impact of risk of bias of included studies on summary estimates (26.7%) which led to limited summary evidence with serious limitation. ***Conclusions:*** As per AMSTAR 2 criteria, the overall methodological quality of representative sample of MAs on interventions for Bell's palsy is critically low and the findings of these MAs must be interpreted with caution.

Neurological Disorders - Economic Evaluation

PND15
LONG-TERM COST-EFFECTIVENESS OF LASMIDITAN, UBROGEPANT AND RIMEGEPANT FOR TREATMENT OF ACUTE MIGRAINE

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BACKGROUND: Migraine affects approximately 40 million adults in the US and is a significant source of morbidity and lost productivity. In some patients, commonly used migraine treatments are ineffective, not tolerated or have contraindications. New treatments are needed, but anticipated higher costs may limit patient access. ***Objectives:*** To evaluate the long-term cost-effectiveness of lasmiditan, rimegepant, and ubrogepant for acute migraine in two distinct patient populations, compared with 1) "usual care" in patients who cannot take triptans (i.e. a prevalent mix of treatments excluding triptans); and 2) triptans in triptan-naïve patients. ***Methods:*** A semi-Markov model was developed, employing 48-hour cycles over 2 years, from a health care sector perspective. Outcomes, utility, and most cost inputs were obtained through manufacturer-submitted evidence, systematic literature reviews, and clinical expert opinion. Drug prices are not publicly available and were assumed to be 20% greater than branded sumatriptan (Imitrex®). Primary outcomes, discounted at 3% annually, were incremental cost per QALY and cost per pain-free hour. One-way and probabilistic sensitivity analyses were conducted to evaluate uncertainty. ***Results:*** At the assumed prices, incremental cost-effectiveness ratios (ICERs) for lasmiditan, rimegepant, and ubrogepant, compared with usual care, were $327,700, $559,500 and $569,600, respectively. When compared with triptans, sumatriptan and eletriptan dominated. In sensitivity analyses, ICERs were affected considerably by many inputs, although none resulted in an ICER under $150,000 per QALY gained compared with usual care. In probabilistic sensitivity analyses, and at a threshold of $250,000 per QALY gained, lasmitidan, ubrogepant, and rimegepant achieved cost-effectiveness in 9.4%, 0.2%, and 0.0% of trials, respectively. ***Conclusions:*** Lasmiditan, rimegepant, and ubrogepant may provide an important therapeutic alternative to current treatments for acute migraine in patients who cannot tolerate or have contraindications to triptans. Pricing of these drugs will determine whether they are cost effective at commonly accepted thresholds.

PND16
HEALTHCARE RESOURCE UTILIZATION AND COSTS IN MEDICARE BENEFICIARIES WITH PARKINSON'S DISEASE

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Objectives: Parkinson's disease (PD) is thought to be the fastest growing cause of neurologic disability in the US. We wanted to estimate its impact on healthcare resource utilization (HCRU) and costs. ***Methods:*** This retrospective, cross-sectional, matched case-control study was conducted using 2016 data from the 5% Medicare Limited Data Set. Patients ≥65 years with PD (cases) were identified if they had at least one inpatient or two outpatient claims for PD, were enrolled in the Medicare fee-for-service program, and had Part A and B coverage for all of 2016. Patients without PD (disease-free controls) were matched 1:1 to cases by age, gender, race, and geographic region (census regions: Northeast, South, Midwest, West). All-cause healthcare utilization and costs were compared between cases and controls. Descriptive results were reported. ***Results:*** A total of 14,689 matched case-control pairs were included in the study sample; mean (SD) age 78 (7.3) years, 42.7% female, 92.1% white with all regions represented (36.7% South, 26.7% Midwest, 20.1% Northeast and 16.4% West). Compared to controls, patients with PD had more outpatient office visits (mean [SD]: 16 [15.0] vs. 12 [12.2]), and higher rates of home health (31.1% vs. 10.3%), hospice (4.4% vs. 0.9%), ED (39.4% vs. 23.3%), and inpatient (34.2% vs. 16.9%) use (all $p>0.001$). Mean (SD) annual all-cause Part A and Part B medical costs were statistically significantly higher in patients with PD than in controls ($94,780 [$220,636] vs. $50,489 [$194,980]) ($p<0.001$). The majority of costs were for non-ED outpatient services ($81,536 [$213,598] vs. $45,588 [$191,109]) and inpatient services ($12,221 [$25,858] vs. $4,406 [$14,736]) ($p<0.001$). ***Conclusions:*** PD has dramatic effect on HCRU and costs. Based on our data, we estimate the excess annual Medicare expenditure on PD could exceed $40 billion. Therapies that prevent or slow the progression of PD may reduce HCRU and costs in affected populations.

PND17
HEALTHCARE UTILIZATION AND COSTS BY DISEASE STAGE IN BENEFICIARIES WITH HUNTINGTON'S DISEASE IN THE US MEDICARE POPULATION

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Objectives: Huntington's Disease (HD) is a genetic, neurodegenerative disorder typically manifesting in mid-life; later onset (after 50 years of age) can occur. HD progression involves deterioration of cognitive and motor function, over 10-30 years following diagnosis. This study investigated healthcare utilization (HCU) and cost burden by stage of disease progression among US Medicare beneficiaries with HD. ***Methods:*** This retrospective study was conducted using 2013–2017 Medicare Research Identifiable Files (100%). Beneficiaries with HD were identified based on having ≥1 medical claim with a diagnosis code for HD (ICD-9-CM: 333.4; ICD-10-CM: G10) during the identification period (2014–2016); date of HD claim was defined as the index date (for multiple HD claims, 1 randomly chosen as index to capture all disease stages). Included beneficiaries had continuous enrollment in fee-for-service Medicare 1 year prior to (baseline) and 1 year after (follow-up) index. Demographics and chronic conditions were measured during baseline; HCU and costs during follow-up. Measures were stratified by disease stage (early, middle, late), determined by evidence in claims of diagnoses and services received. ***Results:*** We identified 3,688 beneficiaries with HD; the majority had late-stage disease (early 23.0%, middle 24.8%, late 52.1%). Disease strata varied by mean (SD) age (64.6 [12.2], 69.3 [11.5], 68.5 [12.7] years), proportion female (48.8%, 57.0%, 54.1%), and number of chronic conditions (4.3 [2.4], 5.5 [2.4], 6.0 [2.6]). Late-stage beneficiaries had higher use of HD treatment (42.0%, 51.4%, 64.5%), antidepressants (49.5%, 58.4%, 65.3%), anxiolytics (22.2%, 27.1%, 31.2%), and antiepileptics (30.1%, 38.4%, 45.1%); hospitalization (8.4%, 20.3%, 38.1%) and ED visits (19.8%, 36.7%, 43.1%); all $p<0.001$. Total healthcare costs were highest among beneficiaries with late-stage HD ($20,475 [$41,122], $29,733 [$44,977], $56,657 [$64,185]; $p<0.001$). ***Conclusions:*** Medicare beneficiaries with HD have significant HCU and cost burden. HCU and costs increase with disease progression. Study funded by F. Hoffmann-La Roche Ltd.

PND18
ANNUAL HEALTH INSURANCE TREATMENT COST OF SLEEP APNOEA BASED ON ROUTINELY COLLECTED FINANCING DATA

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Objectives: Sleep apnoea is a significant burden for both the individual and society. Our aim was to determine the annual health insurance treatment cost of sleep apnoea in Hungary. ***Methods:*** The data were derived from the financial database of the NHIFA, for the year 2018. Data analysed included annual health insurance costs, patient numbers and cost distribution calculated for age groups and sex. The following cost categories were included into the study: general practice care, home care, in- and outpatient care, medical imaging, laboratory diagnostics, drugs and medical aids. Patients with sleep apnoea were identified with the following code of the International Classification of Diseases 10th revision: G4730. ***Results:*** In 2018, the Hungarian National Health Insurance Fund Administration spent 776.37 million Hungarian Forints (HUF) for the treatment of patients with sleep apnoea [2.87 million American Dollars (USD), or 2.43 million Euros (EUR)]. 78.0% of costs was spent on the treatment of male, while 22.0% on female patients. The highest patient numbers were in outpatient care: 13,752 men (72.5%), and 5,204 women (27.5%) in total 18,956 patients. Medical aids (68.9% of total health insurance costs in men and 56.7% in women), outpatient care (26.2% in men and 34.3% in women) and acute inpatient care (1.9% in men and 3.2% in women) were the main cost drivers, while all other forms of medical care amounted to 3.0% in men and 3.7% in women. Annual health care treatment cost per patient was 44,030 HUF (163 USD/138 EUR) in men and 32,835 HUF (121 USD/103 EUR) in women. ***Conclusions:*** Medical aids proved to be the major cost driver. Major cost drivers in the treatment of sleep apnoea, however, showed a difference between men and women. The average annual health insurance costs per patient was 34% higher in men.

PND19
PRODUCTIVITY LOSS AMONG CAREGIVERS OF PATIENTS WITH MS

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Objectives: To assess absenteeism and associated lost productivity costs among employed parents and spouses of patients with multiple sclerosis (MS). ***Methods:*** Adult (≥18 years of age) family caregivers of patients with ≥2 non-diagnostic medical claims (≥1 and <365 days apart) with an MS diagnosis from 1/1/2009 to 1/1/2017 were identified using IBM MarketScan® Commercial Claims and Health and Productivity Management Databases. The index date was the date of patient's first MS claim. Caregivers were included in the study if they had absenteeism (ABS) eligibility in any calendar year on or after the index date. The number of ABS hours and indirect costs were examined among the caregivers during the first calendar year after the index date. Indirect costs were calculated by multiplying missed work hours by the average hourly wage in 2017 ($26.47/hour, US Bureau of Labor Statistics). ***Results:*** A total of 2,709 family caregivers were identified (mean