DCE among Dutch health care professionals (policymakers, HTA specialists, advanced HTA students). In 27 choice sets, we asked respondents to elect reimbursement of one of two different health care interventions, which represented unlabeled, curative treatments. Both treatments were incrementally compared to usual care. The results of the interventions were normal outputs of HTA studies with a societal perspective. Results were analysed using a multinomial logistic regression model. Upon completion of the questionnaire we discussed the exercise with policymakers. **RESULTS:** Severity of disease, costs per QALY gained, individual health gain, and the budget impact were the most decisive decision criteria. A program targeting more severe diseases increased the probability of reimbursement dramatically. Uncertainty related to the cost-effectiveness ratio was also important. Respondents preferred health gains that include quality of life improvements over extension of life without improved quality of life. Savings in productivity costs were not crucial in decision making, although these are to be included in Dutch reimbursement dossiers for new drugs. Regarding sub groups, we found that policymakers attached relatively more weight to disease severity than others but less to uncertainty. The DCE results indicated a willingness to pay of about €93,000 for a QALY. This meshes nicely with the recommendations of the Dutch Health Care Council. **CONCLUSIONS:** Dutch policymakers seem to have reasonably well articulated preferences: six of seven attributes were significant. Disease severity, budget impact, and cost-effectiveness were very important. The results are comparable to international studies, but reveal a larger set of important decision criteria.

EE3

IS NICE TOO NASTY? A COMPARISON OF ANTICANCER DRUG COVERAGE DECISIONS IN THE UNITED STATES AND UK

Mason AR[1], Drummond MF[1], Ramsey SD[2], Campbell JD[3], Raisch DW[4]
[1]University of York, York, N. Yorkshire, UK, [2]Fred Hutchinson Cancer Research Center, Seattle, WA, USA, [3]University of Washington, Seattle, WA, USA, [4]University of New Mexico College of Pharmacy, Albuquerque, NM, USA

OBJECTIVES: In contrast to the US, several European countries have health technology assessment programs (HTA) for drugs, many of which assess cost-effectiveness. However, restricting access to pharmaceuticals is controversial, particularly for life-threatening diseases. Therefore the objective of this study was to assess whether economic evaluation as part of HTA restricts access to anticancer drugs. **METHODS:** We undertook a systematic comparison of US and UK coverage decisions on anticancer drugs taken by the US Centers for Medicare and Medicaid (CMS), the Veterans' Affairs (VA), the Regence Group (US), the National Institute for Health and Clinical Excellence (NICE) (UK), and the Scottish Medicines Consortium (SMC) (UK). We noted the timing and outcome of coverage decisions made for all anticancer drugs approved by the Food and Drug Administration (FDA) between 2004 and 2008. **RESULTS:** Since 2004, the FDA has approved 51 anticancer drugs, of which 39 have been approved by the European Medicines Agency (EMEA). On average, the FDA licensed these drugs 127 days earlier than EMEA. The CMS and the VA covered all 51 drugs from the FDA license date. The Regence group also covered all 51 drugs, although coverage decisions that considered cost-effectiveness sometimes took longer. Relative to the EMEA license date, coverage decisions for anticancer drugs by NICE averaged 774 days (SMC: 231 days). In the US, most drugs were available without clinical restriction, but NICE made positive coverage decisions for just 33% of licensed drugs (SMC: 51%). However, US patients face substantial copayments, whereas drugs are free for UK cancer patients. **CONCLUSIONS:** The use of economic evaluation does lead to more restrictions on the use of anticancer drugs. However, the major difference between the UK and US is not *whether* there are restrictions on access to anticancer drugs, but *how* these are applied and who bears the decision-making burden.

EE4

MARKET ACCESS IN GERMANY: WHERE NEXT?

Zoellner YF[1], Schaefer M[2]
[1]Mapi Values, Houten, The Netherlands, [2]Charité University Medicine, Berlin, Germany

BACKGROUND: HTA has become the key tool to control market access for new technologies in Europe. This development has been mirrored in Germany through institutions such as DIMDI and, later, IQWiG at federal level, paralleled by similar tools at sickfund level. Furthermore, bilateral market access agreements appear to bloom. **OBJECTIVES:** To explore the foundation and trends of future health care decision-making in Germany. To formulate recommendations to manufacturers seeking market access for new technologies in Germany with respect to a number of key launch parameters. **METHODS:** We reviewed the development of allocative decision-making in Germany with particular attention to IQWiG (methods, international collaboration, decisions to date, impact). Furthermore, the role of other routes was examined (EVITA, rebate contracts, risk-sharing). **RESULTS:** IQWiG assessments have had a crucial impact on some products, e.g. clopidogrel and the fast-acting insulin analogues, and other manufacturers can learn from these decisions. While IQWiG will most likely cooperate with NICE and HAS on a number of issues such as evidence synthesis, a harmonized set of methods, leave alone decisions, cannot be expected in the near future. The future significance of other access routes still needs to be determined. **CONCLUSIONS:** Manufacturers must be prepared for IQWiG assessments to be used for pricing purposes. Evidence must stem from randomized controlled trials wherever possible. Cost-effectiveness analysis will remain a second step of the appraisal, to which a new technology will only be admitted after having overcome a stand-alone effectiveness assessment. Neither QALYs nor a cost-per-QALY threshold will be used for decision-making. Germany will continue to grant high rewards to innovation, but careful thought must be given by manufacturers on how to present the added value of such innovations—be it via the IQWiG, a potential EVITA, or a direct contracting route.

PODIUM SESSION II: MODELING METHODS I

MO1

COHORT MODELLING—IS THE APPROACH TOO OLD FOR THE ELDERLY?

Ethgen O[1], Demarteau N[2], Standaert BA[2]
[1]University of Liège, Liège, Belgium, [2]GlaxoSmithKline Biologicals, Rixensart, Belgium

OBJECTIVE: Elderly (65y+) are steadily growing, but this population segment is also the one in whom mortality, morbidity and health care costs increase sharply with age as a result of co-morbidity and greater frailty. This project intends to document the implications of using different modelling approaches on the benefit evaluation of a public health intervention in elderly. **METHODS:** We designed a mathematical model to simulate the effect of a hypothetical public health intervention aiming at reducing mortality in the 65 y+. The simulation is run on an elderly population of 1,000,000 individuals (age weighted average of 75.66 y). The impact of the intervention is compared between a cohort model (i.e., average parameters applied to the 75.66 year- old elderly cohort) and a population model (i.e., age-specific parameters applied to the entire elderly population). Life-expectancy gains (LEG) from both approaches were computed between intervention and no-intervention. Various scenarios were compared through a range of different mathematical specifications of age-specific intervention coverage and mortality reduction. **RESULTS:** In the cohort approach, life expectancies were respectively 11.38 and 11.48 years between no-intervention and intervention, i.e. a LEG of 0.10 y for the 75.66 y-old elderly cohort. In the population approach, age-specific life expectancies averaged 11.51 and 12.19 y between no-intervention and intervention, respectively. This translated into a weighted average LEG of 0.52 y, i.e. a gain 5-times higher than in the cohort approach. This result was confirmed in various scenarios. **CONCLUSION:** Population modelling, whilst being potentially more data-hungry and mathematically demanding, allows for more comprehensive consideration of age-specific parameters in the decision-making process. This approach has the potential to better capture the whole benefit of a population-wide intervention which is particularly insightful in the elderly for whom mortality, disability and costs of health care are even more age-sensitive.

MO2

IMPROVING COST-EFFECTIVENESS ANALYSES OF BEHAVIOURAL INTERVENTIONS BY USING COGNITIVE INTERMEDIATE OUTCOMES: A PILOT STUDY

Prenger R[1], Pieterse ME[1], Braakman-Jansen LM[1], van der Palen J[2], Seydel ER[1]
[1]University of Twente, Enschede, The Netherlands, [2]Medisch Spectrum Twente Hospital, Enschede, The Netherlands

OBJECTIVES: Cost-effectiveness analyses of behavioural health interventions typically use a dichotomous outcome criterion (success or failure). However, achieving behavioural change is a complex process in which several steps towards behavioural change are taken. Delayed behavioural effects may occur after an intervention or follow-up period ends, which can lead to underestimation of these interventions. As extending the follow-up period is often impeded by practical and financial limitations, intermediate outcomes of behavioural change can be modelled into the cost-effectiveness ratio. The aim of this study is to model intermediate cognitive outcomes into a cost-effectiveness model of a behavioural intervention, comparing an intensive smoking cessation program (SST) with a less intensive smoking cessation program (LMIS) for COPD outpatients. **METHODS:** The cost-effectiveness analysis of an existing dataset was replicated by modelling the stages of change of the Transtheoretical Model of behavioural change. This stage-oriented model describes the readiness to change in qualitatively different, discrete stages; the 'stages of change'. Costs were adjusted for the different stages of change participants were in. Probabilities to predict future behavioural change were obtained from the dataset and literature. Finally, a sensitivity analysis was performed. **RESULTS:** In the first 12 months, the SST dominated the LMIS in approximately 50% of the cases. By modelling the intermediate cognitive determinants to a future second year of follow-up, the SST dominated the LMIS in approximately 75% of all cases. **CONCLUSIONS:** This study showed that modelling of future behavioural change in cost-effectiveness analysis of a behavioural intervention led to a more favourable result. Further research should focus on collecting longitudinal data of the cognitive determinants for different populations and outcome measures to be able to make a valid prediction of future behavioural change. Ultimately, this could have important consequences for health policy development in general and the adoption of behavioural interventions in particular.

MO3

R THERE ANY DIFFERENCES BETWEEN EXCEL AND R? COMPARISON OF ICER ESTIMATES AND CEACS OBTAINED FROM A MODEL IMPLEMENTED IN MICROSOFT EXCEL AND R

Bischof M, Lim ME, Ferrusi IL, Burke N, Blackhouse G, Goeree R, Tarride JE
McMaster University, Hamilton, ON, Canada

OBJECTIVES: Comparison of the results of a decision analytic model developed in Microsoft Office Excel® 2007 versus an implementation of the same model in R version 2.8.1 (www.R-project.org). The aim was to identify any difference in the performance and validity between models implemented with the two software packages in terms of incremental cost-effectiveness ratio (ICER) estimates and probabilistic