treatment with either latanoprost or travoprost. A Bayesian network was constructed to study the association between daytime IOP and nocturnal IOP and treatment effects, adjusted for trial effects. RESULTS: A total of 382 daily IOP vectors were identified (pre-treatment: 208; latanoprost: 73; travoprost: 101). IOP at 08:00h was associated with IOP at 12:00h, which was associated with IOP at 16:00h. IOP at 20:00h was predicted by IOPs at 12:00h and 16:00h. The predicted nocturnal peak IOP was associated with IOPs at 12:00h and 20:00h. Travoprost controlled the latter IOPs (12:00h and 20:00h) better than latanoprost, increasing the probability of controlling nocturnal IOP peaks *Ŷ 18 mmHg (travoprost 76.9–77.5% versus latanoprost 66.7–67.9%). Untreated patients with a diagnosis of ocular hypertension had a high probability of developing a nocturnal IOP peak *Ŷ 18 mmHg (92.1%). CONCLUSIONS: Daytime IOP measurements are highly intercorrelated. IOPs at 12:00h and 20:00h were associated with the nocturnal IOP peak. Bayesian networks can estimate the risk of a night IOP peak *Ŷ 18 mmHg. Daytime IOP control is important for nocturnal IOP control.

PEY2

EFFECTIVENESS OF TRAVOPROST VERSUS DORZOLAMIDE + TIMOLOL FIXED COMBINATION IN FIRST LINE TREATMENT OF GLAUCOMA: ANALYZED FROM THE UK GENERAL PRACTITIONER RESEARCH DATABASE

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OBJECTIVE: To compare the effectiveness of travoprost (Travatan®) and a dorzolamide+timolol fixed combination (Cosopt®) as alternative first line therapies for glaucoma using data from the UK General Practitioner Research Database (UK-GPRD). METHODS: Files of patients with ocular hypertension or glaucoma, treated topically, or by surgery or laser therapy, were extracted from the UK-GPRD. Patients starting first line treatment with travoprost, or the fixed dorzolamide+timolol combination, were selected. Treatment failure was defined as a prescription change (adding or removing a topical treatment). Time to treatment failure was compared between treatments by an adjusted Cox model. Propensity scores were used. RESULTS: Files on 56,612 patients were extracted of which 39,808 had at least one topical prescription for glaucoma. In total, 639 patients were treated with travoprost, and 387 with dorzolamide+timolol as first line therapies. Demographic and health characteristics did not differ significantly between patient groups. Overall mean age at diagnosis was 70.0 years and 48.5% were male. Treatment failure at one year occurred in 30.4% of patients on travoprost and by 49.4% on dorzolamide+timolol (p < 0.001). The hazard ratio for failure was lower with travoprost (0.79; p < 0.03) after adjusting for age, gender, comorbidities and duration of follow-up. CONCLUSION: According to UK-GPRD information, travoprost appears to be more efficient than dorzolamide+timolol as first line therapy for glaucoma patients. Patients continue longer with travoprost as first line therapy.

PEY3

COMPARING EFFICACY OF PROSTAGLANDIN ANALOGUES FOR CONTROLLING INTRA-OCULAR PRESSURE (IOP): RESULTS OF A META-ANALYSIS

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OBJECTIVE: To compare the efficacy of latanoprost, bimatoprost and travoprost for controlling IOP. METHODS: Randomized trials were identified on Medline and Embase using the following key words: glaucoma, ocular hypertension (OHT), randomization, trial, latanoprost, bimatoprost and travoprost. The studies had to compare at least two prostaglandins in monotherapy. Cross-over experimental designs were excluded. IOP at baseline and final visit, age, gender, race and period of follow-up were collected. Main outcome measure was IOP at final visit. Statistical analyses included random effects pooled estimates of treatment effects, tests for publication bias, and random-effects models to obtain adjusted treatment effects on final IOP after controlling for baseline IOP, and duration of follow-up. We also estimated the number of responders (IOP < 18 mmHg) based on mean IOP value, standard deviation, and sample size. Random effects Poisson regression models were used to estimate the adjusted effects of treatments on response rates. RESULTS: A total of 224 papers were identified, including 15 randomized clinical trials. Nine studies were used in the analysis. Patient age varied from 56.7 to 68.8 years and baseline IOP ranged from 22.3 to 26.5 mmHg. At total of 378 patients were treated with bimatoprost, 385 with travoprost and 555 with latanoprost. Patients treated with travoprost and bimatoprost tended to have similarly lower IOP levels at the end of follow-up (~0.98 mmHg [95% CI: −2.08;0.13] and −1.04 mmHg [95% CI: −2.11;0.04], respectively) than those treated with latanoprost. The combined effect of newer prostaglandin analogues (bimatoprost/travoprost) was an adjusted decrease of 1.00 mmHg [95% CI: −1.91;−0.10], or a 17% higher adjusted response rate (Incidence Rate Ratio 1.17, 95% CI, 1.00–1.35, p = 0.04), compared to latanoprost. CONCLUSION: Travoprost and bimatoprost may have greater efficacy in controlling IOP for patients with OHT or glaucoma.

PEY4

EFFECTIVENESS OF BRIMONIDINE VERSUS BRINZOLAMIDE IN TREATMENT OF GLAUCOMA: AN ANALYSIS CONDUCTED ON THE UNITED-KINGDOM GENERAL PRACTITIONER RESEARCH DATABASE

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OBJECTIVE: To compare the effectiveness of brinzolamide (Azopt®) and brimonidine (Alphagan®) in the treatment of glaucoma according to the data collected in the United-Kingdom General Practitioner Research Database (UK-GPRD). METHODS: Files with a diagnosis of ocular hypertension, or glaucoma, or treated with a topical treatment surgery or laser therapy were extracted. Patients with prescription for brimonidine or dorzolamide mono-therapy were selected regardless of treatment line (initial, second line, third, etc.). Treatment failure was defined as a prescription change (adding or removing a topical treatment). Time to treatment failure was compared using an adjusted Cox model. Adjustment for confounding factors used the propensity score method. RESULTS: A total of 56,612 patients were extracted and 39,808 patients had at least one topical prescription for glaucoma. A total of 2175 were treated with brimonidine and 482 with brinzolamide monotherapy. No significant difference in the characteristics of the patients was found. Patients were 69.5 years old on average at diagnosis and 46.5% were male. At one year, 54.4% of the brimonidine patients had a treatment failure versus 42.3% with brinzolamide (P < 0.001). The hazard ratio for a failure was 0.798 (P < 0.001) lower with brinzolamide, after adjusting for age, gender, and comorbidities. CONCLUSION: According to the UK-GPRD
information, brinzolamide is more efficient than brimonidine in the treatment of glaucoma patients, in mono-therapy, in all treatment lines. Patients remained treated longer with brinzolamide.

**Abstracts**

**COMPARISON OF PHYSICIAN AND PATIENT-REPORTED OUTCOMES OF ADULTS WITH DRY EYE DISEASE (KERATOCONJUNCTIVITIS Sicca) MANAGED OVER TIME IN A PATIENT REGISTRY**

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**OBJECTIVE:** To compare physician and patient rating of dry eye disease severity over time, with standard clinical tests and a QoL measure within a patient registry. **METHODS:** Patients with moderate to severe dry eye disease, who were attending the dry eye clinic at the Royal Victoria Infirmary in Newcastle, UK, and consented to participate in a patient registry, were recruited. Patients were managed as in routine clinical practise. Patients and physicians rated disease severity at baseline and over time on a scale of 0–9 (0 Normal, 1–3 Mild, 4–6 Moderate, 7–9 Severe). In addition, a range of standard clinical tests for dry eye and a validated, quality of life instrument (Ocular Surface Disease Index—OSDI®) were completed. **RESULTS:** Data from 75 patients were analysed, 91% were white females and 84% were postmenopausal. Fifty-nine percent of patients had at least 4 follow up visits (mean time approx. 16 months). At baseline, 46% of patients rated their dry eye disease as moderate and 43% as severe, compared to 62% as moderate and 36% as severe by the physician. From baseline to visit 4, the change in disease severity by category was 38% improved, 41% same and 21% deteriorated by the patient's assessment. In comparison, by the physician's assessment, 49% of patients improved, 49% stayed the same and 2% deteriorated. The patient's rating of their disease correlated well with the OSDI® (Spearman correlation coefficient; 0.53, p < 0.001). The physician's rating of disease status correlated well with 2 of the standard clinical tests for dry eye (Oxford staining; 0.50, p < 0.001 and Tear Function Index; 0.43, p < 0.001). **CONCLUSIONS:** Patients tend to rate their dry eye disease as more severe than the physician. It is important to include patient-reported outcomes as part of the assessment of dry eye disease severity and the management of patients.

**MODELLING THE HEALTH ECONOMIC IMPACT OF OLOPATADINE COMPARED TO BRANDED AND GENERIC SODIUM CROMOGLYCATE IN THE TREATMENT OF SEASONAL ALLERGIC CONJUNCTIVITIS IN THE UK**

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**OBJECTIVE:** This study estimated the incremental costs of using olopatadine (Opatanol) compared to branded cromoglycate (Opticrom) and generic cromoglycate in the treatment of seasonal allergic conjunctivitis (SAC) in the UK. **METHODS:** A literature-based decision model was constructed depicting the management of SAC sufferers >=4 years of age over four months (a typical allergy season). The model considers the decision by a GP to initially treat a patient with olopatadine (1 drop in affected eyes twice daily), branded and generic cromoglycate (1 or 2 drops in affected eyes 4 times daily). Whilst published studies demonstrate olopatadine's greater symptom reduction compared to cromoglycate, there was no evidence of any significant differences between the two treatments in terms of days of treatment and overall probability of being successfully treated. Therefore, for the purposes of this analysis both drugs were assumed to be equally effective. Consequently, a cost-minimisation analysis was performed to identify the least costly alternative from the perspective of the UK's National Health Service (NHS). **RESULTS:** Starting treatment with olopatadine is expected to lead to a health care cost of GBP 92 (95% CI:46–150) over four months compared to GBP 109 (95% CI: 165–166) with branded cromoglycate and GBP 95 (95% CI: 51–132) with generic cromoglycate. Consequently, use of olopatadine instead of branded or generic cromoglycate is expected to lead to a 16% and 3% reduction in health care costs respectively over four months of treatment. This cost-difference is primarily due to fewer GP visits among olopatadine-treated patients. **CONCLUSIONS:** Use of olopatadine instead of branded or generic cromoglycate affords an economic benefit to the NHS. Hence, with the limitations of our model, olopatadine is the preferred first-line treatment for use in SAC sufferers, since it is expected to release health care resources for alternative use and may offer better symptom reduction to patients.