerbations followed by intensive treatment, can have a substantial impact on the PYA approach, where the estimated mean cost can be twice as high compared to the other approaches. Demanding a certain time in study as qualifying for inclusion in the analysis will gradually bring the results in agreement with the GMI and GSA approach. CONCLUSIONS: In large clinical studies, the GMI approach may be inconvenient because of varying periods. The GSA approach in combination with non-parametric bootstrapping for finding precision in estimates is a simple and robust method.

FROM SF-36 TO UTILITY SCORES: A COMPARISON OF DIFFERENT ALGORITHMS IN DIFFERENT SETTINGS

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OBJECTIVES: To investigate if the results of four published algorithms for calculating utility values from assessments of SF-36 are in agreement with the responses of traditional efficacy variables assessed in clinical studies in the respiratory field. METHODS: Data from six different randomized clinical studies, two from each of the disease areas of asthma, rhinitis and COPD, comparing two treatments, are used in the investigation. Baseline values before randomizing to study treatment are compared for the algorithms as well as change during treatment. Change during treatment is compared to the primary efficacy variable in each study. RESULTS: Mean utility values at baseline show a consistent pattern across disease areas with large individual variation, with utility values ranging from 0.28 to 0.99 and with mean values ranging from 0.58 to 0.82. Change during treatment is small (0.00 to 0.11) and in most cases statistically non-significant when comparing treatments. Correlation with clinical efficacy is of moderate magnitude. CONCLUSION: The two utility measures based on Standard Gamble or TTO seems to be slightly better than those based on VAS or linear regression. The pattern across the different disease areas is consistent for the different algorithms.

ARTHRITIS

ARTHRITIS—Cost Studies

HE BURDEN OF ANKYLOSING SPONDYLITIS IN AUSTRALIA: AN EPIDEMIOLOGICAL AND COST OF ILLNESS MODEL

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