THE SOCIETAL BURDEN OF OSTEOPOROSIS
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OBJECTIVE: In osteoporosis the bone mass is decreased, thereby increasing the risk of fractures. Common osteoporotic fractures include those at the hip, spine and forearm. Fractures are a burden to the society; both in terms of costs, morbidity and mortality. The main objective of this study was to investigate some important aspects of the burden of osteoporosis in Sweden in a health economic perspective. METHODS: The study used a combined incidence/prevalence bottom-up approach to estimate the total annual burden of osteoporosis in Sweden. The burden was assessed in a societal perspective including medical care costs, non-medical care costs, informal care and indirect costs. Moreover, the value of quality-adjusted life-years (QALYs) foregone because of fractures was included in the total burden estimation. RESULTS: The total annual fracture cost was estimated at MSEK 6547, which is about 3.2% of the total health care costs in Sweden. Community care was the most important cost category accounting for 66% of the total annual cost followed by medical care costs (31%), informal care (2%) and indirect costs (1%). By combining the annual value of QALYs foregone (MSEK 10,354) and the annual fracture costs the total annual societal burden of osteoporosis in Sweden was estimated at MSEK 16,901. Assuming no changes in the age-differentiated fracture risk the burden of osteoporosis was projected to increase to MSEK 26,301 in year 2050. CONCLUSIONS: This study shows that the societal burden of osteoporosis in Sweden is higher than previously perceived. The burden of osteoporosis is substantial and has to be acknowledged as an important health problem. Osteoporosis related fractures do not only lead to high medical care costs but also lead to high community care costs.

COMPARISON OF THE BURDEN OF ILLNESS OF DISPLACED AND UNDISPLACED FEMORAL NECK FRACTURE AFTER REDUCTION IN INTERNAL FIXATION
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OBJECTIVES: The aim of the study is to compare the burden of displaced and undisplaced medially displaced femoral neck fracture treated with primary osteosynthesis in patients under 60 years on 2 years follow up. METHODS: Data derive from the financial database of the National Health Insurance Fund Administration and based on the S7200 code (femoral neck fracture) of the International Classification of Diseases (ICD) tenth revision and the surgical codes of the Hungarian Homogenous Disease Groups related to primary treatment of fracture in 2000. The patients with polytrauma were excluded from the study. During the 2 years follow up we analysed the health insurance costs, ratio of further treatments, the ratio of multiple treatment and mortality, while during the 3 years follow up we analysed the 50–100% impaired ability to work. The health insurance costs include the reimbursement of acute and chronic inpatient care, outpatient care and sick-pay costs. Exchange rate: 1 EUR = 253,23 HUF. RESULTS: Altogether 413 patients were included into the study, 154 undisplaced and 259 displaced femoral neck fracture. Undisplaced fracture: average cost per patient 1993 EUR for all the patients, 4074 EUR for patients with complications. The ratio of further treatment is 12.9% (secondary prosthesis 6.5%), ratio of multiple treatment 2.6%. Ratio of patients with impaired ability to work was 21.4% on average. Displaced fracture: average cost per patient 2249 EUR for all the patients, 4718 EUR for patients with complications. The ratio of further treatment is 21.6% (secondary prosthesis 12.4%), ratio of multiple treatment 4.6%. Ratio of patients with impaired ability to work was 25.1% on average. CONCLUSION: In case of using osteosynthesis after displaced femoral neck fracture, the ratio of further treatment (secondary prosthesis and multiple treatments), impaired patients and the costs are significantly higher.
and treating osteoporosis in postmenopausal women (PW). In addition, these are the first option of treatment (the Spanish Bone and Mineral Society -SEIOMM) in the Clinical Practice Guidelines (GPC) (2003). Here, we analyse the evolution of consumption of bisphosphonates and raloxifene in Spanish PW (over 50), during the period 1999 to 2004. METHODS: A retrospective analysis of the consumption was made, selecting the four drugs for osteoporosis in PW treatment. Paget's disease data were not included. Drug consumption data were provided by the Ministry of Health and Consume Database. The figures are presented as number of dispensed units (standard package), as numbers of DDDs / 1000 PW / day, according to the ATC/DDD system, Index 2006, and as Euros (Price to Customer tax-free) / Dispensed DDDs / 1000 PW / day. Demographics were consulted in the Spanish INE Database. RESULTS: The number of dispensed units of Alendronate, Risedronate and Raloxifene between 2003 and 2004 were 43.41%, 126.62%, and 19.75%, respectively. Only Etidronate decreased, but only a 9.64%. From among the results to emphasize the figures of DDDs / 1000 PW / day between 2003 and 2004 that show also this increase (15.87%, 60.18%, and 1.45% for Alendronate, Risedronate and Raloxifene, respectively). Alendronate presented the higher cost in 2004 (£12.297,15/DDDs/1000 PW/day. CONCLUSIONS: The indicators used in this study have permitted establish that dispensing data of osteoporosis in PW treatment financed by Spanish NHS had a significant increase in 2004. These data coincide with the implement of the Spanish GPC.

THE DIFFUSION OF NEW DRUG IN TAIWAN MEDICAL CARE UNDER NATIONAL HEALTH INSURANCE: THE CASE OF COX2
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OBJECTIVES: Adoption of new drug in medical care, a highly-regulated industry, is essential in terms of access to new treatment option and raise on health care expenditure. This study, using COX2 as example, is to examine the diffusion of new drug among hospitals of different characteristics. METHOD: The data were drawn from systematic random sample of NHI claim data in 1997 to 2001. We applied the Bass diffusion model to analyze the monthly number of each hospital's outpatient clinic visits with COX2. Bass diffusion model based on the initial time of purchase of product to explains the behavior of the diffusion of the product in the market: length to reach maximum monthly volume, maximum monthly volume, growth rate. RESULTS: The estimates of Bass diffusion model shows that the monthly numbers of outpatient clinic visits with COX2 prescription reached the stable maximum in the 92th month, 41 months after the introduction of COX2 on April of 2001. The length of growth period for reaching maximum volume varied with different accreditation level of hospital: academic medical center 38 months, metropolitan hospitals 43 months, local community hospitals 40 months, and physician clinics 51 months. The average of maximum volume for academic center was 76.17 outpatient visits, metropolitan hospitals 87.25 visits, local community hospitals 62.65 visits, and physician clinics 34.38 visits. Physician clinics has the fast growth rate (q = 0.1278), in contrast to the slowest of local community hospitals (q = 0.1159). CONCLUSION: Hospitals of different level vary in terms of adopting new drugs. Academic medical centers play the role of innovators.

THE ESTIMATION OF COST-EFFECTIVENESS THRESHOLDS PRIOR TO THE START OF LARGE CLINICAL STUDIES
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OBJECTIVES: Cost-effectiveness analyses are currently conducted after the conduct of expensive clinical trials. An approach was developed to estimate cost-effectiveness thresholds prior to clinical studies, comparable to statistical power calculations. METHODS: A new osteoporosis treatment was taken as example, with different scenarios of treatment efficacy and costs. Data on fracture and mortality risks were obtained from the General Practice Research Database. These risks were estimated individually by age, sex, fracture history, body mass index, smoking and other risk factors. EQ5D utilities were obtained from a UK national report (NICE) and outcomes were simulated over a 10-year period (5-year treatment), using a cost-acceptability ratio of £30k per QALY gained. RESULTS: The 5-year risk of osteoporotic fracture required to reach the cost-effectiveness threshold was 17.1% (95% confidence interval 15.0–19.3%) with a fracture efficacy of 0.50 at an annual cost of £1000. This was 6.1% (5.2–7.0%) with a cost of £250 and 3.7% (3.1–4.5%) with a cost of £100. With a fracture efficacy of only 0.80, these threshold risks were 34.7% (23.2–38.7%), 10.7% (8.3–14.5%) and 5.4% (3.8–7.8%), respectively. At a T-score of −2.5 and fracture efficacy of 0.80 and cost of £250, patients without a fracture history would require additional risk factors (with a relative rate of 2.5) in order to reach the threshold, while this would be reached by the average woman at age 83. However, with a cost of £1000, this threshold would only be reached at age 53 with additional risk factors with RR of 9.5 and at age 85 with RR of 3.0. CONCLUSION: Cost-effectiveness thresholds can be estimated prior to expensive clinical trials using high-quality health care databases. Similar to statistical power calculations, they can then be used to guide patient selection into the clinical trials, by providing information on the required minimum levels of risks.

QUALITY OF LIFE ACCORDING TO EQ-5D AFTER OSTEOPOROTIC HIP FRACTURE IN POLAND
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OBJECTIVES: To assess changes in health related quality of life (HRQoL) in patients with osteoporotic hip fracture in Poland using EQ-5D. METHODS: 104 patients (82 women and 22 men; mean age 80.1 years), hospitalized between March 2004 and March 2005, with osteoporotic hip fracture were included in a prospective clinical trial. The inclusion criteria was: age at least 60 years, low energy femoral neck fracture or pertrochanteric fracture of the femur and absence of severe cognitive dysfunction as measured by Hodkinson’s Abbreviated Mental Test Score. Quality of life was measured with descriptive part of Polish version of generic questionnaire EQ-5D. The reference European value set (BIOMED) was used. During the first 72 hours after hospitalisation, patients were asked to rate their HRQoL during the month before fracture. The follow-up took place at 10 days and 14 months after the injury. RESULTS: Eighty three patients were available at the final follow-up (11 were ceased and 10 lost to follow-up). Mean EQ-5D Index increased significantly 14