RESULTS: The OPFx cohort (n = 7626) and a 1:1 matched control group with osteoporosis, but without a fracture were identified. The OPFx cohort was 85.8% female, had an average age of 65, were 53.2% White and 11.1% Asian, and 48.9% were dual-eligible for Medicare. There were significant increases (all p < 0.05) from the pre-period to study-period for this cohort in the proportion that had at least one hospital admission (12.0% vs. 22.3%), nursing home admission (8.7% vs. 18.2%) or ER visit (28.2% vs. 45.9%); in contrast, the control cohort had very little variation in utilization. The regression-adjusted incremental cost in the year following fracture was estimated at $4007 per osteoporosis patient. The estimated incremental cost was $3370 for the subset of patients who were dual-eligible. CONCLUSIONS: Osteoporosis-related fractures exhibit a tremendous humanistic and economic toll in patients. The economic burden of OPFx on state Medicaid budgets is substantial. Preventative strategies for avoiding fractures could help ameliorate some of this burden.

ECONOMIC IMPACT OF CARDIOVASCULAR EVENTS IN NEWLY DIAGNOSED TYPE-2 DIABETES PATIENTS

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OBJECTIVES: To estimate impact of cardiovascular events on annual health care costs in newly diagnosed type-2 diabetes patients. METHODS: Patients with newly diagnosed type-2 diabetes (index event) between January, 1999 and December, 2001 were identified from an employer claims database using ICD-9 codes. In the absence of a diagnosis, patients were included if they had at least two claims for oral hypoglycemics in a six-month period. A cardiovascular event was defined as emergency/inpatient claims for one or more of 16 cardiovascular complications identified. Patients with evidence of a cardiovascular event in the 12 months preceding the index event were excluded. Costs were adjusted to 2002 dollars and then annualized. A log-transformed model was developed to estimate the impact of cardiovascular events on annual health care costs. Patient demographics, co-morbidities, concomitant medications and treatment groups were used as covariates. RESULTS: Based on the selection criteria, the study cohort included 57,563 newly diagnosed type-2 diabetes patients. The average patient age was 59.5 years and 50.7% were female. The mean adjusted annual health care cost per patient was $11,994.33. Annual cost was distributed across emergency room (2.49%), outpatient (45%), inpatient (29.75%) and prescription drug (22.54%) costs. Annual costs were significantly greater in women (17.1%; p < 0.001) and significantly lower in absence of any complications (−14.3%; p < 0.001). About 12% of the type-2 diabetes patient population reported one or more cardiovascular events. The mean number of cardiovascular events per patient per year was 0.067. A cardiovascular event contributed to a significant increase (129%; p < 0.001) in annual costs. The average annual cost per patient ranged from $9,507 (zero CV event) to $65,130 (5+ CV events). CONCLUSIONS: Cardiovascular events contribute significantly to health care costs in the type-2 diabetes patients.

IMPACT OF ESTIMATION TECHNIQUE ON MEDICAL COST ESTIMATES FOR OVERACTIVE BLADDER TREATMENTS

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OBJECTIVE: To evaluate the sensitivity of overactive bladder (OAB) medical cost estimates to estimation technique. METHODS: Data were from de-identified medical and pharmacy claims of patients aged ≥18 years enrolled in a large US health plan. Inclusion criteria were: ≥1 claim with OAB-related ICD-9-CM codes recorded between January 1, 2001 and December 31, 2002; initiation of immediate-release oxybutynin (OXY IR), extended-release OXY (OXY ER), or extended-release tolterodine (TOL ER); and continuous health plan coverage for six months before and 12 months after treatment initiation. Models were based on logged 12-month medical costs, with treatment, sex, age, geographic region, baseline costs, and comorbidities as covariates. Estimation techniques compared were ordinary least squares (OLS) with smearing estimator, treatment regressions estimating the correlation between cost and treatment, and two-stage instrumental variables (IV) regressions. Selectivity-corrected models were estimated for OXY IR and OXY ER, with TOL ER as the referent. RESULTS: Association of treatment with cost varied with estimation technique. Comparing costs of TOL ER and OXY ER, coefficients were OLS, 0.582 (t = 1.86, p = 0.063); treatment regression, 1.108 (Z = 3.93, p < 0.001); IV regression, 1.878 (Z = 3.27, p < 0.001). A negative correlation between treatment and cost (ρ = −0.3842, p < 0.001) suggested that OLS estimates underestimated cost differences between TOL ER and OXY ER therapies. OXY ER patients had one-year predicted medical costs 191% higher (treatment regression) or 455% higher (IV regressions) than did TOL ER patients. The treatment regression correlation between the TOL ER and OXY IR treatment groups was significant and negative, suggesting that OLS also underestimated differences in cost between those cohorts. Treatment regression analysis revealed that costs for OXY IR patients were 48% higher than those for TOL ER patients. CONCLUSIONS: Failing to adjust for selection bias when comparing OAB treatment costs may lead to biased estimates of cost differences between therapies.

COST-UTILITY OF CATHETER ABLATION FOR FIRST-LINE TREATMENT OF ATRIAL FLUTTER

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OBJECTIVE: Atrial flutter (AF) is a prevalent arrhythmia among the elderly. While numerous clinical studies have shown the safety and efficacy of cardiac ablation, the first-line approach still varies among physicians. The study objective is to assess the cost-utility of catheter ablation as first-line treatment of typical isthmus dependent AF. METHODS: The incremental cost-effectiveness of catheter ablation relative to cardioversion and drug therapy was analyzed over various time horizons up to five years using a decision analytic Markov model (DATA 4.0™, TreeAge Software Inc.). Costs were based on a third party payer’s perspective using 2004 Medicare reimbursement schedules and discounted average wholesale drug prices. Model parameters, adverse event rates, and utility weight estimates were obtained from published clinical trials. Costs and utilities were discounted at 3% annually and sensitivity analyses were performed. The model analyzed the outcomes and resource utilization of a hypothetical cohort of patients with typical isthmus-dependent AF. RESULTS: Ablation consistently produced greater quality-adjusted life years (QALYs) compared to cardioversion and drugs in analyses of one to five years (0.78 to 3.57 vs. 0.66 to 2.93 QALYs). While initial treatment costs are higher for ablation compared to cardioversion and drug therapy, ablation