OBJECTIVES: To evaluate the cost-consequence of LVP/r compared with NFV in treating antiretroviral (ARV) naïve HIV patients. **METHODS:** A decision tree model was developed based on the Department of Health and Human Services (DHHS) guidelines and the survey of HIV treating physicians. The model was used to reanalyze the ABT-M98-863 pivotal clinical trial data submitted to FDA/EMEA, a randomized phase III study of LVP/r vs. NFV plus d4T/3TC in 653 ARV naïve HIV patients. Therapeutic failure was defined as 2 successive (4 weeks apart) viral loads (VL) >400 copies/ml. In the model, therapeutic responders continued with their initial treatment, while failures received drug resistance tests and additional monitoring. Failures who developed drug resistance switched to a 2PIs + 2NRTIs regimen, while others stayed in the PI + 2NRTIs regimen class. A maximum of 1 therapy switch was allowed. Failures were at risk for AIDS events determined by CD4 count and VL. Cost analysis in 2002 U.S. dollars was performed from a third party payer's perspective. One-way sensitivity analysis tested the robustness of the assumptions. **RESULTS:** The model showed that after 60 weeks of therapy, compared to NFV, 22.1% more patients who started on LVP/r remained as responders, yielding a net savings of $1,454.14 per patient. Reduced treatment costs for therapy failures and AIDS events were the main contributions to the net savings. In sensitivity analysis, when the VL threshold for therapeutic failure was set at 50, 1,000, or 5,000 copies/ml, cost savings remained at $1,520.15, $1,233.52, and $1,062.26, respectively. When the regimen for all failures was changed to 2PI + 2NRTIs, PI + NNRTI + 2NRTIs, or PI + 2NRTIs, the estimated savings changed to $2,704.38, $1,928.46, and $838.35, respectively. **CONCLUSIONS:** The results suggest that if treatment guidelines are applied in the management of ARV naïve HIV patients, LVP/r may reduce the number of patients switching regimens and consequently may decrease total costs when compared with NFV.

PIN15

ECONOMIC BURDEN OF CHRONIC HEPATITIS B VIRUS INFECTION AND POTENTIAL COST SAVINGS WITH LAMIVUDINE

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OBJECTIVE: The present study was carried out to evaluate the economic burden of chronic hepatitis B (CHB) and its complications, and to evaluate the clinical and economic benefits of treatment of CHB patients with lamivudine for one year in Shanghai, China. **METHODS:** The components of the economic burden of disease included direct medical costs, non-medical costs and indirect work related costs per patient per year in CHB patients (n = 634), those who had progressed to compensated hepatocirrhosis (n = 294), decompensated hepatocirrhosis (n = 231) and hepatocellular carcinoma (n = 236), respectively. The direct medical costs per patient per year were calculated according to the mean expenses and utilisation rate for each outpatient visit and hospitalisation. The direct non-medical costs were estimated based on expenses for nutrition products and transportation. Mean indirect costs were calculated using average time lost from work in one year. Clinical and economic benefits of CHB treatment with lamivudine were estimated using cost data from the burden of illness study in Shanghai and seroconversion rate data in Asian patients and cirrhosis progression rates from lamivudine clinical trials. **RESULTS:** Treatment of patients with ALT > 2xULN with lamivudine for 1 year is estimated to result in net total cost savings of US$51 per patient. **CONCLUSION:** Chronic hepatitis B infection not only compromises the patient's normal daily activities, but also imposes a significant economic burden on patients and their families. By reducing the rate of progression to cirrhosis, treatment of CHB patients with lamivudine for one year can result in overall net cost savings.

PIN16

INFLUENZA TREATMENT WITH OSELTAMIVIR IN A HIGH RISK POPULATION—A COST-EFFECTIVE OPTION FOR THE HEALTH CARE PAYER

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OBJECTIVES: To evaluate health outcomes and costs to the health care payer of treating influenza in an at-risk population with anti-virals (oseltamivir). **METHODS:** Based on clinical trial data and data from the literature a microsimulation model incorporating first- and second-order Monte Carlo simulation was developed. The underlying clinical pathway predicts morbidity and mortality due to influenza and its specified complications. Health outcomes (QALYs, days to return to normal activity) and costs were estimated for events in the model. The model compares various scenarios, which are defined by alternative treatment schemes within defined populations and other parameters. Robustness of the results is tested by probabilistic and univariate sensitivity analysis. The model is used to simulate the results for an at-risk population in the UK comparing Oseltamivir with usual care. **RESULTS:** Treatment with Oseltamivir within 48 hours results in reduced morbidity, which translates into faster recovery and faster return to normal activities (by 5.28 days). Lower morbidity and mortality make this a cost-effective intervention from a health care payer perspective with Oseltamivir being dominant compared to usual care in both cost-effectiveness and cost-utility analysis. **CONCLUSION:** Treatment with Oseltamivir is effective

in terms of health outcome as well as in terms of cost for high-risk patients from the perspective of the individual patient as well as of the health care payer. However, this effect is sensitive to time of treatment start, diagnostic certainty as well as rates for hospitalisation, complication and mortality.

PIN17

COST-EFFECTIVENESS OF 23-VALENT ANTIPNEUMOCOCCICAL VACCINATION IN CATALONIA (SPAIN)

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OBJECTIVE: Pneumococcical vaccine is an affective preventive intervention to prevent pneucoccical pneumonia. In this study, cost-effectiveness of pneumococcical vaccination (23 serotipes) strategies in individuals aged 5 or more years was assessed. **METHODS:** Cost-effectiveness was measured in terms of cost per life year gained (LYG), comparing net programme costs and effectiveness. The net programme cost was calculated from vaccinating costs, assuming 70% compliance, less reduced health costs from pneumococcical pneumonia achieved with the programme. Vaccination costs were calculated taking into account a cost of €11,51 per vaccine. Costs and benefits were estimated for 1996 using a 5% discount rate. **RESULTS:** A cost-effectiveness ratio of €9.023,27 per LYG was obtained for the universal vaccination of the population. The cost-effectiveness ratio was €113.177,12 per LYG in individual aged 5–24 years, €19.482,51 per LYG in those aged 25–44 years, €7.122,80 per LYG in those aged 45–64 y < 0 in those aged >64 years. In the age group of >64 years, disease costs reduced were higher than vaccination costs, with a savings/costs ratio of 1,58. Results of cost-effectiveness analysis were sensitive to the vaccine price, vaccine efficacy and the percentage of pneumonias caused by S. pneumoniae, being less sensitive to health costs from pneumococcical pneumonia, hospitalization rate in patients with a community acquired pneumonia and vaccination compliance. **CONCLUSION:** Results obtained in this study shows that pneumococcical vaccination should be a priority preventive intervention in individuals aged >64 and 45–64 years.

PIN18

RELEVANCE OF COMPLICATIONS AS COST DRIVERS OF VARICELLA

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OBJECTIVES: For many diseases, a small number of complicated cases accounts for the main part of the costs.

Our aim was to investigate the relevance of complications for the overall costs of varicella in Germany in order to assess whether vaccination strategies targeting at risk groups, e.g. adolescents, have the potential to substantially reduce the economic burden of varicella. **METHOD:** A decision-analytic model, the Economic Varicella VaccInation Tool for Analysis (EVITA), was used to analyze epidemiological and economic effects of varicella over a period of 30 years as varicella incidence fluctuates over time and, thus, a typical cost of illness study performed in one year might provide biased estimates of overall costs. Input data on the epidemiology of varicella and its complications as well as the respective resource use were derived from two large surveys. **RESULTS:** Complications occur in 5.7% of the annual average of 739,000 cases. Overall annual costs are €187.5 million from the societal and €78 million from the payers' perspectives. From the payers' (societal) perspective 32.0% (24.7%) of the overall costs can be attributed to complications. Complications account for 53.8% (53.3%) of the direct medical costs and 15.5% (18.3%) of the indirect costs. When complications occur, inpatient care (67.7%) from the payers' and work loss (60.9%) from the societal perspectives are the main cost drivers of complications. Pneumonia accounts for the majority of the costs of complications. For uncomplicated courses of varicella, the indirect costs of work loss are the major cost factor. **CONCLUSIONS:** Complications account for a disproportionate part of overall disease costs. However, uncomplicated courses account for the vast majority of costs. Vaccination strategies targeting only on risk groups with high risks of complications might therefore fail to substantially reduce the considerable economic burden of varicella.

PIN19

COST BENEFIT ANALYSIS ON VACCINATION FOR MEASLES IN JAPAN

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OBJECTIVE: In Japan, measles vaccine coverage is lower than 80% nationwide. As a result, the number of measles case is estimated about 100,000–200,000 a year. In this study, we performed cost-benefit analysis between the cost of vaccination and the cost of treatment of measles. Although cost effectiveness analysis including cost-benefit analysis of vaccination is extensively performed (e.g. influenza), it is not carried out concerning measles at all. This research is unique in this point of view. **METHODS:** We conducted chart investigation of 291 measles patients (171 outpatient cases and 120 hospitalization cases) in one hospital from July 1997 to September 2001. Among them, medical expenses were calculated about 121 samples of outpatients and 112 inpatients which are considered to be appropriate for the contents of medical treatment. At the same time, we estimated opportunity