

practice patterns. **CONCLUSIONS:** The interviews allowed to extrapolate European findings to the Asia-Pacific region and therefore improved the validity of the cost-effectiveness models developed for these countries. In our opinion, this methodology represents an acceptable alternative when more time-consuming and costly chart reviews cannot be repeated in multiple countries. The significant economic burden of OAG was confirmed.

PSS4

THE COST-EFFECTIVENESS OF TRAVOPROST PRESERVED WITH POLYQUAD® IN NEWLY TREATED OPEN-ANGLE GLAUCOMA PATIENTS IN 7 ASIAN COUNTRIES

Gerlier L¹, Lamotte M¹, Caputo J², Tan R³

¹IMS Health, Vilvoorde, Belgium, ²IMS Health Consulting Group, Singapore, Singapore, ³Alcon Laboratories R&D International, Singapore, Singapore

OBJECTIVES: Topical prostaglandin analogues are safe and effective to treat ocular hypertension (OHT) and open-angle glaucoma (OAG). The preservatives used in prostaglandin, however, drops increase the short- to long-term risk of developing ocular surface disease (OSD). We aimed to compare the 10-year costs and clinical outcomes with Polyquad®-preserved travoprost to costs and outcomes with benzalkonium chloride (BAK)-preserved prostaglandins in 7 Asian countries. **METHODS:** A semi-Markov health economic model was developed. Treatment-naïve OHT/OAG patients were initiated on treatment with Polyquad®-travoprost, latanoprost or bimatoprost (1st line) with possible timolol adjunct (2nd line, fixed combination). The literature provided information on the increased risks of treatment change and OSD development due to exposure to BAK, and disease evolution. Further treatment lines, including eye laser/surgery, and other medical resource use were obtained using data from a German observational study (COGIS) that were validated and adapted in each country by clinical experts. Local unit costs were collected and applied to each resource (All-Payer perspective, 2011 costs). Country-specific discounting was used. **RESULTS:** Compared to BAK-preserved prostaglandins, Polyquad-travoprost was dominant (15% less OSD; total costs reductions vs. latanoprost in Singapore -14%, India and Malaysia -13%, South Korea -9% and vs. bimatoprost from -2% in Thailand to -19% in South Korea), or else cost-effective (incremental cost-effectiveness ratios <1,000US\$ per OSD-free year gained). In each country, the estimated reductions in glaucoma medical (non-drug) management costs (range from -18 to -22%), and total OSD costs (from -25 to -27%), were significant as per second-order sensitivity analysis. As a long-term consequence of the modeled lower persistence and impaired compliance the presence of OSD was associated with higher total costs. **CONCLUSIONS:** This multi-country model estimated that treating Asian OHT/OAG patients with Polyquad®-preserved travoprost would generate significantly less OSD compared to BAK-preserved prostaglandins, together with savings on glaucoma and OSD management costs.

PSS5

NEW FORMULATION OF TRAVOPROST REDUCES DRY EYE OCCURRENCE AND COSTS IN GLAUCOMA PATIENTS: MODEL-BASED RESULTS FOR HONG KONG

Tham CC¹, Leung CK¹, Li FC¹, Gerlier L², Lamotte M², Caputo J³, Tan R⁴

¹Hong Kong Eye Hospital, Hong Kong, Hong Kong, ²IMS Health, Vilvoorde, Belgium, ³IMS Health Consulting Group, Singapore, Singapore, ⁴Alcon Laboratories R&D International, Singapore, Singapore

OBJECTIVES: Prostaglandin analogues are approved as a first-line treatment of ocular hypertension (OHT) and open-angle glaucoma (OAG). Existing molecules are often preserved with benzalkonium chloride (BAK), which is known to create dry eye. We aimed to assess the long-term impact of the type of preservative used in prostaglandins on OHT/OAG treatment outcomes and costs in Hong Kong. **METHODS:** A semi-Markov model was developed to evaluate the 10-year dry eye rate and management costs of OHT/OAG patients initiating a treatment with either Polyquad®-preserved travoprost or latanoprost and bimatoprost (both BAK-preserved). The probability of experiencing dry eye was obtained from literature. Switch rates to surgical or medical treatment were taken from UK/US health care databases. Local unit costs ('All-payer' perspective, 2011 private and public tariffs) were applied to the medical resources collected in a German retrospective chart review, re-assessed and adapted to the local practice by 3 clinical experts. Discount rate was 3% for costs and outcomes. A second-order sensitivity analysis provided 95% confidence intervals. **RESULTS:** The 10-year clinical and economic outcomes were significantly improved with travoprost compared to BAK-preserved latanoprost: dry eye rate decreased from 53% [45;59%] to 35% [31;38%], the proportion of patients reaching a 3rd line treatment from 85% [80;88%] to 57% [44;68%], the surgery rate dropped from 3.0% [2.4;3.5%] to 1.3% [0.6;1.8%] while the total costs were significantly reduced by 25% (private setting) and 29% (public setting) vs. latanoprost, mostly due to a 33% reduction in glaucoma non-drug management cost. The benefits vs. bimatoprost were similar. The impact of the presence of OSD on costs was sizeable, and the treatment switch rate was an important cost driver. **CONCLUSIONS:** This model suggests a favorable impact of using travoprost rather than BAK-preserved prostaglandins on 10-year clinical outcomes, which generates savings on total costs (20-30%) due to reduced medical management costs.

PSS6

HEALTH ECONOMIC EVALUATION OF PRESERVATIVE-FREE TAFLUPROST VERSUS PRESERVED LATANOPROST IN THE TREATMENT OF OPEN-ANGLE GLAUCOMA OR OCULAR HYPERTENSION (OH)

Makino K¹, Charles H², Tilden D¹, Cottrell S¹, Mudge M¹, Christova L¹, Van Bavel J², West B², Woodgate AM²

¹THEMA Consulting Pty. Ltd., Pymont, NSW, Australia, ²Merck Sharp & Dohme (Australia) Pty. Limited, North Ryde, NSW, Australia

OBJECTIVES: Safety and efficacy of tafluprost for open-angle glaucoma or ocular hypertension (OH) have been proven in clinical trials. While tafluprost and latanoprost

have similar efficacy, the absence of the preservative benzalkonium chloride (BAK) in tafluprost may make it a preferred alternative for patients who are intolerant to BAK (i.e., reduces adverse ocular symptoms such as irritation and dry eye). Reduced ocular symptoms offer clinical/QoL benefits and cost savings associated with less rescue medication use (artificial tears). Further, the single-dose unit formulation of tafluprost is predicted to lessen medication wastage and thus generate cost savings versus latanoprost (dispensed in multi-dose bottles). These cost-savings are quantified and cost-effectiveness ratios are calculated in the current study. **METHODS:** Resource usage and associated costs are quantified to determine cost savings offered by tafluprost over latanoprost. Disutility from adverse ocular symptoms caused by preservatives is also determined via a systematic review of literature to transform tafluprost's superior tolerability to QALYs. The perspective of this analysis is the Australian health care system. **RESULTS:** Preservative-free tafluprost was shown to be a highly cost-effective, most likely dominant, strategy over preserved latanoprost. The likely cost savings due to reduced medication wastage, informed by the pattern of latanoprost utilisation observed in the Australian drug reimbursement system (PBS), in itself would make tafluprost a cost-saving strategy versus latanoprost. The available evidence suggested that 47.6% of patients on preserved latanoprost experience some adverse ocular symptoms, while this is expected to be 29.0% with preservative-free tafluprost. Average cost savings attributable to reduced artificial tear use was estimated to be \$23.64 per patient per year. This superior tolerability is also estimated to produce an incremental QALY of 0.0107 for preservative-free tafluprost each year when compared with preserved latanoprost. **CONCLUSIONS:** Preservative-free tafluprost is a highly cost-effective, most likely dominant, strategy over preserved latanoprost.

PSS7

COST EFFECTIVENESS ANALYSIS OF COMMUNITY SCREENING FOR GLAUCOMA IN INDIA

John D¹, Ashton T², Nirmalan P³, Parikh R⁴

¹Micro Insurance Academy, New Delhi, India, ²University of Auckland, Auckland, New Zealand, ³Prashasa Health Consultants, Hyderabad, India, ⁴Shreeji Eye Clinic & Palaks Glaucoma Care Center, Mumbai, India

OBJECTIVES: To investigate the cost-effectiveness of a hypothetical community screening and subsequent treatment programme for glaucoma in comparison with current practice (i.e. with no screening programme but with some opportunistic case finding), in both urban and rural areas of India. **METHODS:** A decision analytical model was built to model events, costs and treatment pathways with and without a hypothetical screening programme for glaucoma for a population aged between 40-69 years age in urban and rural areas. The treatment pathway included both primary open-angle glaucoma and angle closure disease. Screening and treatment costs were obtained from an administrator of a tertiary eye hospital in India. The probabilities for each pathway (i.e. for urban and rural areas) were derived from published literature and expert opinion (Glaucoma specialist currently practicing in India). The glaucoma prevalence rates for urban and rural areas were adapted from the Chennai Glaucoma Study findings. Separate decision analytical models for urban and rural areas were built for calculating the cost-effectiveness of community screening for glaucoma in comparison to current practice (i.e. no screening programme with some opportunistic case finding). The outcomes calculated were the incremental cost of screening (i.e. compared with no screening), the additional cases treated with screening; and the cost per QALY gained by screening. **RESULTS:** The introduction of a community screening programme for glaucoma is likely to be cost-effective, the estimated ICER values being ₹ 8312.71 for urban areas and ₹ 7292.30 for rural areas, when compared with no screening programme. The community screening for glaucoma would treat an additional 4443 cases and 2872 cases, and prevent 1790 person-years of blindness, and 1150 person-years of blindness over a 10-year period, in urban and rural areas respectively. **CONCLUSIONS:** If adequate resources (trained medical personnel and equipment) is available the likelihood of community screening for glaucoma to be cost-effective and have an impact on reducing glaucoma-related blindness burden, remains high in India.

SENSORY SYSTEMS DISORDERS - Patient-Reported Outcomes & Patient Preference Studies

PSS8

HEALTH BURDEN OF VISION PROBLEMS IN ASIA: A STUDY OF MALAYS AND INDIANS IN SINGAPORE

Wang X¹, Ang M², Chiang P³, Zheng Y³, Cheng CY⁴, Lamoureux E⁵, Wong TY², Luo N¹

¹National University of Singapore, Singapore, Singapore, ²Singapore National Eye Center, Singapore, Singapore, ³Duke - National University of Singapore Graduate Medical School, Singapore, Singapore, ⁴National University of Singapore, Singapore Eye Research Institute, Singapore, Singapore, ⁵University of Melbourne, Australia, Australia

OBJECTIVES: To quantify the health burden associated with vision problems in Singaporean Malays and Indians, using the EQ-5D health index. **METHODS:** The Singapore Malay Eye Study (SiMES) and the Singapore Indian Eye Study (SINDI) were population-based studies of 3,259 Malays (mean age: 59 years; range: 40 to 80; male: 48.1%) and 3,397 Indians (mean age: 58 years; range: 43 to 84; male: 50.2%), respectively. Each participant was given a comprehensive eye assessment and answered the EQ-5D questions. The impact of presenting bilateral visual impairment and 5 major eye conditions (i.e. age-related macular degeneration (AMD), glaucoma, cataract, diabetic retinopathy, and refractive error) on the EQ-5D health index score was estimated using separate linear regression models. According to US definition, low vision is defined as 0.30 < LogMAR < 1.00 and blindness as LogMAR ≥ 1.00. **RESULTS:** After adjusted for age, gender and co-morbidities, Singapore Malays with low vision in one eye and normal vision in the other eye (difference: