and dominant in patients with a severe CDI recurrence from a Swedish health care perspective.

PIN58 AN ECONOMIC MODEL TO COMPARE THE DIFFERENT EMPIRIC AND FIRST/ SECOND-LINE TREATMENT REGIMENS FOR SUSPECTED PATHOGENS OF RESISTANT STAPHYLOCCUS AUREUS NOSOCOMIAL PNEUMONIA

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OBJECTIVES: Appropriate and timely empiric treatment is very essential for methicillin-resistant Staphylococcus aureus (MRSA)-related infections. Inadequate empiric treatment is associated with increased mortality and longer hospital stay. This study compares economic impact of initial empiric linezolid (Emp-LIN) vs. vancomycin (Emp-VAN) in MRSA nosocomial pneumonia (NP). METHODS: A 4-week decision model was developed capturing empiric, 1st and 2nd line therapy. Published literature and expert opinion provided clinical and resource use data, including effectiveness, cost of MRSA, adverse events, and length of hospital ICU stay. Cost and health utilities were obtained from published literature. Base-case analysis used 2-day empiric, 10-day 1st line-2nd line treatment duration, 30% MRSA rate, and 1st line linezolid for NE-MRSA after culture confirmation. Patients with a negative culture for MRSA exited the model after empiric treatment, and were assigned a fixed cost for remaining treatment. Univariate and probabilistic sensitivity analyses were conducted. Costs were reported in 2014 USD. RESULTS: Emp-LIN vs. Emp-VAN resulted in lower total cost ($1,626, but had greater QALY gain (respectively. Being cost-effective was 61% (vs. Emp-VAN) and 99% (vs. NE-MRSA) assuming a horizon of 10 years was assumed. Sensitivity analyses were performed to evaluate the impact of model parameters, further sensitivity analyses were performed. CONCLUSIONS: In all three CDI patient subgroups, fidaxomycin was dominant compared to vancomycin. For cancer: fidaxomycin resulted in cost savings of €2,397 with an incremental QALY gain of 0.016. For concomitant antibiotics fidaxomycin resulted in cost savings of €1,452 with an incremental QALY gain of 0.014. For renalally impaired, fidaxomycin resulted in cost savings of €1,452 and an incremental QALY gain of 0.014. The main cost-effectiveness drivers were the recurrence rate and length of hospital stay. The probability of fidaxomycin being cost effective at the ≤0,001 threshold was 96%, 94% and 96% respectively for cancer, concomitant antibiotics and renal impaired patients. Further sensitivity analyses were performed.

PIN61 PUBLIC HEALTH AND ECONOMIC IMPACT OF VACCINATING CHILDREN WITH A QUADRIVALENT LIVE ATTENUATED INFLUENZA VACCINE IN FRANCE USING A DYNAMIC TRANSMISSION MODEL

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OBJECTIVES: We aimed at estimating the impact of extending the French influenza vaccination programme from at-risk/elderly (≥65 years) only, to additionally including children (2-17 years). A deterministic transmission model was used to simulate the transmission of influenza in the French population, under the current coverage with the trivalent inactivated vaccine (TIV) (≤2 years) and quadrivalent live attenuated influenza vaccine (QALIV) (≤18 years). The transmission probabilities were determined using between-individual contact patterns (‘Finnish’ matrix). Epidemiological, medical resources and costs data were issued by crossing data from literature and French resource-based value scales. The reproduction number (R0) of the model was calibrated to the observed numbers of influenza-like illness visits/year and deaths/year. The 10-year, undiscounted, number of symptomatic cases of confirmed influenza and direct medical costs (All-payer) were calculated for the 0-17 (direct effect) and ≥18 years (indirect effect). The incremental cost-effectiveness ratio (ICER) was calculated for the total society using a 4% discount/year. Univariate and probabilistic sensitivity analyses were performed. RESULTS: Model calibration yielded R0=1.27 (assuming 2.3 million visits/year and 1,960 deaths/year). In the 0-17 years-old with 50% QALIV coverage, the average number of confirmed influenza cases dropped by 865,000/year, averting 58.4% of the cases occurring in the reference strategy and leading to 10-year savings of €374 million. In the ≥18 years-old with unchanged TIV coverage, 1.2 million cases/year of confirmed influenza were averted (27.6%), yielding additional 457 million. Adding bedaquiline to a background regimen (BDQ) to a background regimen (BR) of the SoC in a German health care setting (BDQ + BR) was the preferred strategy, especially at hospitals with high MRSA rate.

PIN62 COSTS AND EFFECTIVENESS OF COMBINATION THERAPY WITH BEDAQUILINE AND OTHER ANTI-TUBERCULOSIS DRUGS IN PATIENTS WITH MULTI- AND EXTENSIVELY DRUG-RESISTANT TUBERCULOSIS IN GERMANY

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OBJECTIVES: Multidrug-resistant tuberculosis (MDR-TB) is designated an orphan disease in Germany, where about ~65 patients are infected with multidrug-resistant tuberculosis (MDR-TB). Regimens consisting of several drugs for up to 24 months are the current standard of care (SoC) for treatment of MDR-TB. One of the aims of this analysis is to evaluate the costs and effectiveness of adding bedaquiline (BDQ) to a background regimen (BR) of the SoC in a German health care context. METHODS: A cohort based Markov model was used to estimate costs-effectiveness of bedaquiline plus background regimen (BDQ+ BR) vs. BR alone for treatment of MDR- and XDR-TB (extensively drug resistant) The effectiveness of treatment was evaluated in QALYs, DALYs and life year gained (LY). Inputs into the model were derived from a bedaquiline randomised, placebo controlled trial and from published literature. Drug costs (in 2014 euros) were taken from the German drug price file, a yearly discount rate of 3% was applied and a time horizon of 10 years was assumed. The analysis was performed. RESULTS: For a base-case analysis with a cohort of 65 MDR-TB patients, adding bedaquiline to BR resulted in higher costs compared to BR alone (4,562,064 €), but yielded better outcomes (66 QALYs gained). The incremental cost per QALY gained (ICER) was calculated as 53,357 €. For a cohort exclusively of XDR-TB patients, the ICER was calculated as 17,915 €. To evaluate the impact of model parameters, further sensitivity analyses were performed. CONCLUSIONS: BDQ+BR for treatment of MDR and XDR-TB is cost-effective, probably even cost saving for patients with MDR- and XDR-TB, when compared to BR alone under different cost scenarios. Over a ten year period, cost savings were mainly achieved by lesser time of hospitalisation, although BDQ+BR drug costs are higher than BR alone.