OBJECTIVES: Since 2009, 12-year-old Dutch teenage girls are vaccinated against human papillomavirus (HPV) infection. The current uptake of HPV vaccination, being approximately 60% nowadays, is however comparatively low. Consequently, a large group of women are still at risk of developing HPV-induced cervical cancer later on in life. Therefore, alternative HPV vaccination scenarios have been proposed, in addition to the existing programme, to provide additional protection against cervical cancer. Here, we assessed the cost-effectiveness of three different vaccination scenarios: (i) increased coverage of the existing programme, (ii) vaccination of girls at an older age, and (iii) vaccination of 12-year-old boys. **METHODS:** A dynamic model was used to estimate the full health-economic consequences of the existing programme with and without the above alternative scenarios. Costs and health effects of the alternative scenarios, expressed as life years (LYs) or quality-adjusted life years (QALYs) gained, were compared with the outcomes of the existing programme. In sensitivity analyses, the robustness of the model-predicted outcomes was evaluated. **RESULTS:** We found the incremental cost-effectiveness ratio of the existing HPV vaccination programme to be €9,500 per QALY gained. The cost-effectiveness of the alternative programs highly depends on the coverage at 12 years of age. The cost-effectiveness of girls 24 years of age remained below €50,000/QALY if coverage at 12 years of age increased up to 70%. Cost-effectiveness of vaccination boys at 12 years of age becomes unfavourable if coverage among 12-year old girls increases. **CONCLUSIONS:** From a health-economic perspective, alternative HPV vaccination programmes should be considered in the Netherlands to further reduce the burden of HPV-induced cancer. Until a high coverage among 12-year old girls in reached the addition of older girls to the current vaccination program is most cost-effective.

PIN75

A SYSTEMATIC REVIEW OF COST-EFFECTIVENESS ANALYSIS OF CD4 CELL COUNT VERSUS HIV VIRAL LOAD IN PRIMARILY RESOURCE-LIMITED SETTING

Hu M, Zhu Y, Liu S

Fudan University, Shanghai, China

OBJECTIVES: Utilization of routine viral load (VL) and CD4 cell count coupled to clinical monitoring of HIV patients needs to be carefully deliberated in cost-effectiveness, especially for resource-limited countries. The review was aimed to evaluate and compare the cost-effectiveness of these strategies individually and in combination. **METHODS:** A literature review was conducted for studies published in English from 2004 to 2014 on Pubmed, Web of Science, Ovid, Google Scholar, with keywords HIV, viral load, CD4, economic evaluation, and cost analysis. All underwent assignment of Levels of Evidence (LOE) by Oxford Center for Evidence-Based Medicine (CEBM), as well as Drummond scoring criteria. **RESULTS:** Thirty English publications were identified, including 14 modeling studies, 7 randomized clinical trials (RCT's), and 5 cohort studies among others. A total of 24 were based on resource-limited settings such as Africa, Latin America, and Asia. Compared with CD4, VL alone had incremental cost-effectiveness ratios (ICER's) ranging from $2520/LY to $3570/life year (LY); while that of CD4 alone compared to clinical monitoring was from $-13134/LY to $5768/quality-adjusted life year (QALY). The combination of CD4 and VL, which is recommended in real-life practice, compared to CD4 alone yielded ICER's ranging from $3956/QALY to $16139/QALY. The cost-effectiveness of these strategies was affected by factors such as the reference threshold for ICER, costs and monitoring regimens of the strategies and antiretroviral treatment. **CONCLUSIONS:** From the studies, it is critical to evaluate the cost-effectiveness of CD4 compared with VL contextually, with CD4 being more appropriate in resource-limited settings. VL is associated with improved benefit, however when used in combination with CD4, is usually not cost-effective. Compared with clinical monitoring alone CD4 usually produces greater cost-effectiveness.

PIN76

ADDING BOCEPREVIR YIELDS BETTER COST-SAVING FOR CHRONIC HEPATITIS C GENOTYPE 1 TREATMENT IN THAILAND

Ferrante S[1], Elbasha EH[1], Piratvisuth T[2], Tanwandee T[3], Lerdlitruangsin S[4], Thongsawat S[5]

[1]*Merck Sharp & Dohme Corp., Whitehouse Station, NJ, USA,* [2]*Prince of Songkla University, Thailand, Thailand,* [3]*Siriraj Hospital, Mahidol University, Bangkok, Thailand,* [4]*Merck MSD Thailand, Thailand,* [5]*Chiang Mai University, Chiang Mai, Thailand*

OBJECTIVES: Current Thai guidelines reimburse peginterferon/ribavirin (PR) combination treatment for patients infected with all genotypes of chronic hepatitis C (CHC), based on the results of cost-effectiveness studies. Two trials, SPRINT-2 and RESPOND-2, have demonstrated that treatment with Boceprevir (BOC) in addition to PR results in significantly higher sustained virologic response rates than the current standard of care, PR alone for 48 weeks, in both treatment naïve and treatment experienced CHC genotype 1 patients. The aim of our analysis was to evaluate the cost-effectiveness of BOC-based treatment compared with PR alone from the perspective of the policy maker in Thailand over a lifetime horizon. **METHODS:** A decision analytic model was developed to simulate the treatment strategies described in the BOC label (BOC/PR) and PR alone, and to describe the natural history of CHC to make projections beyond the treatment phase. Separate analyses were conducted based on patients' treatment history and cirrhosis status. Patient characteristics were obtained from SPRINT-2 and RESPOND-2. Treatment characteristics including efficacy and the rate of side effects were obtained from subset analyses of these trials. Transition probabilities, costs, and health state utilities were obtained from previously studies. We projected the lifetime cumulative incidence of CHC-related liver complications – decompensated cirrhosis, hepatocellular carcinoma, liver-transplantation, liver-related mortality - discounted costs and QALYs associated with each treatment strategy. The incremental cost-effectiveness ratio was also assessed. **RESULTS:** For treatment naïve and treatment experienced patients, BOC/PR treatment is projected to reduce the incidence of CHC-related liver complications by 43-44% and 47-51%. BOC/PR is projected to be less expensive and result in increases of 0.13-2.62 QALYs for all non-cirrhotic patients and cirrhotic treatment-experienced patients. Cirrhotic treatment naïve patients was the only subgroup in which cost-effectiveness was not demonstrated. **CONCLUSIONS:** In the Thai setting, BOC/PR is projected to be cost-savings against PR alone in the majority of CHC genotype 1 patients, regardless of treatment history.

PIN77

A COST-EFFECTIVENESS EVALUATION FOR A NEW THERAPY IN HIV TREATMENT

Malhan S[1], Kockaya G[2], Elbir Zengin T[2], Dalgic C[2], Yenilmez FB[3], Cerci P[3], Oksuz E[1], Tayfun K[2], Unal S[3]

[1]*Baskent University, Ankara, Turkey,* [2]*Gilead Science, Istanbul, Turkey,* [3]*Hacettepe University, Ankara, Turkey*

OBJECTIVES: Economical evaluation of Stribild in Turkey, which is a single tablet regimen indicated for the treatment of HIV-1 infection in adults aged 18 years and over who are antiretroviral treatment naive or are infected with HIV-1 without known mutations associated with resistance to any of the three antiretroviral agents in it. **METHODS:** STRIBILD™ was compared with various treatment options; tenofovir DF+emtricitabine+efavirenz (FTC/TDF+EFV), tenofovir DF+emtricitabine+ritonavir+lopinavir (FTC/TDF+LPV/r), tenofovirDF+emtricitabine+nevirapine (FTC/TDF+NVP), tenofovir DF+emtricitabine+darunavir (FTC/TDF+DRV+r), tenofovir DF+emtricitabine+raltegravir (FTC/TDF+RAL), lamivudine+zidovudine+efavirenz (3TC/AZT+EFV), lamivudine+zidovudine+ritonavir+lopinavir (3TC/AZ+LPV/r), lamivudine+zidovudine+nevirapine (3TC/AZT+NVP). The adherence rates were calculated from the increase rate in CD4 cell count and the risk of hospitalization as the effectiveness values. The data were taken from patient files from Hacettepe University that consists of 252 patients and 12 year follow-ups with an outpatient clinic, interventions, laboratory and imaging tests, medication usage, side effects, comorbidity's diseases and their treatments and complications. The costs of treatment of diseases were calculated by cost of disease methodology. Average annual cost per patient is calculated for health care technologies. Health technology effectiveness values are found from the literature review. Incremental cost-effectiveness ratio (ICER) was used for the comparison. **RESULTS:** According to comparison of rate of compliance to treatment, STRIBILD™ was cost effective against 3TC/AZT+EFV (2157.2 TL), FTC/TDF+LPV/r (612.7 TL), FTC/TDF+NVP (951.9 TL), FTC/TDF+DRV+r (544.28 TL) and cost saving aganist FTC/TDF+RAL (-166,22 TL). According to the rate of risk of hospitalization, STRIBILD™ was cost effective against 3TC/AZT+EFV (517.7 TL), FTC/TDF+LPV/r (318.6 TL), FTC/TDF+NVP (495 TL), FTC/TDF+DRV+r (283 TL), 3TC/AZT+EFV (632,4 TL), 3TC/AZ+LPV/r (425.6 TL), 3TC/AZT+NVP (591.2 TL). According to the increase rate in CD4 cell count and over 95% of compliance rate, STRIBILD™ was cost effective against FTC/TDF+EFV (392.2 TL) and cost saving against FTC/TDF+RAL (-308.7 TL), respectively. **CONCLUSIONS:** HIV is a life-threatening disease with in terms of major public health problem globally.. In this study, STRs in comparison of combination treatment strategies, has higher compliance rates, better outcomes and lower health care costs.

PIN78

THE COST-EFFECTIVENESS OF DIFFERENT SCENARIOS OF DETECTING OF TB AMONG HIV-INFECTED PEOPLE DEPENDING ON CD 4+ COUNT

Shumlyanskaya V

Medical University SPCPA, Saint- Petersburg, Russia

OBJECTIVES: The objective was to assess the cost-effectiveness of 3 scenarios for the diagnosis of TB among PLWH depending on CD 4+ count and their influence to treatment pathway and outcomes. **METHODS:** A deterministic decision analytic model was designed for three TB possible searching scenarios in three hypothetical cohorts of 1000 PLWH with different CD 4+ count (<200, 200-499, >500). The following scenarios were examined: "Base"— the current diagnostic scheme, according the National Program; "Addition"—the current diagnostic scheme and Xpert/Rif; "Replacement" – Xpert/Rif test only. Inputs's from the country report and Russian epidemiologic data. The analysis was conducted from the Russia health care perspective with an analytic horizon of 2 years. **RESULTS:** CD 4+ <200 cohort CER in "Base" is 541817, in "Addition" – 643771, "Replacement" – 648087. Additional cost per one successfully treated RUB1123K (23893 €), cost per death averted pts RUB5035K (107127 €), in "Addition" compared to "Base". CD 4+ 200 – 499 cohort CER in "Base" is 390693, in "Addition" – 550615, "Replacement" – 665529. Additional cost per one successfully treated RUB5422K (115361 €), cost per death averted pts RUB5226K (111191€) in "Addition" compared to "Base". CD 4+ >500 cohort CER in "Base" is 408581, in "Addition" – 642137, "Replacement" – 597470. Additional cost per one successfully treated RUB6093K (129638 €), cost per death averted pts RUB6649K (141468 €) in "Addition" compared to "Base". **CONCLUSIONS:** If it needs to solve, which of diagnostic scenarios we finance, we should take into account not only CER, but opportunity to miss TB cases. Using "Addition" is especially effective for diagnostic research in CD 4+ <200 cohort.

PIN79

SWITCHING FROM AN EFV-BASED STR TO A RPV-BASED STR IS EFFECTIVE, SAFE AND IMPROVES HIV PATIENTS HEALTH STATUS

Di Matteo S[1], Bruno GM[1], Astuti N[2], Di Filippo E[2], Valenti D[2], Colombo GL[3], Maggiolo F[2]

[1]*S.A.V.E. Studi Analisi e Valutazioni economiche, Milan, Italy,* [2]*Az. Osp. Papa Giovanni XXII, Bergamo, Italy,* [3]*University of Pavia, Milan, Italy*

OBJECTIVES: Single-Tablet Regimens (STR) therapies are effective to maintain high adherence and improves HAART efficacy. **METHODS:** We evaluated viro-immunologic outcomes, Quality of Life (QoL), and costs of an unselected cohort of patients switching from TDF/FTC/EFV STR (≥6 months duration) to TDF/FTC/RPV STR. The considered outcome measures were quality-adjusted life years (QALYs) as measured with the EQ5D questionnaire and the overall direct health costs. 64 patients with a baseline viral load < 50 copies/ml were randomized to immediately switch therapy or to continue TDF/FTC/EFV for 4 months and then switch to TDF/FTC/RPV. 6 patients in the deferred switch group did not change cART. **RESULTS:** Patients were mostly males (73.4%) with a mean age of 46 years, a baseline mean HIV-RNA of 6.42 copies/ml and a mean baseline CD4 count of 588 cells/μL. The mean cost per patient resulted € 2,563 for STR with RPV arm and € 2,572 for STR with EFV arm. After 4 months the mean