agement of SM. The IGP is a practical method for reaching consensus involving complicated decision processes such as SM.

PID11

COST-EFFECTIVENESS OF FIVE ORAL ANTIMICROBIALS FOR ACUTE OTITIS MEDIA

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OBJECTIVES: To compare direct and indirect costs of treating acute otitis media (AOM) using five antimicrobials.
METHODS: In this study 263 patients, mean age 35.2 months (SD 23.0), were enrolled from six primary care clinics in a prospective, randomized, naturalistic cost-effectiveness trial. Inclusion criteria were age >6 months and <8 years, clinical diagnosis of AOM, physician requiring antimicrobial treatment, and no antimicrobial received within 30 days. Patients with allergies to the study antimicrobials were excluded. Direct costs included physician, clinic, laboratory, procedure charges, antimicrobials, ancillary medications, side effects, and revisits. Indirect costs included travel, loss of parental income, and baby-sitter fees. After giving informed consent, patients were randomized to amoxicillin (N = 53), amoxicillin/clavulanate (N = 52), azithromycin (N = 60), clarithromycin (N = 48), or cefixime (N = 50) treatment and followed for 30 days. Biweekly telephone surveys of patient caregivers and chart reviews were used to collect resource utilization data.
RESULTS: Total cost of treatment was lowest with azithromycin, $130.85 (SD 79.50), and highest with cefixime, $180.69 (SD 90.48), p = 0.081. Statistically significant differences among antimicrobial costs were observed; lowest mean cost was amoxicillin, $5.71 (SD 1.50) and highest was cefixime, $63.56 (SD 8.12), p = 0.0001. Although not statistically significant, total direct costs of treatment were lower with azithromycin, $81.12 (SD 43.67) than amoxicillin, $94.32 (SD 59.43), p = 0.69.
CONCLUSIONS: Statistically significant differences in total costs between antimicrobials in treating AOM were not observed.

PID12

THE RATE OF INFECTIONS CONCURRENT WITH INTRAVENOUS PATIENT-CONTROLLED ANALGESIA

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OBJECTIVE: To evaluate the rate of infections concurrent with morphine intravenous patient-controlled analgesia (PCA) and estimate the costs that are associated with these infections (such as length of stay and hospital charges).
METHODS: This database study sample included 27,737 hospital patients greater than 6 years old, from hospitalized patients who were discharged during October 1995 through September 1996 from a sample of 59 US hospitals. Line-related infection was defined as *Staphylococcal septicimia*, the most common form of line-related infection. Patients with a primary diagnosis of staphylococcus septicemia were removed prior to analysis.
RESULTS: The rate of infections among morphine IV PCA users in was 0.5% (140/27,737). Patients with infections have a statistically significant higher death rate (25.1%) than patients without line-related infections (8.9%). Moreover, patients with infections had statistically significantly longer median length of stay in the hospital (22.5 days) than patients without line-related infections (8 days). Consequently, median hospital charge for patients with line-related infections is statistically significantly higher ($53,130.57) than for patients without line-related infections ($18,981.43). A nested case-control comparison whereby patients with infections were matched to controls based on age, gender, and primary diagnosis, produced similar results.
CONCLUSION: Line-related infections add substantially to the cost of care, compared with costs for uninfected patients.

PID13

LONG-TERM EFFICACY OF LOCAL GUIDELINES TO IMPROVE ANTITETANUS PROPHYLAXIS AND REDUCE COSTS IN AN EMERGENCY DEPARTMENT

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Antitetanus prophylaxis (ATP) is based on the WHO recommendations that cause overprescribing of tetanus immunoglobulins (TIg) in over 40% of cases. An intervention to reduce prescribing of unwarranted TIg was conducted.
METHODS: The intervention combined locally developed guidelines (LDG) to a 4-month teaching program. Before the intervention: 1) TIg prescribed for patients with open wounds were retrospectively collected during 66 months (I − 66), 2) ATP delivered according to WHO guidelines was prospectively studied in consecutive patients with open wounds during the month preceding the intervention. After the intervention we prospectively studied: 1) ATP according to LDG during the month following the intervention, 2) then TIg prescribed during 26 months afterwards (I + 26).
RESULTS: The intervention took place between June and September 1995. The number of patients with open wounds increased from 6933 in 1990 to 7922 in 1997. TIg prescribed to them decreased from 60% at (I − 66) to 23% of 389 consecutive patients prospectively studied 1 month before the intervention, to 1% (p < 10–3) of 459 consecutive patients observed 1 month thereafter. The reduction of TIg prescribing was maintained below

1% at (I + 26). The application of chronological series indicates that this decrease is significantly correlated to the effects of the intervention ($p < 0.02$). In addition, the costs of ATP decreased from $40 to $24.
CONCLUSIONS: 1) An important reduction of TIg prescribing was obtained after the introduction of new guidelines in our emergency department and is maintained 3 years later. 2) Rapid techniques are needed to identify extemporaneously patients who require TIg.

PID14

ECONOMIC ANALYSIS OF ANTIMICROBIAL AGENTS FOR HOSPITAL-ACQUIRED PNEUMONIA

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Hospital-acquired pneumonia (HAP) is associated with a high mortality rate and a substantial economic burden. Many clinical and economic studies do not differentiate between HAP in the intensive care unit (ICU) versus on the ward, even though they are associated with different pathogens, treatment approaches, mortality and costs. For nosocomial infections, the effectiveness of therapy is dependent on the pathogenic organism and susceptibility to prescribed antibiotics, factors that are specific to each individual institution.
OBJECTIVES: To develop decision analytic models for current and anticipated antimicrobial regimens for the initial treatment of ICU and non-ICU HAP, that incorporate site-specific pathogen and susceptibility profiles, from the hospital perspective.
METHODS: Two decision tree models were constructed, one for ICU and the other for non-ICU HAP. The probabilities for the decision analysis model were derived from a meta-analysis of randomized, controlled clinical trials and data from our hospital population. Antimicrobial susceptibilities were obtained from the literature and local data. The comparators included in the baseline analysis were cefotaxime (CFX), ceftazidime (CTZ), ceftriaxone (CTR), ciprofloxacin (CIP), imipenem (IMP), and cefazolin + gentamicin (C+G). Drug acquisition, pharmacy, nursing, and hospitalization costs were included in the analysis. Hospitalization costs were determined from local case-costing data. Outcomes were measured as success, failure, and death.
RESULTS: For ICU HAP, C+G dominated over IMP. The incremental cost-effectiveness ratios for CTZ and CIP were $66,087/success and $49,099/success, respectively. For non-ICU HAP, C+G dominated over CTR and CFX. The incremental ratio for CTZ was $142,500/success. Sensitivity analyses did not substantially alter the results.
CONCLUSIONS: Antimicrobial susceptibility is a clinically important determinant of efficacy that should be included in economic analyses of HAP and other infections.

PID15

INFLUENCE OF MOTIVATING FACTORS AND BARRIERS ON INFLUENZA VACCINATION IN AN EMPLOYED POPULATION

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OBJECTIVES: The purpose was to identify motivating factors and barriers on influenza vaccination.
METHODS: An employer site conducting an annual influenza vaccination program was selected for the study. Subjects were recruited on-site to participate in the 5-month study. The vaccinated group (VG) included subjects presenting for vaccination over a 3-week vaccination schedule in October 1998. During a subsequent 3-week period, volunteers not receiving vaccination (NVG) were recruited into the study. Health Belief surveys were administered at the time of recruitment, which included questions specifically inquiring about health beliefs. The Health Belief Model (HBM) was utilized to derive motivators, barriers, threats, and expectations regarding influenza vaccination and their influence on getting vaccinated. The influence of the motivating factors and barriers were rated on a 4-point rating scale (1 = none, 4 = a great deal).
RESULTS: Preliminary results of motivating factors and barriers on 1065 subjects (663 VG and 402 NVG) who completed the surveys are presented. "Avoid influenza" was reported most often as having a great deal of influence on getting vaccinated (86%, 524/606 subjects) followed by "transmit influenza" (53%, 307/575 subjects). Fear of injection and site pain (32%, 96/298 subjects) and inconvenience (32%, 96/297 subjects) were reported most often as having a great deal of influence as barriers to vaccination. Additional multivariate analyses incorporating all aspects of HBM are ongoing.
CONCLUSIONS: Perception of contracting and/or transmitting influenza were primary motivators for seeking vaccination. In the survey, there appear to be multiple barriers to vaccination. Communication strategies and noninvasive formulations of influenza vaccines may diminish these barriers and enhance vaccination rates.

PID16

ECONOMIC STUDY OF CEPHALOSPORINS IN THE TREATMENT OF MODERATE LOWER RESPIRATORY TRACT INFECTION

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The amount of antibiotics currently used in the hospital has reached 35% of total drug consumption. The extensive usage of antibiotics has not only brought drug resistance, but also increased the economic burden of patients. Controlling the abuse of antibiotics and how to