

prevalence in 100,000 among men was 911.6 patients, among women 818.0 patients, in total 862.7. Average age of patients in outpatient care was 51.5 years, there was a significant difference (13.2 years) between men (45.0 years) and women (58.2 years). As regards sex distribution in outpatient care: 46.1% of patients were men, 53.9% were women, in general practice care men accounted for 54.7%, women for 45.3% of patients. **Conclusions:** Prevalence of injuries to the shoulder and upper arm was 1.11-times higher among men than among women. Prevalence in outpatient care was higher among men, in general practice care it was higher among women. Average age of women was 13.2 years higher than that of men.

PMS55

EPIDEMIOLOGICAL DISEASE BURDEN OF INJURIES TO THE KNEE AND LOWER LEG BASED ON ROUTINELY COLLECTED HEALTH INSURANCE CLAIMS DATA

Varga V,¹ Molics B,² Gazsó T,¹ Kajos L,¹ Szóts B,¹ Danku N,¹ Endrei D,¹ Horváth L,¹ Sebestyén A,¹ Boncz I¹

¹University of Pécs, Pécs, Hungary, ²University of Pécs, Pécs, BA, Hungary

Objectives: Injuries to the knee and lower leg cause considerable difficulties in everyday self-care of patients. The aim of our study was to determine the epidemiological disease burden of injuries to the knee and lower leg. **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 patient numbers, case numbers and prevalence of care utilisation per 100,000 population according to age groups and sex. The following health insurance treatment categories were included into our study: general practice care, home care, in- and outpatient care, medical imaging, laboratory diagnostics, drugs and medical aids. Patients with injuries to the knee and lower leg were identified with the following code of the International Classification of Diseases 10th revision: S 80-89. **Results:** The highest national patient numbers were in outpatient care: 106,058 men and 106,234 women, in total 212,292 patients, followed by general practice care (45,330 men and 42,009 women, in total 87,339), and use of medical aids (12,847 men and 12,969 women, in total 25,816). Based on patient numbers in outpatient care, prevalence in 100,000 among men was 2,270.3 patients, among women 2,080.3 patients, in total 2,171.0. Average age of patients in outpatient care was 44.8 years, there was a significant difference (9.5 years) between men (40.0 years) and women (49.5 years). As regards sex distribution in outpatient care: 50% of patients were men, 50% were women, in acute inpatient care men accounted for 53.6%, women for 46.4% of patients. **Conclusions:** Prevalence of injuries to the knee and lower leg was the same among men and women in outpatient care. In acute inpatient care, prevalence was slightly higher among men. The average age of women was 9.5 years higher than that of men.



PMS56

EPIDEMIOLOGICAL DISEASE BURDEN OF FRACTURE OF SKULL AND FACIAL BONES BASED ON ROUTINELY COLLECTED HEALTH INSURANCE CLAIMS DATA

Boncz I,¹ Kivés Z,¹ Molics B,² Gazsó T,¹ Kajos L,¹ Szóts B,¹ Endrei D,¹ Horváth L,¹ Sebestyén A,¹ Danku N¹

¹University of Pécs, Pécs, Hungary, ²University of Pécs, Pécs, BA, Hungary

Objectives: Accident-related fractures of the skull and facial bones are the most common pathological changes to the skull. The aim of our study was to determine the epidemiological disease burden of fracture of skull and facial bones. **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 patient numbers, case numbers and prevalence of care utilisation per 100,000 population according to age groups and sex. The following health insurance treatment categories were included into our study: general practice care, home care, in- and outpatient care, medical imaging, laboratory diagnostics, drugs 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:** The highest national patient numbers were in outpatient care: 11,306 men and 8,284 women, in total 19,590 patients, followed by CT diagnostics (4,158 men and 3,407 women, in total 7,565 patients), and general practice care (3,718 men and 2,349 women, in total 6,067). Based on patient numbers in outpatient care, prevalence in 100,000 among men was 242.0 patients, among women 162.2 patients, in total 200.3. Average age of patients in outpatient care was 46.1 years, there was a significant difference (11.5 years) between men (40.3 years) and women (52.8 years). As regards sex distribution in outpatient care: 57.7% of patients were men, 42.3% were women, in CT diagnostics men accounted for 55.0%, women for 45.0% of patients. **Conclusions:** Prevalence of fracture of skull and facial bones was 1.49-times higher among women than among men. Average age of women was 11.5 years higher than that of men. High patient numbers of CT diagnostics are attributable to the fact CT is the primary diagnostic method.



PMS57

EPIDEMIOLOGIC MODELING TO GUIDE PAYER DECISIONS IN RARE DISEASES: A CASE STUDY OF DUCHENNE MUSCULAR DYSTROPHY IN THE UNITED STATES

Klimchak AC,¹ Johnston KM,² Szabo SM,² Osenenko KM,² Gooch KL¹

¹Sarepta Therapeutics, Cambridge, MA, USA, ²Broadstreet Health Economics & Outcomes Research, Vancouver, BC, Canada



Objectives: Payers require a thorough understanding of patient population size to make evidence-based decisions regarding treatment coverage. For rare diseases, this information is not always readily available; often epidemiologic estimates are reported as a wide range of values or may be derived from populations of limited relevance to a payer's target population. Epidemiological models can combine available data with necessary assumptions to customize estimates of population size. The objective is to describe an interactive model to estimate the number of Duchenne muscular dystrophy (DMD) patients in the United States (US) relevant to different stakeholders. **Methods:** A model was developed to estimate DMD prevalence by age, diagnosis, and ambulatory status. Two approaches for birth incidence input were explored: (1) a systematic review to identify published estimates and (2) numeric calibration using sum-of-squared errors to align model-predicted estimates with published age-specific prevalence data. Published data describing DMD diagnosis, mortality, and the US male population by age were identified. Diagnosis and mortality data were combined via state-transition modeling to estimate age-specific prevalence based on birth incidence from both approaches. A customized interface was developed to generate results for a given plan size and demographic distribution, and sensitivity analyses were conducted across ranges of uncertain values. **Results:** Patient population sizes estimated using the incidence back-calculation approach were well-aligned with published registry data and birth incidence values. The model matched reported trends in prevalence by age, reflecting typical patterns of diagnosis and mortality, and extended these results to plan-specific projections. **Conclusions:** Customized interactive epidemiological models are valuable tools to synthesize available information for rare diseases and present results needed by payers. Model outputs can be used in budget impact analyses and other economic assessments. While this example is specific to DMD, this methodology could be applied for developing evidence-based prevalence tools for other rare diseases.

PMS58

EPIDEMIOLOGICAL DISEASE BURDEN OF INJURIES TO THE ELBOW AND FOREARM BASED ON ROUTINELY COLLECTED HEALTH INSURANCE CLAIMS DATA

Molics B,¹ Szóts B,² Kivés Z,² Gazsó T,² Varga V,² Kajos L,² Endrei D,² Horváth L,² Sebestyén A,² Boncz I²

¹University of Pécs, Pécs, BA, Hungary, ²University of Pécs, Pécs, Hungary

Objectives: Injuries to the elbow and forearm cause serious difficulties for patients with everyday self-care. The aim of our study was to determine the epidemiological disease burden of injuries to the elbow and forearm. **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 patient numbers, case numbers and prevalence of care utilisation per 100,000 population according to age groups and sex. The following health insurance treatment categories were included into our study: general practice care, home care, in- and outpatient care, medical imaging, laboratory diagnostics, drugs 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:** The highest national patient numbers were in outpatient care: 58,986 men and 65,374 women, in total 124,360 patients, followed by general practice care (18,732 men and 20,588 women, in total 39,320 patients), and inpatient care (4,173 men and 5,852 women, in total 10,025). Based on patient numbers in outpatient care, prevalence in 100,000 among men was 1,262.7 patients, among women 1,280.1 patients, in total 1,271.8. Average age of patients in outpatient care was 43.3 years, there was a significant difference (12.9 years) between men (36.5 years) and women (49.5 years). As regards sex distribution in outpatient care: 47.4% of patients were men, 52.6% were women, in general practice care men accounted for 47.6%, women for 52.4% of patients. **Conclusions:** There was no significant difference in prevalence between men and women. Average age of women was 12.9 years higher than that of men.



PMS59

EPIDEMIOLOGICAL DISEASE BURDEN OF PETROCHANTERIC FRACTURE BASED ON ROUTINELY COLLECTED HEALTH INSURANCE CLAIMS DATA

Boncz I,¹ Gazsó T,¹ Kivés Z,¹ Kajos L,¹ Varga V,¹ Danku N,¹ Endrei D,¹ Horváth L,¹ Molics B,² Sebestyén A¹

¹University of Pécs, Pécs, Hungary, ²University of Pécs, Pécs, BA, Hungary

Objectives: Petrochanteric fractures cause excessive burden for elderly, weak patients with limited mobility and thus significantly influence quality of life. The aim of our study was to determine the epidemiological disease burden of petrochanteric fracture. **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 patient numbers, case numbers and prevalence of care utilisation per 100,000 population according to age groups and sex. The following health insurance treatment categories were included into our study: general practice care, home care, in- and outpatient care, medical imaging, laboratory diagnostics, drugs and medical aids. Patients with petrochanteric fracture were identified with the following code of the International Classification of Diseases 10th revision: S7210. **Results:** The highest national patient numbers were in outpatient care: 2,845 men and 6,312 women, in total 9,157 patients, followed by acute inpatient care (2,388 men and 5,858 women, in total 8,246), and general practice care (1,699 men and 3,735 women, in total 5,434). Based on patient numbers of acute in-patient care, prevalence in 100,000 among men was 51.1 patients, among women 114.7 patients,

