(calculated from published data). US cost data (2009, dog owner's perspective) were estimated from public sources. Health outcomes were expressed in days without symptoms of SP-W-A. All relevant input parameters were varied extensively in one-way and probabilistic sensitivity analyses, and therapeutic "break points" in costs and outcome were determined. **RESULTS:** Cefovecin was more effective than amoxi/clav (162 versus 158 days without symptoms of SP-W-A). Up to a bodyweight (b.w.) of 31 kg, cefovecin was dominant compared to amoxi/clav ($376.74 versus $382.34 respectively for dogs with b.w. of 25 kg) when considering total therapy expenditure (incl. anamnesis, diagnosis, treatments). In large dogs, cefovecin was more costly; however, total therapy costs were only <6% higher than amoxi/clav. Outcomes were sensitive to changes of non-compliance, but remained robust when varying other parameters. **CONCLUSIONS:** Considering non-compliance with oral treatments as a cause of treatment failure, cefovecin's higher drug and administration costs are totally or substantially offset by its better effectiveness leading to reduced costs for supplementary treatments of relapses and failures.

PSS20

ECONOMIC EVALUATION OF BIOLOGIC THERAPIES FOR MODERATE TO SEVERE PSORIASIS: ETANERCEPT COMPARED TO ADALIMUMAB AND INFLIXIMAB

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OBJECTIVES: To assess the cost-effectiveness of flexible dosing with etanercept compared with adalimumab or infliximab treatment in patients with moderate to severe psoriasis. **METHODS:** An economic model was constructed to estimate the incremental cost per quality adjusted life year for each therapy compared with no systemic therapy (NST). Patients met UK criteria for biologic treatment, which require both a Psoriasis Area and Severity Index (PASI) and Dermatology Life Quality Index (DLQI) > = 10 at baseline. Initial response rates were taken from registration studies for each agent: quality of life gain associated with response from patient level data in etanercept studies. Adalimumab and infliximab were given continuously in line with product licenses. Etancercept can be used flexibly, with some patients experiencing drug free intervals between courses of therapy: UK observational data found that 64% of etanercept users experience such intervals, with the remainder having continuous therapy. Response and withdrawal rates were taken from clinical studies, and extrapolated to a time horizon of 10 years. Costs were estimated from a UK payer perspective including drugs, administration visits and hospital stay for treatment failures. Stochastic analysis was undertaken to quantify uncertainty. **RESULTS:** The model estimated incremental cost-effectiveness ratios (ICER) of each therapy compared with NST to be: £12,600 (95% CI: £10,131, 14,066) for etanercept flexible dosing; £17,975 (£17,779, 31,106) for continuous adalimumab and £44,377 (£44,038, 73,815) for continuous infliximab. The ICER for etanercept therapy was sensitive to the frequency and duration of drug free intervals in these patients but was below the ICER for continuous therapies. **CONCLUSIONS:** The model found flexible dosing with etanercept to be more cost-effective than continuous therapy, as it allows control to be maintained at lower drug cost. This finding is consistent with a previous publication (Sitzo 2008), but has now been confirmed with drug utilisation data from UK practice.

PSS21

COST-EFFECTIVENESS OF A NEW TOPICAL PRESERVATIVE-FREE OPHTHALMIC ANTIBIOTIC TREATMENT WITH MOXIFLOXACIN IN THE NETHERLANDS

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OBJECTIVES: This study aimed to estimate the cost per treatment failure avoided of topical preservative-free moxifloxacin (MOXI) as compared with ofloxacin (OFLOX), marketed as preserved Trafloxal and preservative free Trafloxal E.D.O.in the treatment of acute infectious conjunctivitis in The Netherlands (NL). **METHODS:** A survey amongst GPs and Ophthalmologists (OPH) collected health care resources(HCU) used to manage acute bacterial conjunctivitis. Cost of health care resourses were obtained from National databases; treatment failure rates were estimated from a meta-analysis of randomized controlled trials(RCT) investigating MOXI. A decision tree model in Treeage was populated to define the cost per treatment failure avoided using MOXI instead of OFLOX. OFLOX treatment failure rate was obtained from a trial directly comparing OFLOX with MOXI. Probabilistic sensitivity analysis was performed investigating the range of HCU used in clinical practice by different OPH and investigating the uncertainty around treatment failures reduction. **RESULTS:** The average estimated incremental cost per treatment failure avoided by a GP was €53.47 and €215€ by an OPH (range €169.55€ to €279.42). The treatment failure rate for MOXI was 2.9% [with 95% CI 1.4%,4.3%] versus 7.6% for OFLOX. The price for MOXI taken in the model was €14.04, the maximum reimbursement of current preservative free antibiotic treatments in NL. A weighted current average price of Trafloxal (110,943 units) and Trafloxal E.D.O.(15,554 units) was €3.74. With a failure rate less than half that for OFLOX, and assuming a willingness to pay (WTP) of 100€ per treatment failure avoided (based on the WTP for avoiding allergic reactions), in 90% of the simulations MOXI is cost-effective. **CONCLUSIONS:** Use of topical moxifloxacin instead of ofloxacin avoids treatment failures. Moxifloxacin, with a price of 14,04€ is a cost-effective alternative to ofloxacin given a willingness to pay of €100 per treatment failure avoided.

PSS22

COST-EFFECTIVENESS STUDY OF COMPLICATED SKIN AND SKIN-STRUCTURE INFECTION TREATMENT IN MEXICO

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OBJECTIVES: To determine the most cost-effective intravenous antibiotic treatment for complicated skin and skin-structure infections (cSSI) in public health care institutions in Mexico. **METHODS:** A cost-effectiveness study with institutional perspective was conducted comparing the use of either i.v. Daptomycin (DAP), i.v. Vancomycin (VAN) or i.v. Linezolid (LIN) as first-line and/or second-line antibiotic therapy. Data was collected from a systematic review which included the most recent published articles measuring clinical improvement, length of stay at hospital services and adverse events due to the use of any of three alternatives. A decision tree with Bayesian approach was designed to simulate the use of resources based on patient's prognosis considering clinical success as the best health state, reached in either short hospital stay or long hospital stay, and a therapeutic failure of first-line antibiotic therapy (DAP, VAN or LIN) which caused the use of a second-line antibiotic therapy (DAP or LIN depending on first election). Costs calculation considered hospital stay, concomitant medication and selected antibiotic treatment. Results were evaluated with incremental analysis and one-way sensitivity analysis of the most uncertain variables. **RESULTS:** The use of DAP as first-line therapy results in the lowest cost per clinical success (CS) (DAP: US$3,405.00/CS; VAN: US$3,550.00/CS; LIN: US$3,870.00/CS). In case of therapeutic failure of DAP, the use of LIN as second-line therapy resulted in the lowest total cost per clinical success (DAP-LIN: US$3,255.00/CS; VAN-DAP: US$3,310.00/CS; VAN-LIN: US$3,310.00/CS; LIN-DAP: US$3,423.00), reaching 98% of CS. The sensitivity analysis varying clinical success rates of every evaluated alternative confirmed the robustness of base study. **CONCLUSIONS:** Daptomycin is the most cost-effective alternative in the treatment of cSSI when used as first-line antibiotic therapy since its use reduces the length of hospital stay reducing expenses of public health system budget in Mexico.

PSS23

COST-EFFECTIVENESS ANALYSIS OF IMIQUIMOD VERSUS NO TREATMENT IN ACTINIC KERATOSES

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OBJECTIVES: The purpose was to conduct a cost-effectiveness analysis (CEA) of imiquimod therapy compared to no treatment in patients with actinic keratoses (AKs) in Poland. **METHODS:** The analysis was based on a decision model regarding clinical effects of imiquimod therapy in comparison to placebo (vehicle cream), determined in randomized clinical trials. The population was defined as adult patients with actinic keratoses, without hypertrophy and keratosis, with typical course (localisation on head skin), competent immune system of patient, when another treatment is contraindicated or inappropriate. Complete clearance was assessed as health outcome. Direct medical costs of the analyzed therapies were estimated from the perspective of both payers in Poland (National Health Fund and patient). Costs of medication and clinic visits were included. Time horizon of the analysis was 20 weeks. Treatment was assumed as once a day 3x/week, one or two 4-week cycles. Costs and effects were not discounted. **RESULTS:** Ratio of complete clearance was 0.620 for patients treated with imiquimod and 0.080 for patients taking placebo. Total costs of imiquimod therapy were estimated at 602.26 PLN, while costs of no treatment were 128.26 PLN. Incremental cost-effectiveness ratio (ICER) for the comparison of imiquimod versus placebo was calculated as 878 PLN per gained complete clearance. **CONCLUSIONS:** Imiquimod is more effective and more expensive than no treatment in patients with actinic keratoses. ICER value is below the acceptable threshold, therefore imiquimod therapy is considered as cost-effective treatment in Poland.

PSS24

COST EFFECTIVENESS ANALYSIS OF TAFLUPROST COMPARED WITH LATANOPROST ON THE TREATMENT OF PRIMARY OPEN ANGLE GLAUCOMA IN SOUTH KOREA

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OBJECTIVES: Glaucoma is associated with elevated intraocular pressure (IOP) which can develop nerve damage and loss of vision. Primary open angle glaucoma (POAG) or ocular hypertension (OH) patients should be treated with lowering IOP that is a major factor in preventing the progression of visual impairment related to glaucoma. Nowadays prostaglandin is recommended as first-line treatment drug for reduction of elevated IOP. The main objective of this study is to evaluate the cost-effectiveness of tafluprost compared with latanoprost in POAG or OH patients in Korea. **METHODS:** A decision analytic model was developed from a societal perspective for one year to estimate clinical outcome, drug cost and glaucoma related cost. The model assumes pathways like following: successful treatment, switching to other drug, adding other drug, laser or surgery. Transition probabilities of successful treatment is defined as the percentage of patients with elevated IOP achieving <20% reduction, and transition probabilities of switching is the percentage of patients who were withdrawn due to severe adverse events. IOP reduction rate and transition probabilities were obtained from published literatures searched in database. Resource utilizations and costs were calculated with Korean national health insurance data and clinical expert opinions. Sensitivity analyses were performed on crucial parameters. **RESULTS:** Tafluprost is

more effective and less costly than latanoprost (25.68% vs. 24.76% IOP reduction rate, $603.08 vs. $615.33 expected cost). Thus tafluprost was shown to be dominant compared with latanoprost. The results of sensitivity analysis revealed stable across most of the included parameters. **CONCLUSIONS:** According to this study, tafluprost shows better clinical outcome for one year than latanoprost. In addition, frist-line treatment of tafluprost is a more cost-effective strategy associated with POAG or ocular hypertension compared with latanoprost.

PSS25

COST-EFFECTIVENESS OF BIOLOGIC TREATMENTS FOR MODERATE TO SEVERE PSORIASIS

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OBJECTIVES: The objective of this study was to evaluate the cost-effectiveness (CE) of biologic drugs for the treatment of moderate to severe psoriasis. **METHODS:** A CE model was developed to estimate the incremental cost per quality adjusted life-year (QALY) associated with supportive care and each biologic for the treatment of moderate to severe psoriasis (defined by 4th quartile DLQI for purposes of calculating utilities). Treatments were compared using the Psoriasis Area Severity Index (PASI) 50, 75, and 90 response rates at 10 weeks for infliximab and 12 weeks for the others, which were supported by clinical trials and an expert panel. Direct health care costs and utilities values were also included in the analysis. The CE analysis was conducted by comparing estimates of expected costs and health effects per unit of time for each treatment, incorporating both patients who 'respond' and continue treatment and those who do not 'respond' and stop treatment. All data was reviewed by a focus group in order to adapt the model to the Spanish clinical practice **RESULTS:** In the base case analysis infliximab is associated with mean expected costs of €5909 and mean expected QALYs of 0.216. Respective results were €2947 and 0.100 QALYs for etanercept 25 mg, €5433 and 0.173 QALYs for adalimumab and €7,907 and 0,151 QALYs for etanercept 50 mg. The incremental cost-effectiveness ratio (ICER) was €27,320 for infliximab, €29,430 for etanercept, €31,417 for adalimumab and €52,367 for etanercept 50 mg. **CONCLUSIONS:** First Infliximab 5 mg/kg (0,2,6 then every 8 weeks) and then etanercept 25 mg administered twice a week treatments are the most cost-effective alternatives from the Spanish National Health System perspective for the treatment of moderate to severe psoriasis, both below the €30,000/QALY threshold commonly accepted in Spain for the introduction of new technologies.

PSS26

EXPECTED VALUE OF PARTIAL PERFECT INFORMATION IN A MARKOV MODEL OF INFLIXIMAB AND ETANERCEPT IN THE TREATMENT OF MODERATE TO SEVERE PLAQUE TYPE PSORIASIS

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OBJECTIVES: The objective of the 'piggy-back' trial is to examine the cost-effectiveness of infliximab compared to etanercept in patients with **moderate to severe plaque** psoriasis or psoriasis vulgaris. Before starting the cost-effectiveness study it is usefull to know what to measure and where to invest or aim for. **The objective of this paper** is to estimate the expected value of perfect information (EVPI), with an underlying goal of estimating the partial EVPI's (EVPPI's) to make a prediction about the value of obtaining further information, for all parameters and a partial set of parameters. **METHODS:** Analysis was conducted using a Markov model for patients with moderate to severe plaque psoriasis. For estimating partial EVPI's (EVPPI's) a Monte Carlo simulation (MCS) method was used. Transition probabilities were calculated, based on published evidence, expert opinion, and demographic data. Outcomes expected were total societal costs, expected QALY's and clinical effectiveness. The analysis was performed from a partial societal perspective of The Netherlands. The outcome of partial EVPI was split into costs, utilities, success rates and dropout rates. **RESULTS:** The cost-effectiveness acceptability curve (CEAC) indicates a high decision uncertainty. The CEAC and EVPI also show infliximab needs a high willingness to pay. According to the EVPPI analysis the most uncertainty is seen in utilities (25,239 million) followed by costs (€4,216 million). Success rates and dropout rates also show a high EVPPI but much lower (around 204 and 385 million). **CONCLUSIONS:** When looking at the EVPPI's there is clearly much interest in investing in research to the utilities and the cost of treatment and little interest investing in success rates and progress rates. Because indirect costs, like costs of travel and productivity loss, are excluded and differ between the two therapies, there can be potential gain by further research to the costs.

PSS27

A COST-UTILITY ANALYSIS OF ETANERCEPT FOR THE TREATMENT OF MODERATE-TO-SEVERE PSORIASIS IN ITALY

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OBJECTIVES: Biologic therapies have proven efficacious for patients with moderate-to-severe psoriasis. However, recommended therapeutic regimens and modes of administration differ from agent to agent. For Italy, their economic value compared with standard of care has not been explored. This study estimates the cost-effectiveness of intermittent therapy with etanercept in patients with moderate-to-severe plaque-type psoriasis in comparison with non-systemic therapy in Italy. **METHODS:** This study employs cost-utility analysis using a Markov model adapted from the British "York model". It compares intermittent etanercept vs non-systemic therapy in terms of cost per Quality-Adjusted Life Year (QALY). Data on efficacy and changes in quality of life were derived from three etanercept clinical trials. Direct costs of treating psoriasis patients, including hospitalizations and dermatology clinic visits, were taken from an Italian cost-of-illness study. Extrapolations were made to evaluate the cost-effectiveness of intermittent etanercept vs non-systemic therapy over a period of ten years. **RESULTS:** For the group of patients with moderate and severe plaque psoriasis (initial Psoriasis Area and Severity Index PASI ≥ 10) the incremental cost-effectiveness ratio (ICER) for etanercept compared with non-systemic therapy was €33,216/QALY; for the group of patients with severe psoriasis (PASI ≥ 20), the ICER was €25,486/QALY. **CONCLUSIONS:** Within the Italian health care system, intermittent etanercept (25 mg twice weekly) is a cost-effective therapeutic option compared with non-systemic therapy for the group of patients with moderate and severe plaque psoriasis. For patients with PASI ≥ 20 etanercept cost-effectiveness is even greater.

PSS28

COST-EFFECTIVENESS OF USTEKINUMAB VERSUS ETANERCEPT IN SEVERE PLAQUE PSORIASIS PATIENTS: A CANADIAN PERSPECTIVE

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OBJECTIVES: To determine the cost-effectiveness of ustekinumab versus etanercept among Canadian adults with severe plaque psoriasis who have an inadequate response, are intolerant or contraindicated to at least one conventional systemic therapy. **METHODS:** The York Model, developed to evaluate biologics for the National Institute for Health and Clinical Excellence, was adapted to the Canadian environment. The model consisted of an initial 12-week trial period based on results from ACCEPT, an active-control phase III trial which demonstrated superior efficacy of ustekinumab versus etanercept. The maintenance period, consisted of the trial results extrapolated over a 10-year time horizon. The cost-utility analysis compared estimates of expected costs and health effects of ustekinumab 45 **mg q12w and etanercept 50 mg** biw for 12 weeks and qw thereafter. Response was defined as achievement of ≥PASI 75 from the ACCEPT trial. Non-responders were switched to supportive care. Resource utilization was obtained from the literature and a Delphi panel of Canadian dermatologists. Direct health care costs were obtained from the literature and expert opinion. Utility was mapped from DLQI to EQ-5D using the algorithm used by the York Model. Costs and outcomes were discounted at 5%. **RESULTS:** Mean annual costs and QALYs for ustekinumab were $16,835 and 0.1464 compared to $19,558 and 0.1419 for etanercept. These results were robust to changes in parameter estimates. Not knowing the costs of adverse events over the 10-year time horizon was a limitation of the analysis. Cost-effectiveness acceptability curves show that at all levels of willingness- to-pay for one additional unit of efficacy, ustekinumab 45 **mg remains** a more cost-effective treatment option than etanercept. **CONCLUSIONS:** Ustekinumab was more effective and less costly than etanercept over a 10-year time horizon, suggesting that ustekinumab is a dominant treatment option relative to etanercept for the treatment of patients with severe plaque psoriasis.

SENSORY SYSTEMS DISORDERS – Patient-Reported Outcomes Studies

PSS29

ADHERENCE TO ANTIGLAUCOMA DRUG TREATMENT IN NEWLY TREATED PATIENTS

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BACKGROUND: Lack of adherence to drug treatment is a major obstacle to disease control. Persistence and compliance are two components of adherence. **OBJECTIVES:** to assess: 1) the proportion of antiglaucoma medication users who persist on their treatment after 12 months; 2) the proportion of compliant users among them; and 3) the determinants of persistence and of compliance. **METHODS:** A population-based cohort study using the Quebec Health Insurance Board databases. Patients initiated on antiglaucoma medication treatment between January 1, 1998, and January 6, 2007 were included. Patients still undergoing treatment with any antiglaucoma medication 1 year after their first prescription were considered persistent. Of these patients, those with a supply of drugs for at least 80% of the days were deemed compliant. A multivariate logistic regression model using a stepwise procedure was used to identify the characteristics associated with both outcomes. **RESULTS:** Of 69,461 new users of antiglaucoma medication, 41,005 (59%) were persistent after 1 year, and 16,592 (40.5% of those who persisted) were compliant. Patients more likely to be both persistent and compliant were female and those whose first prescription was made by an ophthalmologist. Increasing age, living in a rural area, and having initiating glaucoma treatment after 2002 were associated with persistence, whereas having used more than five prescription drugs in the year preceding antiglaucoma treatment initiation was associated with better compliance. Patients initiated on sympathomimetics, parasympathomimetics, carbonic anhydrase inhibitors, beta blocking agents and on more than