OBJECTIVES: To determine healthcare costs among immediate release (IR) hydrocodone patients with opioid abuse and dependence to those without such diagno-
sis in the United States (US). METHODS: Retrospective analysis using claims from the Truven MarketScan® commercial, Medicare supplemental, and Medicaid data-
bases was performed. Patients prescribed IR hydrocodone during the 6-month base-
line period (July 1, 2010 - June 30, 2011) for ≥ 30 days, and with continued enrollment during the 12-month follow-up period (2012), were selected. IR hydrocodone patients with an
ICD-9-CM diagnosis for opioid abuse or dependence (abuse) were identified in the
date follow-up period. Descriptive analyses were employed to compare demographic
and clinical characteristics between diagnosed opioid abusers and non-abusers.
Total healthcare costs (standardized to 2013 US dollars) for abusers vs. non-abusers
during the follow-up were estimated by plan type. Propensity score matching was used
to account for incremental costs in the follow-up. RESULTS: A total of 1,745,933
commercial, 277,096 Medicare, and 157,992 Medicaid IR hydrocodone patients were
selected. Prevalence of diagnosed opioid abuse for these samples in follow-up was 0.9%,
9.0%, and 4.1%, respectively. Medicaid, Medicare, and commercial patients among
commercial patients, unmatched data at baseline showed that abusers had on aver-
age higher co-morbidity burden (0.96 vs. 0.67), and higher pill count (60.8 vs. 20.5
pills/month) and days’ supply (67.4 vs. 24.1 days) for IR hydrocodone, compared to
Cost per additional responder was calculated as the NNT multiplied by 12 week drug costs.
from placebo. The Wholesale Acquisition Costs for each biologic incurred during
the follow-up period. Descriptive analyses were employed to compare demographic
and clinical characteristics between diagnosed opioid abusers and non-abusers.
OBJECTIVES: To determine healthcare costs among immediate release (IR) hydrocode-
done patients with diagnosed opioid abuse have higher healthcare costs when com-
pared to matched non-abusers, suggesting significant negative economic impact
of opioid abuse in the US. Similar trends were observed regardless of plan type.
PSY34
PROJECTING BENEFITS FROM WEIGHT LOSS IN OBESE POPULATIONS: A MICROSIMULATION APPROACH
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OBJECTIVES: To quantify the clinical and economic benefits of weight loss among
obese adults in the U.S. and how benefits vary across subsets of the obese popula-
tion. METHODS: A validated, Markov-based microsimulation model was used to sim-
ulate 10-year health and economic outcomes for different subsets of the obese adult
population, with sample populations drawn from the 2005-2012 National Health and
Nutrition Examination Surveys. Obese subgroups include those with prediabetes;
CONCLUSIONS: Intensive lifestyle intervention and other weight loss programs often exceed 5% weight
loss, generating sizeable medical savings that vary by patient characteristics. Study results
underscore the importance of educating patients and healthcare providers about the
benefits of weight loss, and help identify target populations to maximize the medical savings and
other benefits of weight loss.
PSY35
DEMONSTRATING THE EFFECTIVE COST-MOVATIVITY OF MOVANTIK FOR THE
TREATMENT OF OPIOID INDUCED CONSTIPATION IN PATIENTS WITH INADEQUATE
RESPONSE TO LAXATIVES; A UK PERSPECTIVE
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1AstraZeneca, Cheshire, UK, 2AstraZeneca, Luton, UK, 3AstraZeneca, Gaithersburg, MD, USA, 4Tivera, Bethesda, MD, USA, 5Tivera, London, UK
OBJECTIVES: Opioid induced constipation (OIC) is the most common, persistent
and debilitating side effect reported in patients receiving opioids to manage pain. Laxatives are commonly prescribed to treat OIC but in some patients they provide
inadequate response. Movantik is a peripherally acting mu-opioid receptor antago-
nist used to treat patients with inadequate response to laxatives ([IIR]. A cost effect-
iveness model was constructed from the UK payer perspective to compare Movantik
(5mg/2mg oral capsules) with Placebo and laxatives. Two Phase III 12-week placebo-controlled RCTs, KODIAC 4 and 5, provided data on
response rates, transition probabilities and EQ-5D inputs for the model for Movantik,
Placebo and rescue laxatives. A further 52-week extension of Movantik in KODIAC 6,
Two Phase III 12-week placebo-controlled RCTs, KODIAC 4 and 5, provided data on
response rates, transition probabilities and EQ-5D inputs for the model for Movantik,
Placebo and rescue laxatives. A further 52-week extension of Movantik in KODIAC 6,
A297
A297
sensitivity analyses indicates that for these comparisons, based on a threshold of £20,000, Movantik has a respective probability of 91%, 85%, and 100% of being cost-effective. In a population of LIR patients who are taking step 3 opioids, Movantik is dominant vs. Targin over a 5 year time horizon. **CONCLUSIONS:** Movantik is a cost-effective treatment option for patients with OIC who have experienced inadequate response to laxatifs.

**PSY3**

**COST-EFFECTIVENESS ANALYSIS OF EX-VIVO EXPANDED AUTOLOGOUS CORNEAL EPITHELIAL CELLS CONTAINING STEM CELLS TO REPAIR THE DAMAGED OCULAR SURFACE IN PATIENTS WITH MODERATE TO SEVERE LIMBAL STEM CELL DEFICIENCY DUE TO OCULAR BURNS IN THE UK**

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**OBJECTIVES:** Limbal Stem Cell Deficiency (LSCD) is a rare condition characterized by the shortage of limbal stem cells in the eye resulting in corneal conjunctivitis, corneal opacity, visual impairment and even blindness. Recently, the first advanced therapeutic medication (ATMP) containing stem cells (GRLS0CD1) has been recommended for approval by EMA in moderate-severe LSCD due to chemical or physical burn. A Cost Effectiveness Analysis (CEA) was performed, from a public payer perspective, to compare GRLS0CD1 in LSCD with conservative management, given that currently, no other medicinal product is approved for this disease. **METHODS:** We analyzed visual acuity and symptoms from 99 patients (average age 46.8 yrs.) treated with GRLS0CD1; data were taken from a retrospective, case-series, non-randomized, non-controlled multicenter clinical study (RISE-LSCD), covering 14 years follow-up. LSCD-impaired visual acuity and symptoms such as pain, burning and photophobia were used in the model to assess the Qol associated with the condition, and Quality Adjusted Life Years (QALY) to compare the outcomes of GRLS0CD1 treatment versus conservative management, in a similar patient pool. **RESULTS:** Patients under conservative treatment had between 10.29 and 17.24 QALYs, depending on LSCD severity, whereas patients treated with GRLS0CD1 showed between 15.93 and 22.49 QALYs, with a total utility gain between 5.25 and 6.04 QALYs in the GRLS0CD1 group, this result being already discounted by 3.0%, in compliance with National Institute for Health Care Excellence (NICE) guidelines. Due to the utility gain, GRLS0CD1 was considered competitive with the value of a healthy life saving in the country, reducing the shortage of limbal stem cells in the eye resulting in corneal conjunctivitis, corneal opacity, visual impairment and even blindness.

**PSY34**

**COST MINIMIZATION ANALYSIS OF EQUIPMENT OPIOID ANALGESICS: NATIONWIDE ANALYSIS OF MEDICARE PART D STAND-ALONE PRESCRIPTION DRUG PLANS**

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1OBJECTIVES: Nearly 54 million Medicare beneficiaries, the overwhelming majority of whom reside outside the US. Many beneficiaries suffer from chronic pain and need to use opioid analgesics for treatment. Medicare Part D is the outpatient prescription drug benefit available to beneficiaries through private insurance companies. Fewer than 1% of Medicare beneficiaries currently use opioids across the country were recorded. Collected data for each drug included: full cost, expected out-of-pocket costs both in a retail and mail order setting, and cost at a standard and preferred network pharmacy. RESULTS: Full annual retail drug costs varied from a low of $134.42 (Methadone 5mg, thrice daily) to a high of $10,444.30 (Hydromorphone ER 16mg, once daily). Medicare cost-sharing of the full annual drug costs in a retail pharmacy ranged from 36% (Hydromorphone 3/25, 12 tabs daily) to 92% (Hydromorphone ER). The annual out-of-pocket costs through mail order were between 88% (Oxycodone 5mg; 8 tabs daily) and 102% (Morphine 30mg; 2 tabs daily) of the costs in a retail pharmacy setting. Beneficiary out-of-pocket costs for the same drug was between 7% and 44% cheaper at a preferred network pharmacy. CONCLUSIONS: Considerable cost variability exists among equipotent opioid analgesics across Medicare PDGs. Minimizing beneficiary out-of-pocket costs may improve economic outcomes without compromising clinical outcomes.

**PSY35**

**FORECASTING THE UNITED STATES LIFETIME COST AND OUTCOMES OF IVAFACORT IN PATIENTS WITH CYSTIC FIBROSIS**

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1OBJECTIVES: Ivafacort is a breakthrough treatment for cystic fibrosis (CF) patients with the G551D genetic mutation. Clinical trials show ivafacort significantly improves lung function. Information on lifetime clinical effects and cost are lacking. This study aims to forecast lifetime outcomes and cost by incorporating plus usual care versus usual care alone. METHODS: A lifetime Markov model of ivafacort for G551D mutation CF patients aged ≥6 years was conducted from a United States payer perspective. The model consisted of 5 health states: 1) forced expiratory volume in 1-second (FEV1) ≤ 70%, 2) FEV1 > 70% ≤ 80%, 3) FEV1 > 80% ≤ 90%, 4) Lung transplantation, and 5) Death. All inputs were determined by literature sources. Efficacy of ivafacort was from previous randomized clinical trials for the first 2 years. The efficacy after 2 years was assumed half of the observed efficacy (consistent with United Kingdom assessment assumption). The budget impact was estimated. We indirectly estimated ivafacort’s improvement in CF outcome gaps compared to the non-CF population. RESULTS: Compared to the usual care alone, ivafacort treatment was associated with 18.09 additional life-years [95% credible interval (CI); 14.63-21.13] and 14.92 additional quality-adjusted life-years (QALYs) [95% CI; 11.93 – 17.95] over an average lifetime. Moving from usual care alone to ivafacort treatment was associated with reducing the survival and QALY gaps of the non-CF population by 52.32% and 44.29%, respectively. The incremental lifetime cost with 3% discount was $3,740,480. The budget impact was $0.09 per-member per-month (PMPM) (-0.07 to $0.11). CONCLUSIONS: Ivafacort was forecasted to increase life-years and QALYs in CF patients with the G551D mutation and move morbidity and mortality outcomes closer to that of their non-CF peers. The overall cost in patients with ivafacort is much higher than usual care, but comes at a relatively low budget impact. Uncertainty in this literature-informed analysis could be reduced with patient-level analyses.

**PSY36**

**COST-UTILITY ANALYSIS OF PAIN MEDICATIONS USED TO TREAT ADULT PATIENTS WITH CHRONIC BACK PAIN IN THE UNITED STATES**

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1OBJECTIVES: 13.7 million US adults currently experience chronic back pain (CBP). The costs of managing CBP are higher than those of most other chronic neurological diseases. There are no studies of the cost-effectiveness of treatment alternatives for refractory MG in patients who failed to respond to at least two successive immunosuppressive drugs. This study aimed to simulate the incremental costs and QALYs of rituximab, tociluzumab, and tarsolmus in the treatment of refractory MG. METHODS: We used a Markov model from the perspective of a US private insurance payer to evaluate the cost-effectiveness of rituximab, tociluzumab, and cyclophosphamide in a hypothetical cohort of 1,000 patients with refractory MG, aged 20 years and above. We obtained disease transition probabilities, costs and outcomes data from the published literature. We calculated the incremental cost-effectiveness ratios (ICERs) as cost per quality-adjusted life-year (QALY) gained and cost per QALY gained per year. The overall treatment was associated with 18.09 additional life-years [(95% credible interval (CI); 14.63-21.13] and 14.92 additional quality-adjusted life-years (QALYs) [95% CI; 11.93 – 17.95] over an average lifetime. Moving from usual care alone to ivafacort treatment was associated with reducing the survival and QALY gaps of the non-CF population by 52.32% and 44.29%, respectively. The incremental lifetime cost with 3% discount was $3,740,480. The budget impact was $0.09 per-member per-month (PMPM) (-0.07 to $0.11). CONCLUSIONS: Ivafacort was forecasted to increase life-years and QALYs in CF patients with the G551D mutation and move morbidity and mortality outcomes closer to that of their non-CF peers. The overall cost in patients with ivafacort is much higher than usual care, but comes at a relatively low budget impact. Uncertainty in this literature-informed analysis could be reduced with patient-level analyses.