

Evaluation), the Canadian guideline (Canadian Infectious Disease Society), the US guideline (Infectious Diseases Society of America), the South African guideline (South African Drug Action Programme) and the Belgian guideline (Belgian Hygiene Committee) was assessed by an independent investigator, according to the following criteria: antibiotic prophylaxis use, antimicrobial agent, dosage of first injection, time elapsed between first injection and incision, total duration of antibiotic prophylaxis. Interguideline agreement was assessed by using the Kappa coefficient. **RESULTS:** Overall compliance of physician practice varied widely from 69% of patients for the Canadian guideline to 16% for the Belgian guideline (compliance with the US guideline, the French guideline and the South African guideline was respectively: 62%, 53% and 19%) (Kappa = 0.36; $p < 0.01$). These variations were principally due to the differences between guidelines in the screening of Methicillin-Resistant Staphylococcus aureus (MRSA) carriage and in the choice of antimicrobial agent. **CONCLUSIONS:** Our findings emphasize substantial discrepancies between national guidelines from different countries. National experts should take into account evidence-based data when drawing up recommendations.

PIN 13

CHANGES IN ANTIRETROVIRAL (ARV) REGIMENS IN CLINICAL PRACTICE: RESULTS FROM THE STAR (SCHEMAS THERAPEUTIQUES-ANTIRETROVIRAUX) COHORT

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OBJECTIVES: Although figures on the evolution of prescriptions of ARV are now available, little is known about the dynamics and reasons of treatment changes. The STAR cohort was initiated in February 2001 across 3 French HIV Public Hospital to monitor and to explain the evolution of ARV therapies. **METHODS:** STAR is an observational study implemented to prospectively collect electronic data on anti-HIV treatments, immunological and virological status and medical cost of a random sample of patients. It aims at identifying therapeutic strategies in the setting of clinical practice. **RESULTS:** A total of 1177 patients (77% male) were included, of mean age 41 ± 9 years. A total of 290 patients (24.6%) had clinical AIDS. Mean CD4 counts and viral load were respectively $478 \pm 275/\text{mm}^3$ and $29,300 \pm 89,400$ copies/ml in February 2001 versus $506 \pm 283/\text{mm}^3$ and $15,300 \pm 55,600$ copies/ml in December 2002. Of the whole cohort, 17% were ARV naïve in February 2001, among whom 52.5% initiated an ARV treatment during the observation period. The most frequent association in February 2001 was 2 Nucleoside Reverse Transcriptase

Inhibitors (NRTI) + 1 Protease Inhibitor (PI) with 24.2% of subjects, and in December 2002 2 NRTIs + 1 Non Nucleoside Reverse Transcriptase Inhibitor (NNRTI) with 21.4%. Among emerging treatment schemes, boosted PIs raised from 13.8% to 24.1%. Sixty percent of patients had their regimen changed at least once over the 21-month period. Main reasons of treatment changes were toxicity (22%) and failure (21%). Among treatment discontinuations, 32% were attributable to supervised treatment interruption, 24% to toxicity and 14% to patient's decision. **CONCLUSIONS:** These preliminary results obtained after 21 months of follow-up of the STAR cohort show significant trends in the changes of treatment regimens with more simplified regimens and more frequent multiple therapies. These findings could help policy makers in the elaboration of guidelines and the evaluation of adherence behavior.

PIN 14

POLICY EVALUATION FOR INFLUENZA VACCINATION OF ELDERLY IN JAPAN

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OBJECTIVE: This paper examines to analyze what determines the demand for vaccination in the elderly as a high risk group. Then, by using the estimation results, this paper evaluate how the law recommendation and/or subsidy affect their demand. **METHOD:** Original data were obtained from two surveys to the elders living with descendants and the elders living without descendants, conducted by the author. The survey contains the information about the elders, the household, experience of influenza during the last season and immunization during and hypothetical questionnaire about immunization for Conjoint Analysis. The three estimations are performed for actual behavior; Conjoint Analysis and Joint Estimation which combine the first two estimation. **RESULT:** Among estimation results, cost, number of immunization, immunization in night or weekend, and law recommendation heavily affect their demand. Experience of influenza and immunization in the last season are the most important determinants. Moreover, the superior of the Joint Estimation is confirmed. **CONCLUSION:** The estimation results imply that about 8.9 million elders will demand for vaccination if there is no cost and if there is a law recommendation. Conversely, it will reduce to 3.2 million if cost is 6000yen (about \$50 US dollars) and without law recommendation. The change from no cost to just 500yen (about \$4 US dollars) depresses the demand by 1.6 million elders. Law recommendation alone can push up 2.0 million elders.

PIN 15

ESTIMATING USAGE OF SELECTED ANTI-INFECTIVE DRUGS IN U.S. HOSPITALS

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OBJECTIVES: While information on the volume of various drugs purchased by U.S. hospitals exists, information on how hospitals actually utilize drugs is not widely obtainable. We used inpatient transaction-level data to investigate the association between patient characteristics and treatment with selected anti-infective (AI) drugs. We then applied this information to estimate AI usage in a larger group of hospitals where no drug utilization data were available. **METHODS:** We extracted data for October 2000 through September 2001 from Solucient's Hospital Drug Utilization Database, which contains patient-level demographic, clinical, and drug information for 2.1 million inpatient discharges from 150 hospitals. Patients were classified into five clinical groups: lower respiratory infection (LRI), septicemia, skin infection, urinary tract infection (UTI), and other. Separate logistic regression models were fitted for each group, with patient characteristics as independent variables and use of any of 20 common intravenous or oral AIs as the outcome variable. We adjusted for principal diagnosis, procedures, and interactions between principal and secondary diagnoses. Predictive accuracy was evaluated using split-sample validation techniques. Coefficients from the regression models were then applied to records of similar patients in Solucient's Projected Inpatient Database, which contains 19 million hospital discharge records annually but does not include drug data. We produced estimates of the probability of AI use for patients in each clinical group at each hospital. **RESULTS:** Based on split-sample methods, sensitivity ranged from 74.6% for UTI to 90.9% for septicemia. Specificity ranged from 68.4% for LRI to 85.2% for the "other" category. Percent correctly classified ranged from 74.7% for UTI to 87.5% for septicemia. Interaction between principal and secondary diagnosis codes was a strong predictor of AI use. **CONCLUSIONS:** In inpatient data that lack pharmaceutical information, use of selected anti-infectives in these specific clinical groups can be predicted with some accuracy based on patient characteristics.

PIN 16**ASSESSMENT OF ECONOMIC MODELS OF ANTIRETROVIRAL THERAPIES IN HIV/AIDS**

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OBJECTIVE: To systematically review published economic modeling studies directly comparing specific anti-retroviral (ARV) drug treatment strategies. **METHODS:** A systematic literature search using MEDLINE was conducted of the English-language literature published between 1995 and 2002 to capture modeling studies after introduction of HAART using the following keywords: AIDS, HIV, ARV, modeling, and costs. Manual searches

were also conducted of article bibliographies and other relevant databases. Articles were excluded if they were not direct drug comparisons (general HAART vs. no HAART; PI class vs. NNRTI class). Factors including model approaches, use of probabilistic sensitivity analysis, and target audiences and journals were assessed. **RESULTS:** Of >400 abstracts screened, only 38 articles were identified as economic models of ARV therapy and were reviewed in detail. Ten of these studies (6 US; 2 UK; 2 multi-country) directly compared specific ARV treatments. Of these, 5 assessed cost-effectiveness over timeframes of 20–40 years, of which 2 also evaluated cost-utility. The other 5 presented cost-consequence or cost analysis with timeframes of 1 year in 4 of the studies. Six studies compared zidovudine monotherapy to specific combinations. Four studies used Markov modeling techniques, while 3 used Monte Carlo simulation to test uncertainty. Target audiences were typically the payer, with one of the articles specifically tailored to a state AIDS Drug Assistance Program perspective. Seven of the studies were published in health economic or managed care journals, and 3 published in therapeutic area-specific, clinical journals. **CONCLUSIONS:** Economic models comparing specific ARV treatments only represent ~25% of published modeling studies in HIV/AIDS. Although antiretroviral (ARV) therapies have been broadly reimbursed in the past, as more treatment options become available, payers may increasingly require economic comparison of specific ARV drug treatment strategies. Until recently, there has been widespread reimbursement of HAART, which may explain the small number of head-to-head economic modeling studies.

PIN 17**THE VALUE OF VACCINATING INFANTS AND CHILDREN WITH PNEUMOCOCCAL CONJUGATE VACCINE**

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OBJECTIVES: Pneumococcal disease is the leading cause of bacterial infection in children, resulting in significant morbidity and mortality. In Canada, a heptavalent conjugate vaccine (PCV-7) aimed at preventing pneumococcal diseases in children has been recommended by the National Advisory Committee on Immunization. The objective of this study was to identify value determinants, both quantitative and qualitative, that contribute to the societal benefit of implementing a universal PCV-7 program. **METHODS:** Incidence rates and societal costs were estimated for clinical and economic outcomes in Canadian children less than five years of age: meningitis, pneumonia, bacteremia, otitis media, and myringotomy. These data were obtained primarily from a systematic review of the literature on pneumococcal disease and vaccine cost-benefit using an OVID interface and included the following databases: Pre-Medline, Medline and EMBASE. The search was narrowed to studies of effec-