tions. Typically, RSAs have been used for costly products for diseases with a high unmet need such as in oncology. To date, experience with RSAs in vaccines is limited. In this conceptual research we intend to identify RSAs that would be relevant and operable for vaccination programs. **METHODS:** We described the different types of uncertainties and associated financial risks a vaccine payer faces in the real-world setting. We conducted a literature review to list the various RSAs proposed in the field of therapeutics. We then assessed how existing RSAs can mitigate those vaccines payers' risks and evaluated those contracts for a hypothetical vaccine. **RESULTS:** Vaccine specificities (few doses, potentially a large target population, herd effect and delayed benefit) need to be accounted for when designing RSAs. Financial risks in vaccination budget may arise from uncertainty on effectiveness/safety, uptake, supply, and real-world implementation. RSAs, categorized in either cost-sharing or performance-based risk-sharing, could enable vaccine payers to diminish those risks. As for drugs, cost-based deals would be easier to implement for vaccines than performance-based RSAs. The second should only be used when vaccine effects are observed on the short-term. Insurance mechanisms such as real-option pricing can be used to quantify the risk and price the associated RSA. **CONCLUSIONS:** RSA can be used to mitigate financial risk associated with the access to vaccines. Based on the risks they entail, RSAs for vaccines can be viewed as real-option offered by the manufacturer to the payer. However their practical implementation is likely to differ from therapeutics.

PIN36

THE COST-EFFECTIVENESS OF TELAPREVIR TRIPLE THERAPY IN TREATMENT OF NAÏVE CHRONIC HEPATITIS C PATIENTS IN TURKEY

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OBJECTIVES: As evidenced in ADVANCE and IDEAL studies, sustained virologic response (SVR) rate in treatment-naïve (TN) CHC patients increased from the level of 40% to about 75% when TVR was added to standard of care. In this cost-effectiveness model, PR is compared with TVR triple therapy (with response guided treatment approach) in TN CHC patients. **METHODS:** Analysis population includes TN patients infected with genotype 1 HCV. Progression of HC is simulated by a Markov model with 1-year duration of cycles within life-time horizon. The sources of clinical inputs are ADVANCE and IDEAL studies, in which TN CHC patients had been randomized to TVR+P2aR or P2aR and to TVR+P2bR or P2bR, respectively. The sources of economic inputs are the drug price list (National Ministry of Health, June 2014) and procedure price list (National Institution of Security, April 2014). The analysis was performed from the point of view of the governmental payer, with direct costs only. The discount rate was set at 2%, national GDP per capita: 8.009€, year 2013, currency rate: 2.80 TL/Euro. **RESULTS:** Total costs of strategies were 21.938€, 17.933€ and 17.932€, for TVR, P2aR and P2bR, respectively. Corresponding QALYs were 16.19, 15.64 and 15.57 years. Therefore 0.55 and 0.62 QALYs were gained with extra costs of 4.018€ and 4.109€ (vs P2aR and P2bR, respectively). Thus, TVR was cost-effective as compared to P2aR and P2bR, taking the national GDP as the informal willingness-to-pay threshold. **CONCLUSIONS:** Although the initial cost of treatment with TVR is higher than peg-interferon and ribavirin, in CHC patients, the cost savings that will be realized with the very successful clinical prognosis make treatment with TVR clearly cost-effective. Therefore, all TN CHC patients should be considered as a candidate of TVR treatment.

PIN37

THE COST-EFFECTIVENESS OF TELAPREVIR TRIPLE THERAPY IN TREATMENT-EXPERIENCED CHRONIC HEPATITIS C PATIENTS IN TURKEY

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OBJECTIVES: As evidenced in REALIZE study, sustained virologic response (SVR) rate increased from the 17% to 63% in treatment-experienced (TE) chronic hepatitis C (CHC) patients, when telaprevir (TVR) was added to standard of care. In this cost-effectiveness model, PR is compared with TVR triple therapy (with response guided treatment approach) in TE CHC patients. **METHODS:** In this cost-effectiveness model, TVR+PR is compared with PR. Analysis population includes TE and unresponsive or failed patients infected with genotype 1 HCV. Progression of CHC is simulated by a Markov model with 1-year duration of cycles within life-time horizon. The source of clinical inputs is REALIZE study, in which TE CHC patients had been randomized to TVR+PR or PR. The sources of economic inputs are the drug price list (National Ministry of Health, June 2014) and procedure price list (National Institution of Security, April 2014). The analysis was performed from the point of view of the governmental payer, with direct costs only. The discount rate was set at 2%, national GDP per capita: 8.009€, year 2013, currency rate: 2.80 TL/Euro. **RESULTS:** Total costs of strategies (medications and other components) were 29.735€, 28.938€ and 28.343€, for TVR, P2aR and P2bR, respectively. QALYs gained was 1.25 years with TVR+PR with extra costs of 797€ and 1.393€ (vs P2aR and P2bR, respectively). Corresponding ICER values were 640€/QALY and 1.118€/QALY for TVR+PR vs P2aR and TVR+PR vs P2bR, respectively. Thus, TVR was definitely cost-effective. **CONCLUSIONS:** Although the initial cost of treatment with TVR is higher than PR, in CHC patients, the cost savings that will be realized with the very successful clinical prognosis make treatment with TVR clearly very cost-effective and close to cost neutral. Therefore, all TE CHC patients who not responded or failed after a response, should be considered as a candidate of TVR treatment.

PIN38

ECONOMIC COMPARISON OF EMPIRICAL VERSUS DIAGONSTIC-DRIVEN STRATEGIES FOR IMMUNOCOMPROMISED PATIENTS WITH SUSPECTED FUNGAL INFECTION RESULTS FROM A CHINESE PAYER PERSPECTIVE

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OBJECTIVES: To examine the impact on costs and outcomes that may occur in neutropenic patients when treating for suspected invasive fungal infections (IFIs) caused by *Aspergillus* with typical empirical approach (EA) versus the recently proposed "diagnostic-driven" (DD) approach in China. **METHODS:** A decision-analytic model was used to estimate total costs and predicted survival associated with EA and DD approaches in Shanghai, China. The population included patients aged >= 18 years with hematological malignancies or autologous/allogeneic stem cell transplantation expected to be neutropenic for >=10 days, and without prophylactic antifungal treatment. Rates of IFI incidence, IFI captured by EA, overall mortality, and IFI-related mortality (10.9%, 30%, 10.7% and 28.6%, respectively) were obtained from the literature. Survival rates for each strategy were generated based on the proportion of patients with identified and appropriately treated IFI. Treatment patterns with EA and DD approaches and resource use assumptions were based on the opinion of five clinicians from three top hospitals in Shanghai. The total medical costs (in 2014 Chinese Yuan) included antifungal drug cost, treatment-related adverse events cost, and cost of other medical resources. City-specific costing sources were used wherever possible. **RESULTS:** Both approaches had similar survival rates (90.76% vs. 91.33% for EA and DD, respectively). Antifungal drug cost per patient was ¥2,813 for EA and ¥2,307 for DD strategy. Although DD patients incurred a higher cost on PCR/GM testing (¥111 vs ¥88), the total medical costs of DD were substantially lower (¥2,563) than that of EA strategy (¥4,298) due to fewer patients receiving antifungal agents (DD: 7.4%; EA: 12.5%) with targeted IFI treatment. **CONCLUSIONS:** This study suggests that the DD approach has the potential to initiate antifungal treatment in a more targeted population. It is expected to be a cost saving management strategy for immunocompromised patients with suspected IFI in the context of China.

PIN39

THE BURDEN OF CLOSTRIDIUM DIFFICILE (CDI) INFECTION IN HOSPITALS, IN DENMARK, FINLAND, NORWAY AND SWEDEN

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OBJECTIVES: Calculate the hospital cost of treating patients with Clostridium difficile (CDI) in Denmark, Finland, Norway and Sweden. **METHODS:** National patient databases from each country provided the number of patients, hospitalisations and length of stay (LOS) for CDI patients (ICD-10 code A047); year 2011 in Finland and Sweden and year 2012 in Denmark and Norway. In Norway and Sweden hospitalisation cost was based on the DRG cost for CDI patient and in Denmark and Finland the cost per bed day. **RESULTS:** Sweden had the highest number of CDI patients and hospitalisations due to CDI during one year (3,425 patients and 4,723 hospital stays), then Finland (1,929 patients and 2,587 hospital stays), Denmark (1,804 patients and 2,465 hospital stays) and Norway (1,126 patients and 1,418 hospital stays). On average the patients in Sweden were hospitalised with CDI diagnosis 1.38 times during one year and the corresponding figures was in Denmark 1.37, Finland 1.34 and Norway 1.26. The mean LOS for patients with CDI as primary diagnosis varied from 7.0 days in Norway to 14.7 days in Finland (9.0 days, Denmark and 8.6 days, Sweden). The mean cost per CDI hospitalisation was lowest in Norway (€4,073 per patient), followed by Sweden (€6,261 per patient), Denmark (€7,234 per patient), and Finland (€10,231 per patient). The total cost for treating the hospitalised CDI patients during one year was approximately €11 million in Norway (5.1 million people), €15 million in Finland (5.4 million people), €18 million in Denmark (5.6 million people) and €30 million in Sweden (9.7 million people). **CONCLUSIONS:** The total cost of treating the CDI patients ranges between €11-30 million per country and year, and approximately 26-38% of these costs are due to recurrence of CDI. By lowering the number of recurrences, there would be a potential for large cost savings.

PIN40

EPIDEMIOLOGY AND COSTS OF VARICELLA AND HERPES ZOSTER IN GERMANY

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OBJECTIVES: Detailed and valid information on burden of disease is an indispensable cornerstone for cost-effectiveness analyses. The aim of this study was to estimate the epidemiological and economic burden of varicella and herpes zoster (HZ) in Germany in order to generate important data for a subsequent model-based analysis. **METHODS:** Analysis of the epidemiology and the one-year costs of varicella-zoster virus-related diseases/complications were based on 2010/2011 claims data from a large German sickness fund. Insurants were included in the study when they had a varicella and/or HZ diagnosis in 2010, and then were followed for one year after the date of the initial diagnosis. Disease-attributable costs were either calculated by diagnosis-specific identification of cost items or by use of a control group approach. **RESULTS:** The study population included 12,710 insurants with varicella and 35,636 insured persons with HZ. Age-standardised incidence rates were 1.55 and 5.5 per 1,000 person-years for varicella and HZ, respectively. The most frequent complication of HZ was post-herpetic neuralgia (PHN) with an overall proportion of 20.76%, ranging from 2.66% under the age of 10 years to 26.03% in the age group of 80 years and above. When using a time-based algorithm instead of a pure diagnosis code-based approach overall PHN proportion was much lower (5.29%). Average direct costs of varicella were €76.41, ranging from €45.92 in children <5 years of age to €444.28 in people aged ≥60 years. Direct costs of HZ (including PHN) were €238.47 with a range from €88.51 in children <10 years of age to €504.40 in people aged ≥80 years. **CONCLUSIONS:** Varicella-zoster virus-related diseases/complications cause a remarkable epidemiological and economic burden on the German health care system. Incidence and costs of varicella and HZ are highly age-dependent. Furthermore, the proportion of PHN was strongly influenced by the algorithm used to identify PHN cases.