

(hydrotherapy) was dominant compared to the control. **Conclusions:** Based on the best available evidence, the findings of this review suggest that physiotherapy interventions were CE and cost saving. However, it is important to note that among others the CE of the interventions was a function of the healthcare system, duration of intervention, patient compliance and price.

PMS20

COST EFFECTIVENESS OF VIRTUAL REALITY GAME VERSUS CLINIC BASED MCKENZIE EXTENSION THERAPY FOR CHRONIC NON SPECIFIC LOW BACK PAIN

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Background: Low-back pain (LBP) is a major public health problem globally and its direct and indirect healthcare costs are growing rapidly. Therefore, it is necessary to provide treatments that are cost-effective. Virtual reality involving the use of video games or non-game applications are alternatives to conventional face-to-face physical therapy for patients with LBP. The aim of this study was to assess the cost-effectiveness of Virtual Reality Game (VRG) compared to Clinic-based McKenzie therapy (CBMT) for chronic non-specific LBP. **Methods:** Patients with chronic non-specific LBP were randomised into either VRG (game version of the traditional McKenzie programme) or CBMT group. Patients' level of disability was assessed using Oswestry Disability Index (ODI) at week 4 and week 8. ODI was mapped to SF-6D to generate quality adjusted life years (QALYs) used for cost-effectiveness analysis. Resource use and costs were assessed based on rehabilitation services in Nigeria in 2018 from a healthcare perspective. Cost-effectiveness analysis which including the direct healthcare costs was conducted. Incremental cost per QALY was also calculated. **Results:** Forty six patients (VRG, n = 22; CBMT, n = 24) with the mean ($\pm$ SD) age of 32.6 $\pm$ (11.5) years for VRG and 48.8 $\pm$ (10.2) years for CBMT intervention completed in this study. The mean direct health costs per patient were USD106.0 and USD133.59 for VRG and CBMT, respectively. The mean quality adjusted life years at week 4 and week 8 were (VRG, 0.0574 $\pm$ (0.002); CBMT, 0.0548 $\pm$ (0.002)); and (VRG; 0.116 $\pm$ (0.002); CBMT; 0.114 $\pm$ (0.004)), respectively. ICER showed that VRG arm was less costly and more effective than CBMT. **Conclusion:** The findings of this study suggests that VRG was cost saving for chronic non-specific LBP compared to CBMT. This evidence could guide policy makers, payers, and clinicians in evaluating VRG as a treatment option for people with chronic non-specific LBP.



PMS21

ANNUAL HEALTH INSURANCE TREATMENT COST OF INJURIES TO THE ELBOW AND FOREARM BASED ON ROUTINELY COLLECTED REAL-WORLD FINANCING DATA

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Objectives: Injuries to the elbow and forearm cause a significant burden. Our aim was to determine the annual health insurance treatment cost of injuries to the elbow and forearm in Hungary. **Methods:** Data were derived from the financial database of the Hungarian National Health Insurance Fund Administration (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, pharmaceuticals and medical aids. Patients with injuries to the elbow and forearm were identified with the following code of the International Classification of Diseases 10th revision: S50-S59. **Results:** In 2018, the Hungarian NHIFA spent 3.869 billion Hungarian Forints (HUF) on the treatment of patients with injuries to the elbow and forearm which equals to 14.3 million American Dollars (USD), or 12.1 million Euros (EUR). 40.8% of costs was spent on the treatment of male, while 59.2% on female patients. The highest patient numbers were in outpatient care: 58,986 men (47.4%), and 65,374 women (52.6%), in total 124,360 patients. Acute inpatient care (53.2% of total health insurance costs in men, 53.2% in women), outpatient care (41% in men, 40.3% in women) and general practice care (2.2% in men, 1.8% in women) were the main cost drivers, while all other forms of medical care amounted to 3.6% in men and 4.5% in women. Annual health care treatment cost per patient was 26,777 HUF (99 USD/84 EUR) in men and 35,034 HUF (130 USD/110 EUR) in women. **Conclusions:** Acute inpatient care was the major cost driver. Major cost drivers showed similar values in men and women. Average, annual health insurance costs per patient was 31% higher in women.



PMS22

ANNUAL HEALTH INSURANCE TREATMENT COST OF FEMORAL NECK FRACTURE BASED ON ROUTINELY COLLECTED, REAL-WORLD FINANCING DATA

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Objectives: Femoral neck fractures cause a significant burden for the individual and society. Our aim was to determine the annual health insurance treatment cost of femoral neck fracture in Hungary. **Methods:** Data were derived from the financial database of the Hungarian National Health Insurance Fund Administration (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, pharmaceuticals and medical aids. Patients with femoral neck fracture were identified with the following code of the International Classification of Diseases 10th revision: S7200. **Results:** In 2018, the Hungarian NHIFA spent 5.097 billion Hungarian Forints (HUF) on the treatment of patients with femoral neck fracture [18.86 million American Dollars (USD), or 15.99 million Euros (EUR)]. 29.0% of costs was spent on the treatment of male, while 71.0% on female patients. The highest patient numbers were in outpatient care: 4,261 men (31.3%), and 9,338 women (68.7%), in total 13,599 patients. Acute inpatient care (87.4% of total health insurance costs in men, 86.8% in women), chronic inpatient care (5.0% in men, 5.9% in women) and specialist home care (1.8% in men, 1.9% in women) were the main cost drivers, while all other forms of medical care amounted to 5.8% in men and 5.4% in women. Annual health care treatment cost per patient was 346,616 HUF (1,283 USD/1,078 EUR) in men and 387,687 HUF (1,435 USD/1,216 EUR) in women. **Conclusions:** Acute inpatient care was the major cost driver. There was a no significant difference in major cost drivers between men and women. Average, annual health insurance costs per patient was 12% higher in women than in men.



PMS23

RATE AND REIMBURSEMENT OF 1-LEVEL AND 2+LEVEL REOPERATIONS IN CERVICAL TOTAL DISC REPLACEMENT AND ANTERIOR CERVICAL DISCECTOMY AND FUSION

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Objectives: Published literature indicates that cervical total disc replacement (cTDR) may be associated with reduced reoperation rates versus anterior cervical discectomy and fusion (ACDF). This study evaluated commercial payment rates associated with reoperations of 1-level and 2+level cTDR and ACDF surgeries to assist in quantifying the economic benefit of cTDR. **Methods:** Using IBM MarketScan® Treatment Pathways Commercial Database, patients undergoing cTDR or ACDF between 2012 and October 31, 2018 were followed for six months to measure surgical reoperation occurrence and payment rates. A subset of patients experiencing surgical site infection were removed from the cohort to focus the analysis on mechanical-related failure modes. **Results:** This study included 11,740 patients undergoing cervical spine surgery (1-level: 5,365; 2+level: 6,375) with a mean age of 52.4 years. The majority of patients were female (52%). Excluding surgical site infections, reoperation surgeries within six months of the index procedure were reported in 6% (n=346) of 1-level procedures and 5% (n=303) of 2+level procedures. The median (IQR) commercial payments associated with 1-level reoperations were \$29,833 (Q1: \$23,139; Q3: \$40,549) and 2-level reoperations were \$35,086 (Q1: \$23,849; Q3: \$44,341). **Conclusions:** Reoperations following cTDR and ACDF impact patient outcomes and add cost to the healthcare system. Innovative devices which reduce the incidence of cervical spine reoperations will offer demonstrable economic value to patients, healthcare providers, and payers.

PMS24

ANNUAL HEALTH INSURANCE TREATMENT COST OF FRACTURE OF SKULL AND FACIAL BONES BASED ON ROUTINELY COLLECTED REAL-WORLD FINANCING DATA

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Objectives: Our aim was to determine the annual health insurance treatment cost of fracture of skull and facial bones in Hungary. **Methods:** 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, pharmaceuticals and medical aids. Patients with fracture of skull and facial bones were identified with the following code of the International Classification of Diseases 10th revision: S02. **Results:** In 2018, the Hungarian National Health Insurance Fund Administration spent 946.05 million Hungarian Forints (HUF) on the treatment of patients with fracture of skull and facial bones [3.50 million American Dollars (USD), or 2.96 million Euros (EUR)]. 66.9% of costs was spent on the treatment of male, while 33.1% on female patients. The highest patient numbers were in outpatient care: 11,306 men (57.7%), and 8,284 women (42.3%), in total 19,590 patients. Acute inpatient care (78.8% of total health insurance costs in men, 68.6% in women), CT diagnostics (9.9% in men, 14.6% in women) and outpatient care (8.4% in men, 12.1% in women) were the main cost drivers, while all other forms of medical care amounted to 3.0% in men and 4.7% in women. Annual health care treatment cost per patient was 56,007 HUF (207 USD/176 EUR) in men and 37,764 HUF (140 USD/118 EUR) in women. **Conclusions:** Acute inpatient care was the major cost driver. There was a difference in major cost drivers between men and women. Average, annual health insurance costs per patient was 48% higher in men than in women.

