PIC8

CLINICAL AND ECONOMIC BENEFITS OF AN INFECTIOUS DISEASE APPROVAL PROGRAM

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A one-month case-control comparison was completed to evaluate infectious disease costs and outcomes utilizing an antibiotic management service.
METHODS: Antibiotic approvals were obtained from the Infectious Disease Pharmacy Specialist (case) or the Infectious Disease fellows (control). Drug selection by the pharmacy specialist was based on patient-specific and hospital-specific parameters. Appropriateness of the drug therapy approved by the service was also reviewed by the antibiotic management physician. Charts were reviewed after antibiotic approval from case or control. They were also reassessed when patients were discharged from the hospital. Failure, reinfection, superinfection, and death were clinical outcomes categorized. Cure rates were determined microbiologically and clinically. Cost analyses were based on drug therapy, microbiology, length of treatment days, and infectious disease consults. Antibiotics administered reasonably without a documented infection were categorized as "no infection." Patients were excluded if charts were unattainable or outcome could not be determined.
RESULTS: A total of 255 patients receiving infectious disease approval was reviewed. Of these, 130 patients were controls and 125 were cases. Thirty-seven patients were excluded. Cure rates for the Clinical Pharmacy Specialist versus the Infectious Disease fellows were 56% versus 37%. Cost-effectiveness ratios per cure in 1993 US dollars were $330 for the ID specialist versus $932 for fellows considering drug costs. Cost-effectiveness ratios, including total antibiotic management costs were $5,660 versus $11,252, respectively. When ratios were translated to cost avoidance of the antibiotic management team, savings were estimated at $94,416 for monthly drug costs or $1,132,992/year. Total hospital costs savings during infectious disease management interval were estimated to be $576,876/month or $6,922,512/year.
CONCLUSIONS: The benefit of the antibiotic management team improves cure rates while also decreasing cost of treatment. This service pays for itself through its savings in drug and hospital costs while also improving patient outcomes.

PIC9

THE ECONOMIC IMPACT OF A DRUG INFORMATION SERVICE

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OBJECTIVE: A cost-avoidance model was developed to determine potential cost savings (PCS) of a drug information service (DIS) that results from answering a drug information request.
DESIGN: Patient-specific questions received by the drug information service were reviewed and evaluated. A panel determined whether or not appropriate drug therapy would have been employed if the DIS had not been consulted. Potential outcomes of drug information requests were classified using a decision-tree model. A severity rating with potential cost avoidance was then attached to each applicable request to predict PCS of the DIS.
RESULTS: Seventy-seven of the 570 drug information responses in the six-week study period had assessable PCS to the institution. During the study interval, PCS were estimated to be $196,000. Projected to one year, PCS reached $1.7 million. Of the savings noted, most were in the categories of increased monitoring and additional treatment. Annual PCS using a sensitivity analysis ranged from $423,601 to $1,922,560 per year.
CONCLUSIONS: This model demonstrates that the DIS at our institution does provide substantial cost avoidance. This model may be modified to evaluate PCS in other areas of pharmacy practice.

PIC10

THE INFLUENCE OF CASE MIX BIAS ON COSTS OF HOSPITALISATION FOR LOWER RESPIRATORY TRACT INFECTION

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OBJECTIVE: To compare costs of hospitalisation for lower respiratory tract infection (LRTI) in patients who received antibiotics before admission versus those who did not and in patients with and without underlying chronic obstructive airways disease (COAD).
METHODS: All hospitalisations were analysed in a population of 350,000 resident in Tayside during 1993–94. Three groups of patients were identified by primary discharge diagnosis in 1993–94 and previous admissions from 1980 to 1992: (1) acute exacerbation of COAD, (2) LRTI plus a secondary diagnosis of COAD or previous admission with COAD, and (3) LRTI but no secondary COAD or previous admission with COAD. Setting-specific costs were applied (e.g., general medicine, intensive care, geriatrics). Dispensed antibiotic prescribing in the 28 days before admission was identified from all community pharmacies. Non-parametric statistical tests were used.
RESULTS: Patients with COAD were more likely to have received antibiotics before admission: COAD (n = 893) 49%; COAD+LRTI (n = 316) 43%; LRTI only (n = 822) 33%. Odds ratio for COAD vs LRTI only 1.90 (95% CI 1.56 to 2.31); COAD+LRTI vs LRTI only 1.50 (95% CI 1.15 to 1.96). Patients who received antibiotics before admission had lower hospital costs than patients who did not. Median total costs per admission: COAD £1050 vs £1164 (p = 0.5); COAD+LRTI £1067 vs £1354 (p = 0.5); LRTI only £1220 vs £1500; (p =

0.009). Adjusted for community antibiotic prescribing, the hospital costs of patients with LRTI were significantly higher than those of patients with COAD ($p = 0.001$) but not those of patients with COAD+LRTI ($p = 0.096$).
CONCLUSION: Economic models of the potential impact of different community antibiotics on hospital LRTI costs will be subject to case mix bias unless they adjust for community antibiotic use and co-morbidity with COAD.

PIC11

A HEALTH ECONOMIC EVALUATION OF PACLITAXEL AND CARBOPLATIN VERSUS VINORELBINE AND CISPLATIN COMBINATION CHEMOTHERAPY IN THE TREATMENT OF ADVANCED NON-SMALL CELL LUNG CANCER

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The platinum chemotherapeutic compounds (cisplatin and carboplatin) are widely used in the treatment of advanced Non-Small Cell Lung Cancer (NSCLC). The introduction of new agents such as paclitaxel and vinorelbine has resulted in the development of combination regimens with improved response rates and survival. Two commonly used regimens, paclitaxel/carboplatin (TP) and vinorelbine/cisplatin (NP), are compared in this pharmacoeconomic analysis.
METHODS: A meta-analysis of available clinical trials was conducted to estimate the clinical effectiveness of TP and NP. Literature and physician interviews provided information on resource utilization and adverse event management (AEM) for these regimens. Treatment models were populated with Medicare reimbursement figures to compare the expected cost of treatment.
RESULTS: The expected cost of the TP and NP regimens was $19,322 and $20,790, respectively. Although the efficacy of these regimens has not been compared in a randomized trial, meta-analysis of regimented phase II and III studies showed no statistically significant differences in response rates. Therefore, equivalent efficacy is assumed in this cost comparison. A 20% variation in the cost of underlying resources yielded a 7% standard deviation in results. This sensitivity analysis showed that the costs of these regimens are insensitive to variations in underlying parameters.
CONCLUSION: This study suggests that TP is the pharmacoeconomic NSCLC treatment of choice when compared to NP. The analysis reveals that low administration and AEM costs are the key drivers in the lower treatment cost of TP.