OBJECTIVES: Although the real-time PCR-based assay SeptiFast® has proven its utility in different clinical settings, limited data are still available on its economic performance. An Italian two-center observational study was conducted on hematological patients with signs of SIRS-SS (Systemic Inflammatory Response Syndrome with Suspected Sepsis) in order to partially fill this information gap. **METHODS:** 138 retrospective cases of SIRS-SS managed by classical diagnostic procedure are compared to prospectively collected data of 137 episodes managed with the addition of PCR assay. Events were paired through propensity-score matching (PSM), based on a set of covariates identified by a backward selection algorithm, under two levels of tolerance for score difference: standard caliper (1) and a more restrictive threshold (0.05). SIRS-SS related mortality represents the primary clinical outcome; as secondary outcome, average LOSE (Length Of SIRS Episode) is considered. Costs, including diagnostic assays and pharmaceutical charges, were recorded and compared between cohorts. **RESULTS:** A total of 101 pairs of highly matched SIRS-SS episodes have been formed. Prospective cohort shows a non-significant trend to a lower mortality (8.24% vs. 13.48%). Under more stringent matching condition (77 pairs), episodes experienced by prospective patients are associated to a significantly lower mortality (3.13% vs 14.71%). No significant differences in the average LOSE are recorded. Traditional diagnostic assays cost is €152 lower in the prospective cohor; however, this saving is completely offset by the cost of the PCR assay. The greatest saving related to the use of PCR assay is linked to the hard reduction in the empirical therapy (€488.44 per episode), main driver of the overall saving (€430.73 per episode), which results statistically significant. **CONCLUSIONS:** These findings suggest that the routine use of combined traditional and PCR diagnostic assays may conduct to an early saving of broad-spectrum antibiotics, money, and health.

PIN53

ESTIMATING OVERALL IMPACT OF HUMAN PAPILLOMAVIRUS VACCINATION ON CERVICAL CANCER BURDEN IN SPAIN AND PORTUGAL

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OBJECTIVES: Human papillomavirus (HPV) vaccines offer primary prevention of HPV-related pre-cancers and cancers. AS04-adjuvanted HPV-16/18 vaccine (AS04v) has shown high efficacy (efficacy irrespective of the HPV type) in cervical high grade lesions (CIN2+, CIN3+). The objective of this study is to estimate overall impact on cervical cancer (CC) burden expected from AS04v in the Iberian Peninsula (Spain and Portugal). **METHODS:** Potential decline in CC cases resulting from women vaccination with AS04v was estimated using a previously published model. Model outcomes considered were estimated based on number of CC cases avoided associated with HPV specific CC incidence (HPV-16/18 cases and irrespective of HPV type). Vaccine effectiveness (VE, end-of-study analysis HPV-008 trial) against HPV-16/18 was set at 100% weighted with HPV-16/18 incidence reported in CC in Spain & Portugal. VE irrespective of HPV type was set at 93%. Vaccination coverage was varied from 0% to 100%. Incremental number of cases avoided HPV-16/18 related and irrespective of HPV type were calculated. Potential costs avoided were also estimated based on published lifetime CC costs. **RESULTS:** Through vaccination considering VE irrespective of type and 70% vaccination coverage, AS04v could avoid an additional 206 CC cases in Portugal and 626 CC cases in Spain compared with 412 and 1.009 cases, respectively, due to 16/18 HPV types. VE against non-vaccine types increased the estimated potential number of CC cases prevented by 33% and 38% in Portugal and Spain, respectively. Associated cost avoided due to reduced CC treatment could reach 1.536.644€ in Portugal and 6.374.865€ in Spain (33% and 38% due to overall efficacy respectively). Cases avoided may increase linearly with increasing vaccination coverage. **CONCLUSIONS:** HPV vaccination could considerably contribute to reducing the burden of cervical cancer in Spain and Portugal. AS04v offers potential broad protection and could maximize disease burden reduction due to non-vaccine type VE.

PIN54

COST-EFFECTIVENESS ANALYSIS OF DOLUTEGRAVIR FOR HIV PATIENTS IN SLOVENIA

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OBJECTIVES: To analyze cost effectiveness of dolutegravir when compared to raltegravir in both treatment-naïve (TN) and treatment-experienced (TE) patients in Slovenia. **METHODS:** We adapted ARAMIS-DTG, a published micro-simulation decision model, to the real-life conditions in Slovenia by using locally-specific population data and treatment costs of HIV patients, who are currently predominantly receiving first-line treatment. In the model, individual patients were followed throughout their lifetime and transitioned through mutually exclusive health states with the probability of disease progression being continuously adjusted on individual patient characteristics and the occurrence of events such as virological failure, opportunistic infections and/or adverse events. We compared dolutegravir and raltegravir under a »price parity« scenario. **RESULTS:** Our model has shown that more than 90% of life-time treatment costs of HIV patients in Slovenia were due to anti-retroviral drugs. Survival curves and CD4+ cell count indicated that treatment with dolutegravir was more effective than treatment with raltegravir in both TN and TE HIV patients. In TN patients, dolutegravir also reduced costs and thus dominated raltegravir (saved €1,608 and gained 0.092 QALYs - discounted at a rate of 3.5%). In TE patients, the resulting ICER was €23,382 per QALY with the cost increase being associated with an expected greater survival of patients treated with dolutegravir. When accounting for that factor then also in the TE group, dolutegravir dominated raltegravir. The sensitivity analysis showed robustness of findings in both groups of patients. **CONCLUSIONS:** Results of our study indicate that the introduction of new integrase inhibitor dolutegravir in Slovenia would not only reduce the costs but also improve health outcomes of HIV treatment in both TN and TE patients.

PIN55

COSTS PER SUCCESSFULLY TREATED PATIENT WITH SOFOSBUVIR IN GT1 HCV

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OBJECTIVES: Untreated hepatitis C virus (HCV) infection results in chronic liver disease. The prevalence in The Netherlands is estimated at 0.1-0.4% with 50% of patients having HCV genotype 1 (GT1). Sofosbuvir (SOF), a novel Direct Antiviral Agent (DAA), reached high rates of sustained virological response (SVR) when given with pegylated interferon-α and ribavirin (PegIFN-α/RBV) in chronic HCV (all genotypes). This study compares the costs per successfully treated patient with sofosbuvir compared to current standard of care (SoC) in the Netherlands in treatment-naïve GT1 patients. **METHODS:** A Markov transition cost-utility model was used, reflecting efficacy and safety data from published RCTs with SOF+PegIFN-α/RBV, PegIFN-α/RBV, telaprevir (TVR) +PegIFN-α/RBV and boceprevir (BOC) +PegIFN-α/RBV. Medical resource use is based on clinical guidelines and expert opinion. Costs include treatment costs, monitoring costs, costs for treatment of complications and adverse events. The model has a lifetime horizon and costs are discounted with 4% and outcomes with 1.5%. Successfully treated patients are defined as having an SVR. Results are presented for a treatment-naïve GT1 population. **RESULTS:** The SVR rate for SOF ranged from 91.7% in non-cirrhotic patients to 80.1% in cirrhotic patients. This was 43.6% and 23.6% for PegIFN-α, 75.4% and 61.9% in TVR and 64.1% and 55% for BOC. Total treatment costs ranged from €55,376 to €70,336 for SOF (non-cirrhotic and cirrhotic), €22,240 and €44,751 for PegIFN-α, €42,593 to €60,071 for TVR and €39,634 to €57,647 for BOC. The costs per SVR varied from €60.388 to €87,050 for SOF (non-cirrhotic and cirrhotic), €51,009 to €189,623 for PegIFN-α, €56,489 to €97,045 for TVR and €61,832 to €104,813 for BOC. **CONCLUSIONS:** The costs per successfully treated patient with sofosbuvir are comparable to current standard of care in GT1 treatment naive patients without cirrhosis and are lower than SoC in cirrhotic patients in The Netherlands.

PIN56

PROTECTING PRODUCTIVITY WITH QUADRIVALENT INACTIVATED INFLUENZA VACCINE IN THE UK

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OBJECTIVES: Typically, healthy adults are not targeted for influenza vaccination, leading to out-of-pocket expenses if they choose to be vaccinated. This can be a deterrent to vaccination coupled with a low concern for consequences of infection. However, despite a lower attack and complication rate than other age/risk groups, infection in healthy employees can result in important loss of productivity to employers. We estimated the benefits of vaccinating healthy employees with a quadrivalent inactivated influenza vaccine (QIV). **METHODS:** A decision tree model was developed to evaluate an annual employer-paid vaccination program for working adults in the UK versus no vaccination. Probabilities and costs were from peer-reviewed literature and government reports. A population of 5,000 healthy employees, a 75% vaccination coverage and an average daily productivity of two times the average UK wage were assumed. Vaccine efficacy estimates were based on systematic reviews/meta-analyses and a 10-year history of match/mismatch. Sensitivity analysis of uncertainty was conducted. **RESULTS:** The model estimated that vaccination with QIV would avert 159 cases of influenza, and 1,066 days of absenteeism, resulting in a productivity loss of £134,007 annually. Considering the vaccine and administration costs (£57,675) the employer would save £76,332. The results are highly sensitive to the number of days an employee is absent due to a simple infection (no hospitalisation), the attack rate, and average productivity. In scenario analysis if the average productivity is set simply to the average wage, the employer would still save £9,328. **CONCLUSIONS:** Vaccination campaigns paid for by an employer are estimated to be cost saving when infection results in at least 1.7 days of absenteeism for each case. A higher mortality rate (due to a more virulent strain, and/or inclusion of at risk adults) would introduce replacement costs, thereby raising the cost saving to the employer if they undertook a vaccination program.

PIN57

COST-EFFECTIVENESS OF FIDAXOMICIN FOR THE TREATMENT OF CLOSTRIDIUM DIFFICILE INFECTION (CDI) IN SWEDEN

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OBJECTIVES: Fidaxomicin is the first in a new class of macrocylic antibiotics, indicated for the treatment of adults with *Clostridium difficile infection* (CDI) also known as *C. difficile-associated diarrhoea* (CDAD). Two phase III comparative clinical studies showed that fidaxomicin was non-inferior to vancomycin for clinical cure, and superior for recurrence and sustained clinical cure. The study objective was to perform a cost-effectiveness analysis of fidaxomicin for the treatment of severe CDI and the first severe recurrence compared to oral vancomycin from a Swedish health care perspective. **METHODS:** A Markov model was developed to analyse the cost-effectiveness of fidaxomicin compared to vancomycin in the treatment of patients with severe CDI, and patients with initial severe CDI recurrences, respectively. The patient enters the model in the CDI health state and is treated either with fidaxomicin or vancomycin. Each treatment cycle was 10 days and the total time horizon was one-year. Deterministic and probabilistic sensitivity analyses were performed. Health state utilities were derived from the literature. **RESULTS:** Fidaxomicin was associated with an increased cost per patient in the severe CDI population and was cost-saving in severe recurrent CDI patients. A utility gain was demonstrated in both fidaxomicin patient populations. The ICER was SEK 83,159 per QALY for severe CDI and dominant for patients with a severe CDI recurrence (ICER = SEK -92,738 per QALY). Sensitivity analyses found the results to be robust. (1 EURO = 9.07 SEK). **CONCLUSIONS:** Fidaxomicin was cost-effective in severe CDI