**Abstracts**

**PSS4**

**COST EFFECTIVENESS ANALYSIS OF THE ACRYSOF CACHET PHAKIC INTRAOCULAR LENS**

Fisher M1, Waycaster C1, Vanoli A1, Huston D1

1Horizon Evidence Development Limited, London, UK, 2Alcon Laboratories Inc, Fort Worth, TX, USA

OBJECTIVES: To determine the cost-effective threshold price of the AcrySof Cachat intraocular lens (PIOL) relative to the currently marketed Visian and Artisan PIOLs in the US. METHODS: We developed a Markov cost-effectiveness model that compared outcomes of the Visian and Artisan PIOLs in a hypothetical cohort of patients with moderate to high myopia. A payer perspective was adopted. Costs and effectiveness results were discounted at 3% over a 40 year time horizon. Effectiveness was expressed as vision adjusted life years (VALYs). VALYs represent a quantification of the benefits derived from various levels of visual acuity (VA) accumulated over time. VA outcome probabilities were taken directly from the CE Mark (Cachet) and FDA approved PIOL product labels. The prices of the Visian and Artisan PIOLs were $750 and $695 respectively. Patients with less than 20/20 VA were assumed to require either glasses and/or contact lenses. PIOL, contact lenses, and eye glasses costs were based on 2009 data from MarkerScope and the Vision Watch Report. Probabilities for adverse events and associated procedures were derived from PIOL product labels and physician interviews. Surgical and drug costs were estimated using reference based physician fee estimates and the Medispan Price Rx database. Uncertainty was addressed through univariate and probabilistic sensitivity analysis (PSSA). RESULTS: The base-case cost-effectiveness model indicated that the Cachet PIOL economically dominated the Visian PIOL up to a threshold price of $1587, and the Artisan PIOL up to a threshold price of $2373. The PSSA showed that at these prices, the probabilities that the Cachet dominated were 59% and 63% respectively. CONCLUSIONS: Given its greater efficacy and favourable adverse events profile, the Cachet PIOL was economically dominant up to a price twice that of the Visian PIOL and three times that of the Artisan PIOL with a considerable degree of certainty.

**PSS5**

**COMPARING FIXED-COMBINATION THERAPIES FOR TREATING PATIENTS WITH OPEN-ANGLE GLAUCOMA IN A MANAGED CARE ENVIRONMENT**

Makhija DU1, Seo J1, Sansgiry SS2

1University of Houston, Houston, TX, USA, 2University Of Houston, Houston, TX, USA

OBJECTIVES: Glaucoma, a chronic disease that requires lifelong treatment, creates a financial burden on patient and health care payers. This study compared fixed-combination therapies in patients with open-angle glaucoma, namely, Latanoprost with Timolol (LT), Dorzolamide with Timolol (DT), and Brimonidine with Timolol (BT). METHODS: A cost effectiveness analysis was conducted using published literature and primary data collected from pharmacy stores. The study was conducted from a managed care perspective with drug utilization for a period of 12 months. A decision model was developed and incorporated cost-effectiveness ratios (ICER) were calculated. Therapy cost was calculated by taking the average reimbursement amount provided by Medicare part D and private insurances, physician visit cost, cost associated with adverse drug events, and cost due to lack of patient persistence (based on expected annual drug usage). Effectiveness was measured as percent reduction in intracocular pressure (IOP) from baseline. A one-way sensitivity analysis was performed by varying cost by 25% to take into consideration the potential wastage, overutilization, underutilization, and various differences in IOP reduction in patients. RESULTS: Mean average percent IOP reduction for LT, DT and BT was 6.8%, 4.3% and 4.6%, respectively. The total cost for therapy for LT, DT and BT was estimated to be $711, $935, and $1099, respectively. ICER analyses indicated a gain of $111.5 for change from DT to LT, while a change from BT to LT indicated a gain of $228. The results remained robust after sensitivity analysis. CONCLUSIONS: In our study, LT was found to be more cost-effective compared to DT and BT. Managed care payers may wish to prioritize fixed-combination therapies used for glaucoma considering medication related adverse events and persistency. Further, research taking into account various other costs should be conducted to provide better evidence.

**PSS6**

**THE COST-EFFECTIVENESS OF ISOTRETINOIN IN PATIENTS WITH MODERATE-TO-SEVERE ACNE VULGARIS**

Shan H1, Hey J1

1University of Southern California, Los Angeles, CA, USA

OBJECTIVES: To assess from a societal perspective whether isotretinoin (13-cis-retinoic acid) or oral antibiotics in combination with topical preparations is the more cost-effective first-line treatment of moderate-to-severe acne vulgaris. METHODS: A decision-tree model was used to simulate therapy costs and effectiveness. All estimates of cost and effectiveness were obtained from the literature or expert opinion. The cost-effectiveness ratio was reported as incremental cost per quality-adjusted life-year (QALY) gained. RESULTS: The time horizon was 2 years. Costs and QALYs were discounted by a mortality rate of 0.00253, which was equivalent to an annual discount rate of 7.3% and were adjusted to 2009 US dollars. A one-way sensitivity analysis was used to determine the robustness of the model's results. The model was developed using Microsoft Excel. RESULTS: Isotretinoin increased discounted costs by $1,486 and discounted QALYs by 0.27 years when compared to conventional therapy of oral antibiotics and topical preparations. This resulted in an incremental cost-effectiveness ratio (ICER) of $20,930 per QALY gained for the base case. The results of the model were insensitive to most model parameters except for the probabilities associated with achieving adequate response or relapse while on therapy. The biggest change in the ICER (204% increase) was caused by a 17% increase in the probability of maintaining adequate response (no relapse) with conventional therapy. Although the ICER was sensitive to these probability values, the highest ICER value of $63,602/QALY found from the sensitivity analysis was still below the threshold for cost-effectiveness. CONCLUSIONS: Isotretinoin was more costly and also more effective than conventional therapy. These results did not change when model parameters were varied in the sensitivity analysis. Assuming a $120,000 QALY threshold for cost-effectiveness, isotretinoin was cost-effective in the first-line treatment of moderate-to-severe inflammatory acne.