els, discrete-event-simulation models to equation-based models. Individual char-
acteristics relevant for PM include individual risk factors, clinical properties, pa-
tient experience, and several others. Number of patients, number of events, and risk factors were used to link risk factors and predictors to prognosis and treatment decisions and success as well as resource use. E.g., POHEM is a leading Canadian microsimu-
lation for health care policies. Applications range from lung cancer treatment, breast cancer prevention to the evaluation of cardiovascular diseases. To support decisions on HIV prevention, Rauner et. al. built a discrete-event-simulation where breast feeding mothers are even linked to their children. Overall microsimulation has been successfully applied e.g., in cancer research, chronic diseases or screen-
ing and prevention. CONCLUSIONS: Microsimulation techniques are widely ap-
plied but still underrepresented in economic evaluations for health care policies. Microsimulation is a powerful tool for evaluating PM-strategies, because it can be used to incorporate the genetic and clinical heterogeneity of individuals as well as personalized decision algorithms.

PFE1

GENERAL METHODOLOGICAL ISSUES IN COST-EFFECTIVENESS ANALYSIS INSPIRED BY THE ASSESSMENT OF DASATINIB, Nilotinib and IMatinib for Chronic Myeloid Leukaemia

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OBJECTIVES: In 2009, the cost-effectiveness of drugs for chronic myeloid leukaemia for use in the UK NHS was evaluated by the National Institute of Health and Clinical Excellence (NICE). Two questions were considered: a) dasatinib vs nilotinib vs. high dose interferon-alpha for imatinib-resistant patients, and b) dasatinib vs nilotinib vs interferon-alpha for imatinib-intolerant patients. Here, three methodological issues are discussed which strongly influenced the cost-effectiveness of these drugs. These issues are also important in estimation of the cost-effectiveness of other drugs and other health technologies. METHODS: 1) Overall survival: Several methods were considered for estimating overall sur-
vival, including those used by the drug sponsors, Novartis and Bristol-Myers Squibb. 2) Sources of mortality: Two approaches were considered: a) split by mor-
tality due to chronic myeloid leukemia and general mortality or b) both combined. 3) Treatment duration: This was reported in none of the trials. Several methods of estimating treatment duration were considered. RESULTS: 1) Overall survival: It was not possible to extrapolate overall survival because it was very immature in the trials. Instead, the preferred method was estimation via a surrogate relationship using major cytogenetic response; 2) Sources of mortality: Option (a) was preferred, and 3) Treatment duration: the preferred method was by reference to mean progression-free survival, adjusted for treatment cessation due to adverse events. CONCLUSIONS: To estimate the cost-effectiveness of health technologies for a variety of conditions, it is recommended that 1) if overall survival from a trial is immature, it can be estimated by surrogate relationships; 2) for chronic condi-
tions, the analyst should consider modelling separately disease-specific mortality and general mortality; and 3) for drugs, the mean number of doses in clinical trials should be reported so that it is not necessary to estimate this important informa-
tion using indirect methods.

PRM4

SCAN: AN INTEGRATED SYSTEM FOR MARKET ACCESS OF NEW DRUGS IN ITALY

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OBJECTIVES: Objective of the SCAN project is to support pharma companies in Italy, in managing the complexity of the new drugs pricing process approval at both National and Regional level, by identifying the economic value based on the results of the available, accessible, and available from cohorts with the comorbidities. Six patient groups which may initiate the switched-to-OTC drug: those on the Rx drug, other Rx drugs, OTC-treated, untreated, and undiagnosed (OTC-treated and untreated). From the budget holder perspective, the model includes savings due to avoided Rx drug acquisition, doctor’s visits to obtain a prescription and emergency room visits due to hospitalisations due to easier access to an effective or safer therapy. The policy-maker perspective also includes employers’ benefits, such as less time-
off work to obtain a prescription and less absenteeism & presenteeism due to easier access to therapies that improve employee productivity. The algorithm to estimate cost adverse events of potential Rx-to-OTC switches was used to calculate the savings associated with Rx-to-OTC switches from the perspective of European conditions and countries in Europe. CONCLUSIONS: The economic impact associ-
ated with Rx-to-OTC switches can be credibly estimated in Europe. Preliminary analyses suggest that such switches are cost-saving.

PRM26

TEMPERATURE REVIEW OF METHODS USED TO ESTIMATE MEAN PREFERENCE BASED UTILITIES FOR COMORBIDITIES USING PUBLISHED SUMMARY STATISTICS

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OBJECTIVES: There is currently no consensus on the appropriate method to esti-
mate utilities for joint health conditions. We reviewed the literature to understand reasons for differences in conclusions drawn and to identify where further re-
search is required. METHODS: We conducted a systematic literature search to identify studies that evaluated methods used to estimate mean utilities for comor-
bidity using mean values from cohorts with the corresponding single conditions. We extracted the preference-based utility measure used, the number and range of estimated utility values, the baseline used to value utility decrements, the statistics used to compare estimates, and the conclusions of the authors. RESULTS: Four of the six studies identified used EQ-5D data, one used SF-6D and one used HUI3. One presented the multiplicative method, one compared the additive and multiplica-
tive methods, and four compared the additive, multiplicative, and minimum meth-
ods with the results obtained from linear models. The number of mean utility values estimated ranged from 32 to 760 and the range of actual mean values ranged from 0.465 to 0.607 for SF-6D, to 0.01 to 1 for HUI3. Systematic errors were observed in the values estimated using all methods. While the simple linear models pro-
duced the most accurate results these require validation. Of the other three, an average the multiplicative method estimated the most accurate values across the full range of actual utilities assessed. CONCLUSIONS: While additional research is required before a particular method can be advocated, based on the current evi-
dence base we would recommend the multiplicative method is used if data are not available from cohorts with the comorbidities.

PRM27

MODELLING THE BRAZILIAN EXTENDED CONSUMER PRICE INDEX FOR PHARMACEUTICAL PRODUCTS: COMPARISON BETWEEN EXPONENTIAL SMOOTHING AND BOX-JENKINS METHODS

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OBJECTIVE: The Brazilian Extended Consumer Price Index (IPCA) for Pharmaceu-
tical Products (IPCA-Pharmaceuticals) measures changes in the prices of a fixed basket of medicines purchased by Brazilian households. Monitoring, modeling and prediction of the index are important because adjustments for inflation must be made in accordance with the principles of good practice in health economic analy-
ses. In addition, the index has an important weight in the calculation of the General IPCA, the official index to guide inflation-related policies, and is used to regulate pharmaceutical products prices. The objectives of this study are: 1) to model the IPCA-Pharmaceuticals time series during the sample period 2006-2010; and 2) predict the rate of inflation for the year 2011. METHODS: Two classical methods, exponential time series smoothing and the Box-Jenkins approach, were implemented. Both were compared across three statistics based on errors measures: mean squared error, mean absolute percent error, and Theil’s U coefficient. The best fitted model was chosen based on minimizing the error statistics and was estimated for the Brazilian IPCA-Pharmaceuticals and for the General IPCA in 2011. RESULTS: Monthly IPCA-Pharmaceuticals data was collected from July 2006 to December 2010 (n = 54) from Brazilian Institute of Geography and Statistics. The IPCA-Pharmaceuticals percentage change time series was converted to index numbers using the July 2006=1,0 level. Both models were adjusted and compared with a SARIMA (0,1,1)x(0,1,0) model estimated through the Box-
Jenkins approach. The between-methods comparison showed a large advantage for the Box-Jenkins, which minimized the three errors measures. CONCLUSIONS: The Box-Jenkins method presented better results as compared to the Holt-Winters method. The final forecasting predicted a 2% inflation rate for pharmaceutical products by the end of 2011, which is lower than the general inflation target rate of