Stroke—Eprosartan Compared to Nitrendipine for Secondary Prevention'). Costs and utilities were derived from published estimates considering country-specific health care payer perspectives. Drug prices of the comparators were based on the cheapest generics. The treatment time horizon simulated was 2.5 years (mean observation period of the MOSES study) modelling follow-up effects over a life-time. Costs and effects were discounted according to country-specific guidelines. **RESULTS:** During a 2.5-year treatment time horizon modelling follow-up effects over lifetime in 1,000 patients eprosartan treatment avoided about 58 events (26 cardiovascular, 32 cerebrovascular) and produced about 30 incremental QALYs versus the compared treatments. Irrespective of country and comparator the cost per QALY gained by eprosartan never exceeded €20,000 and therefore went far below the estimated willingness-to-pay threshold of €30,000. The probabilistic sensitivity analyses fortify these outcomes by showing a probability of 90–100% that eprosartan is a cost-effective treatment strategy. **CONCLUSION:** Even comparing eprosartan to low-priced generic substances, the HEALTH model simulations provide evidence that eprosartan treatment is associated with obvious health benefits being obtained at reasonable cost. Eprosartan should therefore be considered a good treatment option for hypertensive patients with cerebrovascular disease.

PODIUM SESSION IV: ECONOMIC STUDIES II

ES5

DOES ARTHROSCOPIC ACROMIOPLASTY PROVIDE ANY ADDITIONAL VALUE IN THE TREATMENT OF SHOULDER IMPINGEMENT SYNDROME? A TWO-YEAR RANDOMIZED CONTROLLED TRIAL

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OBJECTIVES: To examine in randomized controlled trial the effectiveness and cost-effectiveness of arthroscopic acromioplasty in the treatment of stage II shoulder impingement syndrome. **METHODS:** We divided 140 patients into supervised exercise program (n = 70, exercise group) and arthroscopic acromioplasty, followed by a similar exercise program (n = 70, combined treatment group). The primary health outcome measure was self-reported pain on a 0–10 Visual Analogue Scale at 24 months with a two-point change defined as minimal clinically important difference (MCID). **RESULTS:** Results In an intention-to-treat analysis an improvement exceeding MCID took place from baseline to 24 months in both groups: self-reported pain diminished from 6.5 to 2.9 in the exercise group (N = 66) and from 6.4 to 2.5 in the combined treatment group (n = 68) ($P < 0.001$ in both). In the combined treatment group pain relief was attained faster, but the groups did not any more differ at 24 months ($P = 0.37$). A similar pattern was seen in the secondary outcome measures: disability, pain at night, SDQ score, ability to work, number of painful days and proportion of pain-free patients. The mean total cost was €2961 in the combined treatment group and €1864 in the exercise group. The incremental cost-effectiveness ratio was €5852 per MCID unit, i.e., combined treatment was considerably more costly. **CONCLUSION:** Arthroscopic acromioplasty does not provide any significant additional value over structured and supervised exercise program alone in terms of subjective outcome or cost-effectiveness. Operative treatment should be offered judiciously.

ES6

COST COMPARISON BETWEEN HAEMODIALYSIS AND PERITONEAL DIALYSIS IN NORWAY FOR PATIENTS WHO CAN USE EITHER TREATMENT MODALITY

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OBJECTIVES: For patients with renal failure who from a medical perspective can be treated with either haemodialysis (HD) or peritoneal dialysis (PD), the choice of treatment is mainly based on administrative, economic and patient preference considerations. HD is performed 3–5 times per week in a hospital, while PD is performed daily at home. Both are financed over hospitals' budgets in Norway. This evaluation compared the costs of HD and PD from both a societal and a hospital perspective for such patients. **METHODS:** Costs were calculated based on national data on resource use and unit costs. Estimates of resource use were based on treatment guidelines, the literature and interviews at three major hospitals in Norway. Unit costs were based on tariffs, price lists, hospital accounts and salary statistics. In the societal perspective, costs were divided in three sections: Costs born by patients (co-payments, transportation and value of time), costs born by hospitals (personnel, medicines and supplies, laboratory tests, capital and infrastructure) and other public costs (funding of medicines). In the hospital perspective, net cost was calculated (difference between expenses and income). **RESULTS:** From a societal perspective the average monthly cost per patient is for PD: 30,700 NOK (~3,800€) and for HD: 51,800 NOK (~6,400€). The main cost driver for PD is dialysis solutions: 23,800 NOK (~2,900€). The cost components in HD are more homogeneous. Hospitals go about break-even performing PD and have a monthly net income of about 600 NOK (~75€) when performing HD. **CONCLUSION:** For patients who can use either treatment modality, PD is a cost saving alternative to HD from a societal perspective. However, the financing systems for dialysis in Norway make hospitals relatively neutral from an economical perspective in their choice of HD or PD for these patients.

ES7

ASSESSMENT OF LONG-RUN ECONOMIC BENEFITS ASSOCIATED WITH IN-VITRO FERTILIZATION (IVF) FUNDING DECISIONS: A SIMPLIFIED LIFETIME TAX CALCULATION

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OBJECTIVES: Globally there is considerable variation in public funding for IVF treatments. IVF is unique amongst health interventions because its success leads to human life. In light of this uniqueness we apply a Generational Accounting approach, an accepted method used by tax authorities, to assess whether publicly funded IVF represents sound fiscal policy. Our assessment considers future lifetime net tax contributions to the British government (taxes paid minus transfer payments) attributed to a successful IVF birth. **METHODS:** Net present value (NPV) calculations were applied to the average cost per successful IVF conceived live birth (£12,931 in 2005), lifetime direct cash transfers and lifetime future tax contributions discounted using established Treasury department rates. We assume the following: full-time education aged 6–19; full-time employment aged 20–68 (Pension Commission, 2005); education costs, child-tax credits, and pension contributions increase with inflation. Age-specific income was adjusted for inflation over time, and we allowed expected income to vary with age. Current government tax revenues of 35.5% gross income were held constant. **RESULTS:** Based on average life-expectancy the model indicates an

individual born in 2005 returns a lifetime positive NPV to the government of £160,069 with a break-even point (ie. where the NPV becomes positive) at age 31. A child with similar characteristics, but conceived using IVF, has a lifetime NPV of £144,000 with a break-even point at age 33. Sensitivity analysis indicated that these results are sensitive to assumptions about the working age interval, inflation rate, discount rate, and increasing age related health costs. **CONCLUSION:** Despite modelling limitations, we conclude that under reasonable assumptions IVF costs are relatively insignificant vis-à-vis other costs and benefits to government. While the model does not forecast the full economic benefits associated with investment in IVF, it does demonstrate the potential long-term financial returns of improved access to IVF services.

ES8

COST-EFFECTIVENESS OF DARUNAVIR/R IN HIGHLY TREATMENT-EXPERIENCED HIV/AIDS PATIENTS IN DIFFERENT EUROPEAN HEALTH CARE SETTINGS

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OBJECTIVES: To determine whether the protease inhibitor (PI) darunavir boosted with low dose ritonavir (DRV/r) is cost-effective, compared to currently available PIs, as part of highly active anti-retroviral therapies (HAART), in highly pre-treated HIV-1-infected adults who failed >1 PI-containing regimen in European healthcare settings. This analysis included Belgium, Italy and Sweden and focused on the payer perspective. **METHODS:** A Markov model was adapted which contains 6 health states defined by CD4+ T-cell-count range (<50, 51–100, 101–200, 201–350, 351–500 and >500 cells/mm^3) and a state "death" (Mauskopf et al, 2006). Clinical trial (POWER1&2) data were used to model the composition of HAART regimens, patient characteristics and transition probabilities during DRV/r or comparator PI(/r) treatment, both combined with optimised background regimen (OBR). After treatment failure, patients were assumed to switch to tipranavir/r-containing regimens ((TPV/r)+OBR). Transition probabilities during TPV/r treatment were obtained from published clinical trials. Utility values and HIV-related mortality were obtained from published literature. Published relative risks of non-HIV mortality in HIV patients were applied to country-specific all-cause mortality statistics. Non-HAART-related costs in each model state were derived from observational studies in each country. Costs and effects were discounted according to local guidelines. The quality-adjusted lifetime incremental cost-effectiveness ratio (ICER) was calculated for the base-case. Univariate and probabilistic sensitivity analyses were applied. **RESULTS:** For Sweden, Italy and Belgium respectively, quality-adjusted life year (QALY) gains of 1.142, 1.171 and 1.397 were predicted for patients treated with DRV/r in the base-case analysis. The base-case ICER for DRV/r was 12,211€/QALY, 16,668€/QALY and 12,584€/QALY respectively. The DRV/r ICER remained consistently below the often quoted threshold of 30,000€/QALY throughout extensive sensitivity analyses. The probability of an ICER below 30,000€/QALY was above 92% in all countries. **CONCLUSION:** DRV/r is predicted to be cost-effective versus currently available PIs in highly pre-treated HIV-1-infected adults in different European health care settings.

PODIUM SESSION IV: ECONOMICS OF NEUROLOGICAL DISEASE

ND1

COST-EFFECTIVENESS OF INTRATHECAL BACLOFEN THERAPY VERSUS CURRENT THERAPIES IN DISABLED SPASTICITY

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OBJECTIVES: To assess the cost-effectiveness of Intrathecal Baclofen Therapy (ITB) versus current therapies in low level disabled spasticity. **METHODS:** Two simulation models have been constructed to assess the effectiveness, cost and cost-effectiveness of various treatment sequences based on current medical practices established by an international expert panel. The first model simulates current therapies using various sequences of physical treatment only, oral treatments, focal spasticity treatments, neuro-surgery and nursing. The second model simulates strategies starting with ITB as the first line treatment, then various sequences of 2d, 3rd or 4th lines treatments including ITB dose adjustment, explantation, oral treatments, focal spasticity treatments, neurosurgery or nursing. The model used a simulation decision framework and a 2-year time horizon over four 6 months intervals. A successful treatment has been defined as a patient or caregiver satisfaction + change of 1 point in the Ashworth score. Direct medical costs have been collected in the frame of the French health care system. Effectiveness and cost parameters have been included in the model according to specific distribution shapes in order to take into account medical practices variability. Probabilistic sensitivity analyses were conducted using 5000 Monte-Carlo simulations taking into account specific distribution shapes for each cost and effectiveness parameters. **RESULTS:** ITB as first line strategy is the dominant strategy over 2 years, providing greater treatment success rate (78.7% versus 59.3%, $p < 0.001$), lower costs (59,391 Euros versus 88,272 Euros, $p < 0.001$) and lower cost-effectiveness (75,204 Euros/success versus 148,822 Euros/success, $p < 0.001$) than current strategies. **CONCLUSION:** This robust cost-effectiveness modeling is the first study assessing the cost-effectiveness of various treatment sequences in disabled spasticity according to current medical practices. This study establishes that introducing ITB as the first line therapy is a dominant strategy (more effective and less costly) over a time period of 2 years.

ND2

MODELING THE COST-EFFECTIVENESS OF A NEW TREATMENT FOR MS (NATALIZUMAB) COMPARED TO CURRENT STANDARD PRACTICE IN SWEDEN

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OBJECTIVES: To estimate the cost-effectiveness of a new treatment (natalizumab) for multiple sclerosis (MS) compared to current standard therapy with disease-modifying drugs (DMDs) in Sweden. **METHODS:** A Markov model was constructed to illustrate disease progression based on functional disability (EDSS). Disease progression while on treatment with natalizumab was based on a two-year placebo-controlled clinical trial in 942 patients (AFFIRM). Progression while on treatment with current DMDs was estimated from a matched sample of 512