

PIN 10

COST-UTILITY OF SELECTIVE BUPRENORPHINE SUBSTITUTION FOR METHADONE MAINTENANCE IN PREVENTING HIV TRANSMISSION

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OBJECTIVE: Injection drug users comprise more than 35% of new HIV cases, while an estimated 69.1% of patients currently enrolled in methadone maintenance programs (MMT) receive sub-optimal dosages (<80 mg/day). Buprenorphine (BPN) has been suggested as an alternative to methadone due to less adverse effects and lower abuse potential. However, BPN has not consistently outperformed optimal dose MMT. The objective is to compare the cost-utility of selective BPN substitution into current practice MMT, with emphasis on its role in HIV infection. We also explore the cost-utility of increasing minimum methadone dosage from current practice.

METHODS: We employed a dynamic epidemic (Markov) model to measure the effects of substituting BPN for sub-optimal methadone dosing (SubMT) (<60 mg or <80 mg/d) on health care costs and quality-adjusted life-years (QALYs) of intravenous heroin users. Analyses were performed with HIV prevalence of 5% or 40% within the population, considering a cost of \$5 per day for BPN therapy. Figures are calculated using a 100-year time horizon, calculating present discounted values for both health care costs and QALYs.

RESULTS: Substitution of BPN for SubMT <60 mg, and <80 mg, per day result in a cost per additional QALY of \$5,580–\$14,790, and \$18,957–\$59,431, respectively. Increasing the minimum dose of therapy to 80 mg per day dominates all alternative treatment regimes, though increasing minimum doses to 60 mg is also superior to current practice. BPN is dominant over increasing minimum methadone doses to 60 mg, but not to 80 mg, if BPN increases quality of life by 1% over MMT through reduced adverse effects.

CONCLUSIONS: Selective substitution of BPN for methadone is cost-effective for daily methadone doses below 60 mg, and may be cost-effective for all doses below 80 mg depending on side-effect profile and HIV prevalence. BPN provides a useful additional treatment approach, though BPN appears less cost-effective than optimal-dose methadone therapy.

PIN 11

INITIAL ANTIMICROBIAL THERAPY AND OUTCOMES IN PATIENTS HOSPITALIZED WITH COMMUNITY-ACQUIRED PNEUMONIA (CAP)

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OBJECTIVES: Wide variations in antimicrobial management of CAP have been reported despite the existence of

guidelines. The objective of this analysis was to assess the association between initial antimicrobial therapy and outcomes (therapy duration, total antimicrobial cost, length of stay and total hospital cost) in two subpopulations of hospitalized adults with ICD-9 codes for CAP: ICU and non-ICU.

METHODS: The antimicrobial regimen received within the first 72 hours was determined for CAP patients from 188 facilities between January and December 2000.

RESULTS: Among ICU patients, initial therapy with a fluoroquinolone alone was associated with the best outcomes, followed by a fluoroquinolone plus a 3rd generation cephalosporin, a macrolide plus a 3rd generation cephalosporin, a beta-lactam/beta-lactamase inhibitor alone, and other regimens. This ranking was consistent across all levels of pneumonia severity. Of the 12 initial therapy regimens identified among non-ICU patients, a macrolide alone gave the best outcome, followed by a fluoroquinolone alone, a 2nd generation cephalosporin plus a macrolide, and a 2nd generation cephalosporin alone. The worst outcomes were associated with a fluoroquinolone plus a penicillin, followed by a fluoroquinolone plus other cephalosporin. This ranking was also consistent across all levels of pneumonia severity. Fifty-nine percent of the initial therapy regimens for non-ICU patients were consistent with the Infectious Diseases Society of America's guidelines (1998) compared with only 22% for ICU patients.

CONCLUSIONS: Initial therapy with a fluoroquinolone alone, a regimen inconsistent with the IDSA guidelines, gave the best outcomes for CAP patients in the ICU while a macrolide alone (guideline-consistent) was associated with the best outcomes for non-ICU patients.

PIN 12

COSTS OF TREATMENT FOR AMBULATORY LOWER RESPIRATORY TRACT INFECTION IN QUEBEC SENIORS

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OBJECTIVES: Evaluate costs of ambulatory treatment of lower respiratory tract infection (LRTI) in seniors.

METHODS: Using claims data from Quebec public provincial health programs for physician services and prescriptions dispensed, we drew a sample of seniors diagnosed with LRTI in an ambulatory setting subsequently receiving an antibiotic from a community pharmacy. Failure of antibiotic was defined as receipt of a second antibiotic or inpatient physician visit with LRTI diagnosis within a 15-day window following antibiotic receipt. Costs of treatment (CDN\$) were those associated with treatment episode and included medical visits, antibiotics, and hospitalisations associated with LRTI diagnosis. Treatment episode started with the initial visit and terminated 15 days after end of recorded duration of antibiotic received, extended by treatment duration (plus 15 days) of any additional antibiotics received during this