objective of this research is to estimate current and future burden of this condition using the UK as an example. METHODS: Age and sex related prevalence rates have been applied to current and forecast population data to estimate future prevalence. A published assessment of patient costs is used to derive an estimate of economic burden. RESULTS: Our analysis indicates that 4.7 million people are estimated to have OAB in the UK. Although few males are treated for this disease, male prevalence is estimated to account for up to 45% of the total (treated and untreated) OAB population. UK government population forecasts for 2020 imply a 27% growth in OAB prevalence with male prevalence increasing faster than that of females. Using published data for average annual patient costs for OAB patients, the current cost burden of OAB in the UK is estimated to exceed £800 m per annum. CONCLUSIONS: OAB is a highly prevalent condition imposing a substantial economic burden, which will increase with demographic shifts towards an aging population. If the prevalence of OAB risk factors including diabetes, smoking, and UTIs increases over time, then it is reasonable to expect that age related OAB prevalence will increase with time. Our forecast prevalence may therefore under-estimate future burden because our analysis assumes that age related prevalence is constant over time. Assuming constant costs per patient, the economic burden will increase in line with our prevalence forecasts. Given that many sufferers, especially males, do not currently seek treatment, the future cost burden may also have been underestimated.

THE COST-EFFECTIVENESS OF SIROLIMUS WITH CYCLOSPORIN WITHDRAWAL VERSUS LOW DOSE SIROLIMUS AND CONTINUED CYCLOSPORIN WHEN INITIATED WITHIN FOUR MONTHS OF RENAL TRANSPLANTATION
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OBJECTIVES: In Australia, sirolimus is indicated where withdrawal of cyclosporin (CsA) is appropriate and intended within four months of renal transplantation. In one clinical trial, patients randomized three months after transplantation experienced significantly lower nephrotoxicity and serum creatinine (SC) with sirolimus and CsA withdrawal compared to a combined low-dose sirolimus and CsA regimen. The long-term cost-effectiveness of sirolimus was estimated in a cost-utility analysis based on this trial. METHODS: A Markov model was used to estimate sirolimus’ impact on health outcomes and direct costs to the Australian health system for a patient’s lifetime. Graft survival rates were derived from the clinical trial data (years 1–3), extrapolated from 6-month SC using Australia and New Zealand Dialysis and Transplant Registry (ANZDATA) estimates (years 4–6) and assumed an exponential decay function (years 7+). Probabilities of regraft, acute rejection and death were derived from the clinical trial and ANZDATA data. Quality-adjusted life years (QALYs) were the product of years with a functioning or nondysfunctional graft and time trade-off derived utilities for those health states. Resource consequences included immunosuppressants and inpatient and outpatient services, and were verified by a panel of clinical experts. Estimated costs were mean national costs to the Australian health system. RESULTS: With CsA withdrawal, the estimated lifetime cost of immunosuppressants is $61,804 greater, the cost of events $35,333 lower, and 0.447 additional QALYs are accrued (per-patient means). The base case cost per additional QALY gained over combination therapy is $59,259 and most sensitive to the cost and disutility associated with dialysis. CONCLUSIONS: Sirolimus is associated with greater SC reduction than CsA and is thereby expected to lead to higher rates of graft and patient survival. It is estimated that with CsA withdrawal, sirolimus will reduce lifetime health care costs, increase quality-adjusted survival, and is potentially cost-effective for recently transplanted patients.

THE RELATIONSHIP BETWEEN COST OF CARE AND COMORBIDITY IN CHRONIC KIDNEY DISEASE
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OBJECTIVES: Previous analyses have shown that the cost of managing chronic kidney disease (CKD) increases with worsening disease. In this study, we were interested in the relationship between cost of care, CKD and comorbidities (proteinuria, coronary artery disease, congestive heart failure (CHF), diabetes mellitus, hypertension, anemia, and hyperlipidemia). METHODS: Cases were >17 years of age, and had a GFR (estimated by MDRD) greater than 15 ml/min/1.73 m2 and less than 90 ml/min/1.73 m2 (the index GFR), followed by a second GFR below 90 ml/min/1.73 m2 at the first creatinine measurement that occurred at least 90 days later; controls were matched on age and gender. Four disease categories were established: Controls; 60–89 (GFR 2); 30–59 (GFR 3); and 15–29 (GFR 4). Subjects were followed for 1 year and costs were annualized and weighted by months of observation. Linear regression was used to predict costs as a function of disease category, controlling for comorbidities. RESULTS: We found that patients with early and mild chronic kidney disease (GFR 30–89) consume approximately $2000 more per year in medical care than their age- and sex-matched control patients without recognized kidney disease after adjusting for comorbid conditions, while those with severe disease (GFR 15–29) consume more than twice that amount. Of the comorbid conditions that we evaluated, anemia, congestive heart failure, and proteinuria were among the strongest independent predictors of total medical costs. These conditions also modified the total cost for each stage of chronic kidney disease. CONCLUSION: Patients with CKD have a greater total cost of care than age and gender matched controls, even after controlling for CKD-related comorbidities. Combined with increasing incidence of kidney disease, these data strongly argue the need for better understanding of cost-effective treatment programs in CKD.

A COST EVALUATION OF CYCLOPHOSPHAMIDE PLUS PREDNISONE VERSUS AZATHIOPRINE PLUS PREDNISONE FOR TREATMENT OF LUPUS NEPHRITIS
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OBJECTIVE: The best therapeutic approach to treating lupus nephritis (LN) remains contentious; therefore different therapeutic approaches have been embraced over the years. The purpose of this pharmacoeconomic decision analysis is to compare the use of intermittent intravenous cyclophosphamide plus prednisone versus oral azathioprine plus prednisone for the treatment of LN and to determine which regimen is more beneficial in terms of cost. METHODS: The third party payer perspective was used to estimate the costs of treating LN, after deciding to prescribe either regimen. Costs were obtained from various sources including primary literature and clinical trials. Analyses were based on actual costs for treatment of LN and...
include drug costs, drug administration costs, physician charges for monitoring, and cost for dialysis or kidney transplants for those progressing to ESRD. Costs were modified to 2003 US$ using the medical care component of the Consumer Price Index adjustment for inflation ratio, and discounted at 3%. Cost were calculated on a per patient basis and then annualized. Statistical comparisons of costs were done using a nonparametric Mann-Whitney U test. Sensitivity analyses were also performed.

RESULTS: Lupus nephritis patients receiving azathioprine plus prednisone had significantly lower overall treatment costs, demonstrating a $14,580 cost savings per patient over the 10-year evaluation period. The Mann-Whitney U test indicated that the azathioprine and cyclophosphamide arm costs $101,003.25 and $115,583.54, correspondingly were significantly different ($P = 0.0091, 95\% CI: $482, $2484). The mean difference between the treatment arms was $1453. Sensitivity analyses conducted on the drug costs, and the probability of discontinuation of cyclophosphamide did not change the results of the model.

CONCLUSIONS: The results indicate that azathioprine significantly reduced the total long-term costs to the third party payer. The decision analysis supports the use of azathioprine plus prednisone as induction therapy in the treatment of lupus nephritis.

PUK8

COST-EFFECTIVENESS ANALYSIS OF THE TREATMENT OF URINARY TRACT INFECTIONS IN A COLLEGE-AGE POPULATION

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OBJECTIVE: Uncomplicated urinary tract infections are a highly prevalent condition among college-age women. In addition, resistance to commonly used treatments is increasing. This study compares antibiotic cost-effectiveness at a college health clinic.

METHODS: Treatment encounters at the clinic were reviewed for prescribing and effectiveness data. Cost estimates include provider visit, laboratory costs, and the cost of prescribed medication. Two decision-analysis models were constructed, one including all relevant costs and the other including only the portion of the cost absorbed by the health clinic.

RESULTS: There were 436 cases of urinary tract infection at the health clinic in 2001–2002. Cases were included if they were uncomplicated and there was no prior antibiotic allergy, resistance, or risk factors for resistance. Of the 91 included cases, 51 were treated with sulfamethoxazole/trimethoprim (SMX/TMP), 33 were treated with nitrofurantoin and 7 were treated with ciprofloxacin. Cost-effectiveness results were based on evaluation of drug cost, potential for allergy, and clinical cure rates. Despite 23\% laboratory resistance and 9\% allergy, 79\% of patients treated with SMX/TMP were successfully cured. Nitrofurantoin was effective in 97\% of patients and ciprofloxacin was effective in 100\% of patients with few cases of allergy. Treatment cost per patient was $144 for SMX/TMP, $169 for nitrofurantoin and $173 for ciprofloxacin. The cost per patient absorbed by the health clinic was $55 for SMX/TMP and $65 and $58 for nitrofurantoin and ciprofloxacin respectively.

CONCLUSIONS: Most of the patients treated with SMX/TMP were successfully cured, despite increasing laboratory resistance rates. We found SMX/TMP to be the most cost-effective treatment for uncomplicated urinary tract infections. It is important to remember the importance of clinical success and laboratory resistance when constructing such models, and the results are likely to vary widely.

PUK9

ECONOMIC IMPACT OF EPOETIN ALFA (EPO) TREATMENT AMONG NON-DIALYSIS CHRONIC KIDNEY DISEASE (NCKD) PATIENTS WITH ANEMIA

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OBJECTIVES: To study the impact of EPO therapy on direct medical cost by comparing anemic NCKD patients treated with EPO to those not treated. METHODS: Anonymous medical and pharmacy claims data in January 1998–June 2001 from seven large companies were used. After excluding patients receiving blood transfusions, 66 NCKD patients with at least two anemia claims were identified as anemic. Of them, 30 patients treated with EPO prior to dialysis were classified as the EPO group, while the remaining 36 were the control group. Descriptive statistics were generated to compare the direct medical cost of the EPO and control groups prior to dialysis and in the first six months after dialysis initiation. RESULTS: Baseline age, gender, and comorbidities did not significantly differ between the two groups. The average monthly total medical cost for the control group was higher than that for the EPO group in both the pre- and post-dialysis phases ($2916.5 vs. $2177.9, $11,245.7 vs. $10,143.8, respectively), albeit not reaching a 5\% significance level. Before dialysis, the monthly inpatient and outpatient costs were higher in the control than EPO group ($1541.8 vs. $795.2 inpatient, p > 0.05; $1247.3 vs. $918.8 outpatient, p < 0.05). In contrast, average monthly drug cost was higher for the EPO group ($463.9 vs. $127.4, p < 0.05). Similar patterns were observed in the dialysis phase. CONCLUSIONS: An overall trend in the reduction of medical cost was seen for EPO-treated anemic NCKD patients compared to those not treated. The cost savings for the EPO group for inpatient and outpatient services outweigh the higher drug cost. Although the differences in total medical cost are not statistically different between EPO and control groups, this may be due to the small sample size. Further research with larger samples are warranted.

URINARY/KIDNEY DISEASES/DISORDERS

URINARY/KIDNEY DISEASES/DISORDERS—Quality of Life Studies

PUK10

USING CONJOINT ANALYSIS TO EXAMINE PATIENT QUALITY OF LIFE AND PRESCRIPTION INSURANCE COVERAGE PREFERENCES IN THE MANAGEMENT OF OVERACTIVE BLADDER

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OBJECTIVES: Prevalence rates of 16\% have been reported for overactive bladder (OAB). Despite the high prevalence of OAB, it is both an under-diagnosed and underreported condition. Once symptoms develop, many individuals construct their preferences for treatment after considering the quality of life (QOL) effects of OAB and whether they possess prescription drug insurance. The purpose of this study was to examine the relative importance patients place on QOL domains and prescription drug coverage in their decision to pharmacologically manage OAB symptoms. METHODS: A questionnaire consisting of nine hypothetical profiles was used to elicit preferences. The sample taken from a large clinic consisted of 134 patients having symptoms of OAB. To be included, participants were either male or female and were not taking medications to treat their symptoms.