for Fosamax, Actonel, and Protelos, and from the European label for Bonviva. Costs of fractures were taken from the NICE review of Protelos and costs of the medications were taken from the MIMS listing from February, 2007. Utilities were obtained from the literature (Kanis, OI 2004:15:20–6). RESULTS: For patients 50 and older, zoledronic acid 5 mg dominated (i.e., more effective at lower cost) branded Fosamax, Actonel, and Protelos. For patients 70 and older, zoledronic acid 5 mg dominated Bonviva while at lower ages, it was more cost effective (ICER < $3,100/QALY gained). Incremental cost effectiveness ratios against calcium plus vitamin D for zoledronic acid 5 mg were around or below the usually referenced threshold of $20/K/QALY, ranging from $20,582/QALY at age 50 to $7,418/QALY at age 80. For the other treatments, the ranges of ICER versus calcium plus vitamin D were $36,095/QALY to $12,542/QALY for Fosamax, $53,916/QALY to $22,261/QALY for Actonel, $50,840/QALY to $26,179/QALY for Protelos, and $158,479/QALY to $57,583/QALY for Bonviva. CONCLUSION: For patients aged 50 and above with a BMD T-score of −2.5, zoledronic acid 5 mg either dominates or is cost-effective compared with Fosamax, Actonel, Protelos, and Bonviva.

Comparative Analysis of the Cost-Effectiveness of Teriparatide [RHPTH(1–34)] versus RHPTH(1–84) Borgström F1, Strom O2, Kutahov A3, Marin P4, Ljunggren O4
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OBJECTIVES: The purpose of the study was to assess the cost-effectiveness of the recombinant human PTH (1–34) (teriparatide) (Forsteo, Eli Lilly) and recombinant human PTH (1–84) (Preoact, Nycomed) in subjects with similar clinical characteristics to patients with osteoporosis in normal Swedish clinical practice. METHODS: The cost-effectiveness was estimated in an existing Markov cohort osteoporosis model using 6-month cycles and a lifetime horizon. The model was populated with Swedish epidemiological and economic data. To reflect the normal clinical practice, the simulated subjects corresponded to the Swedish cohort in the European Forsteo Observational Study (EFOS) (mean age 72 years, total hip T-score −2.7, 3.5 prevalent vertebral fractures). The cost per QALY gained of both teriparatide and PTH (1–84) was estimated compared to no treatment based on efficacy estimates from phase III pivotal clinical trials of each drug. For teriparatide, the risk reduction for new vertebral fractures was 65% and for non-vertebral fragility fractures 53%, while PTH (1–84) reduced the risk of vertebral fractures by 58% and showed no difference in non-vertebral fracture risk reduction. An indirect cost-effectiveness comparison between the two regimens was also attempted. The annual drug cost of teriparatide was $2,740, while at lower ages, it was more cost effective (ICER < $3,100/QALY gained). Incremental cost effectiveness ratios against calcium plus vitamin D for zoledronic acid 5 mg were around $20/K/QALY, ranging from $20,582/QALY at age 50 to $7,418/QALY at age 80. For the other treatments, the ranges of ICER versus calcium plus vitamin D were $36,095/QALY to $12,542/QALY for Fosamax, $53,916/QALY to $22,261/QALY for Actonel, $50,840/QALY to $26,179/QALY for Protelos, and $158,479/QALY to $57,583/QALY for Bonviva. CONCLUSION: For patients aged 50 and above with a BMD T-score of −2.5, zoledronic acid 5 mg either dominates or is cost-effective compared with Fosamax, Actonel, Protelos, and Bonviva.

Abstracts

Cost-of-Illness Study of Hip Fracture Among Korean Elderly Women: Incidence-Based Approach Kang HY1 Park S2, Kang DR3, Kim JY4, Chang YH5, Choi WJ6, Moon SH7, Yang KH8, Park JY9, Kwon SY4
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OBJECTIVES: To estimate the economic burden of patients with osteoporotic hip fracture among Korean women. METHODS: All claims records of Korean National Health Insurance for women 50 years of age or older with a diagnosis of hip fracture from 2002 to 2004 were identified. The first 6-month period was set to be a ‘window period,’ such that patients were defined as incident cases if their first record of fracture visit or admission was observed after June 30, 2002. We excluded patients with multiple fractures, patients with the records of high-cost diseases, such as cancer, and patients without a record of a diagnosis or prescription for osteoporosis. For each patient, we cumulated the claims amount of the first fracture visit or admission and follow-up treatments for 2 years after the incidence of fracture. Also, to investigate out-of-pocket costs outside the health care institutions, face-to-face interviews were conducted with 101 patients from 4 general hospitals who had experienced a hip fracture at least 6 months before the time of the interview. The total cost for fracture was the sum of the direct health care costs, transportation costs for visits to hospitals, and caregivers’ time cost spent hospital or outpatient visits. RESULTS: A total of 22,247 osteoporotic hip fracture patients were identified during 2.5 years. For the first year of fracture, patients had an average of 3.28 visits and 0.97 admissions, whereas 0.35 visits and 0.02 admissions were recorded for the second year. The 2-year cost was US$8,538 and increased exponentially with age, $7,616 for 50–64 years old, $9,542 for 65–74, $10,077 for 75–84, and $10,118 for 85 or above. CONCLUSION: Exploring the economic burden of osteoporotic hip fracture will motivate policy makers and clinicians to adopt effective treatment options for osteoporosis to prevent the incidence of fracture among elderly population.

Fall-Related Hospitalization and Facility Costs Among Residents Receiving Long-Term Care Carroll NV1, Delaunette JC1, Cox FM2, Narayanan S3
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OBJECTIVES: To estimate hospital and facility costs resulting from falls in long term care facilities (LTCFs). METHODS: The study employed a non-randomized, before and after with comparison group design. Propensity scoring and matching were used to control for baseline differences between fallers and non-fallers. A multi-facility long-term care company provided data from residents institutionalized between January 1, 2002 and October 30, 2004. Data included Minimum Data Set (MDS) observations, Resource Utilization Group (RUG) classifications, and demographics. An index date was assigned to each resident to identify pre- and post-periods. The index date was defined as the date of the first fall for fallers. The index date was assigned to non-fallers such that the time in the pre-period was equal for fallers and non-fallers. Hospital costs were estimated from MDS measures of the numbers of hospitalizations in each period and a
mean fall-related hospital reimbursement of $14,769. LTCF costs were estimated from RUG classifications and associated payment rates. Total reimbursement per resident per year (PRPY) was calculated as the sum of annualized LTCF and hospital reimbursement. Fall-related costs were estimated as the difference in changes in reimbursement between groups from pre- to post-periods.

RESULTS: The matched sample included 1130 fallers and 1130 non-fallers. Fallers had substantially more fractures and hospitalizations in the post-period than non-fallers. The sum of LTCF and hospital costs increased $4722 PRPY for fallers from pre- to post-periods; non-fallers’ costs decreased by $1,537 PRPY. The difference in changes—$6,259 (95% CI = $2,034 to $10,484) PRPY—represents fall-related costs. About 60% of the difference was attributable to higher hospitalization costs for fallers. In addition, fallers were more likely to be discharged to hospitals or to die.

CONCLUSION: Falls in LTCFs result in substantial costs, primarily due to higher rates of fractures and hospitalizations.

OSTEOPOROSIS—Health Care Use & Policy Studies

POS12
USE OF OSTEOPOROSIS MEDICATIONS FOLLOWING A FRACTURE
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OBJECTIVES: To estimate the proportion of patients who receive pharmacologic treatment for osteoporosis following an osteoporotic fracture and to identify factors that determine which patients receive treatment.

METHODS: Data were taken from the Medical Expenditures Panel Survey (MEPS) for 2001–2003. Women who reported a wrist, vertebral, or hip fracture after the age of 50 years were identified. Prescription data were assessed for these subjects and two groups were identified: those who received pharmacologic treatment following a fracture and those who did not. Using Andersen’s Behavioral Model of Health Services Utilization, two categories of variables were examined to determine factors related to treatment: characteristics of the health delivery system and characteristics of the population at risk.

RESULTS: The final sample consisted of 129 subjects. This represented an estimated 1,238,086 women with a history of osteoporotic fracture during 2001 to 2003 in the civilian, female, non-institutionalized U.S. population. Of these, 38% received treatment. Those treated were most likely to receive either hormone therapy or bisphosphonates. The only variable that was significantly different (p < 0.05) between those treated and not treated was type of insurance coverage; patients covered by a private HMO were more likely to receive pharmacologic treatment. A different relationship between products was found (HR = 1.09 95% CI = (1.08,1.10) using 30-day gap; HR = 1.05 95% CI = (1.03,1.06) using 45-day gap).

CONCLUSION: It is important to consider the allowable gap, in relation to dosing frequencies, when interpreting results from persistence measures.

OSTEOPOROSIS—Patient Reported Outcomes

POS14
COMPARISON OF SF-6D AND EQ-5D UTILITIES IN OSTEOPOROTIC HIP FRACTURE PATIENTS
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OBJECTIVES: To compare SF-6D and EQ-5D in both, absolute values and sensitivity to change over time, in osteoporotic hip fracture patients in Poland.

METHODS: Data were extracted from prospective study on outcomes of osteoporotic hip fractures in Poland (PolHipQol study). Eligible patients had to be 60 years or more, have low energy femoral neck fracture or pertrochanteric fracture of the femur, absence of severe cognitive dysfunction (measured by Hodkinson’s Abbreviated Mental Test Score) and both SF-36 and EQ-5D post fracture measurements available. SF-36 scores were translated into SF-6D utilities using the algorithm developed by Brazier et al. The EQ-5D utilities were based on the European VAS value set. The correlations between preference measures were assessed using Spearman’s rank correlation coefficient. Sensitivity to change over one year was evaluated with the standardized response mean (SRM).

RESULTS: Post fracture data of 65 patients (mean age 77.8; 54 women) and one year follow-up data of 51 patients were available (9 patients were ceased and 5 lost to follow-up). Mean SF-6D utility decreased from 0.65 (SD 0.13) before fracture (recall method) to 0.49 (0.10) after fracture, and then increased to 0.55 (0.12) at the final follow-up. Mean EQ-5D utility decreased from 0.73 (0.22) before fracture to 0.24 (0.17) after fracture, and then increased to 0.47 (0.23) at the final follow-up. SF-6D and EQ-5D utilities...