the analysis. The model's effectiveness outcome is defined as patients who are successfully treated and are alive. Cost-effectiveness is measured as total costs per patient with respect to effectiveness for each medication arm. In addition, sensitivity analyses were performed to identify cost-effectiveness for different clinical and economic assumptions. RESULTS: The analysis shows that 20% of MICA patients were successfully treated and survived at the end of study compared to 58% of CASPO patients. Furthermore, the costs of a MICA treatment ($37,212) are below the costs of a CASPO treatment ($37,720). Therefore, the cost-effectiveness ratio is lower for MICA ($622,377) than for CASPO ($655,565). This result also holds for all but one of the sensitivity analyses. However, probabilistic sensitivity and subgroup analyses show that differences cannot be considered statistically significant due to large variance. For European patients only, who can be assumed to be a more homogeneous group and a better comparator, results show that MICA costs per vaccinated German patients, cost a complete-early-virological-response (HCV-RNA undetectable at week 12 [EVR]). The objective of this analysis was to determine the cost-effectiveness of re-treating previous G1-non-responders to PEG-IFN + RBV. METHODS: A published Markov model compared three strategies: PEG-IFNα2a + RBV, for 72 weeks (A), 48 weeks (B) or no treatment (C). Efficacy data for (A) and (B) were taken from the REPEAT study, where a difficult-to-treat population of G1-patients with previous non-response to PEG-IFN/RBV was investigated. Rates of EVR were 15% for (A) and 9% for (B); SVR rates: 13% for (A) and 7% for (B); rates for (C) was assumed to be 0%. Patients not achieving a SVR were assumed to discontinue treatment. A UK health care payer perspective was adopted. Drug and other costs were taken from published sources. A lifetime-horizon was chosen. Incremental cost-effectiveness ratios were expressed as cost per quality-adjusted-life-year (QALY). Costs and QALYs were discounted at 3.5% p.a. Sensitivity analyses were performed. RESULTS: The analysis showed that an additional SVR prevented future costs and increased quality-adjusted-life-expectancy. Although (A) caused the highest overall drug costs, total costs were only £606 higher compared to (B) and £1949 compared to (C), reflecting the higher SVR rates and the substantial medical costs for patients without SVR. The ICER of (A) vs. (B) was estimated to be $2,012/QALY and $2,980/QALY for (A) vs. (C). CONCLUSIONS: Re-treatment with PEG-IFNα2a + RBV for 72 weeks is a highly cost-effective treatment option for patients not responding to previous treatment with PEG-IFN + RBV, regardless of comparator, due to reduction of the high medical costs associated with progressive liver disease and the associated QALY gains.

**PINS2**

**COST ESTIMATES IN THE ECONOMIC EVALUATIONS OF VACCINATION PROGRAMMES: THE CASES OF ROTAVIRUS AND VARICELLA IN BRAZIL.**

**Soria-Cedillo B**, Baca-Muro V, De la Mora-Chávez T, Jirash J, García-Contreras F

Research Consulting, Hacienda Ojo de Agua, Mexico, Mexico; Research Consulting, Puebla, Mexico; Institute of Public Health, Mexico City, Mexico; Instituto Nacional de Salud Pública, México, Mexico; Instituto de Salud Pública, México, Mexico D.F.; Mexico; 1Instituto Mexicano de Seguro Social, Mexico D.F.; Mexico

OBJECTIVES: To establish a cost-effective intravenous antibiotic therapy in the treatment of Infective Endocarditis and Bacteremia. METHODS: A cost-effectiveness study was performed to analyse the expenses and use of resources of Mexican Public Health Institutions. The study was based on a decision tree with Bayesian approach defining three health states: clinical success (within short or long hospital stay frame), therapeutic failure, and death. The alternatives compared were: a) iv. Vancomycin (VAN) as a first-line antibiotic therapy followed by a second-line antibiotic therapy in therapeutic failure, or b) iv. Daptomycin (DAP) as a first-line or second-line anti-biotic therapy. The most recent published data concerning efficacies, length of hospital stay and adverse events were included in the study. Results were evaluated with individual analysis and one-way sensitivity analysis of most uncertain variables. RESULTS: The use of iv. Vancomycin as first-line antibiotic therapy represents savings of US$4,619.00 per patient reaching clinical success (CS) when compared to the use of iv. Vancomycin as first-line antibiotic therapy (DAP-VAN: US$211,168.00;CS; VAN-2nd line antibiotic US$25,787.00-CS). A greater proportion of patients are more likely to attain clinical success when DAP is used as first-line antibiotic therapy (DAP-VAN: 62%; VAN-2nd line antioxidant: 54%) due to a less frequent development of adverse events compared to the use of VAN. The sensitivity analysis varying clinical success rates of every evaluated alternative demonstrated the robustness of the base study. CONCLUSIONS: Daptomycin is the most cost-effective alternative in the treatment of Infective Endocarditis and Bacteremia when used as first-line antibiotic therapy since it decreases hospital expenses due to a reduced hospital stay and results in a greater proportion of patients reaching clinical success. The use of Vancomycin in long term treatments is associated with a higher frequency of adverse events which can cause treatment interruption resulting in therapeutic failure.

**PINS3**

**COST EFFECTIVENESS OF PEGINTERFERON ALFA-2A (40KD) AND RIBAVIRIN (RBV) FOR RE-TREATMENT OF HCV GENOTYPE 1 (G1) PATIENTS WHO DID NOT RESPOND TO PREVIOUS HCV TREATMENT.**

**Díaz DM**, Marcellin P, Ursprugh A, Papadakis K, Tonev D

University of Chicago Medical Center, Chicago, IL, USA; 1Hospital Beaujon, Clichy, France; 2Hoffmann-La Roche Ltd, Basel, Switzerland; Roche Products Ltd, Welwyn Garden City, UK

OBJECTIVES: Standard treatment for hepatitis C is peginterferon (PEG-IFN) + RBV with the aim of achieving a sustained-virological-response (SVR), which is widely considered to be a cure. Around 50% of patients infected with G1 do not achieve a SVR but re-treatment with PEG-IFN + RBV is successful in some, especially in those with an active complete-early-virological-response (HCV-RNA undetectable at week 12 [EVR]). The objective of this analysis was to determine the cost-effectiveness of re-treating previous G1-non-responders to PEG-IFN + RBV. METHODS: A published Markov model compared three strategies: PEG-IFNα2a + RBV, for 72 weeks (A), 48 weeks (B) or no treatment (C). Efficacy data for (A) and (B) were taken from the REPEAT study, where a difficult-to-treat population of G1-patients with previous non-response to PEG-IFN/RBV was investigated. Rates of EVR were 15% for (A) and 9% for (B); SVR rates: 13% for (A) and 7% for (B); rates for (C) was assumed to be 0%. Patients not achieving a SVR were assumed to discontinue treatment. A UK health care payer perspective was adopted. Drug and other costs were taken from published sources. A lifetime-horizon was chosen. Incremental cost-effectiveness ratios were expressed as cost per quality-adjusted-life-year (QALY). Costs and QALYs were discounted at 3.5% p.a. Sensitivity analyses were performed. RESULTS: The analysis showed that an additional SVR prevented future costs and increased quality-adjusted-life-expectancy. Although (A) caused the highest overall drug costs, total costs were only £606 higher compared to (B) and £1949 compared to (C), reflecting the higher SVR rates and the substantial medical costs for patients without SVR. The ICER of (A) vs. (B) was estimated to be £2,012/QALY and £2,980/QALY for (A) vs. (C). CONCLUSIONS: Re-treatment with PEG-IFNα2a + RBV for 72 weeks is a highly cost-effective treatment option for patients not responding to previous treatment with PEG-IFN + RBV, regardless of comparator, due to reduction of the high medical costs associated with progressive liver disease and the associated QALY gains.

**PINS4**

**THE COST-EFFECTIVENESS OF THE NEW PNEUMOCOCCAL 13-VALENT CONJUGATE VACCINE (PCV13) FOR CHILDHOOD AND ADULT VACCINATION IN THE UK.**

**Patel R**, Stoykova B, Lloyd AC, Willingham J, Hollingworth R

MRC Health, London, UK; Wijet, Midenhead, Berks, UK

OBJECTIVES: The 13-valent pneumococcal conjugate vaccine (PCV13) and 23-valent pneumococcal polysaccharide vaccine (PPV23) are currently recommended for childhood and adult vaccination respectively in the UK. A 13-valent pneumococcal conjugate vaccine (PCV13) is currently being reviewed by regulatory authorities for use in infants and young children, and a clinical development plan for adults is ongoing. This study assessed cost-effectiveness of PCV13 compared to the current vaccination strategy and to PCV7 given to children alone. METHODS: A steady state, static cohort model was constructed comparing PCV13 vaccination of the birth cohort of 63-year-old adults with the current strategy and with PCV7 in children alone. The model entered the incidence and subsequent costs of four infections: pneumococcal meningitis; pneumococcal bacteraemia; all cause pneumonia and acute otitis media (AOM). Vaccination was assumed to have effects on vaccinated individuals and to impact unvaccinated individuals as a result of herd immunity. The number of cases and total direct costs that would occur were estimated in the different scenarios. Sensitivity analysis considered incidence, mortality rates, vaccine efficacy, serotype coverage, costs, discount rate, uptake and herd immunity. RESULTS: The model estimated that, compared to the current strategy (and compared to PCV7 alone), PCV13 would reduce the annual incidence of bacteraemia and meningitis by 1176 (1303) cases, prevent 35 (40) deaths, increase life years by 619 (666), increase QALYs by 694 (731) and reduce medical costs by £2.9m (£11.1m). Results are sensitive to vaccine effects against pneumonia and the disease incidence in non-vaccinated individuals. CONCLUSIONS: Pneumococcal and adult PCV13 vaccination in the UK was estimated to reduce the burden of pneumococcal disease and save costs compared with either the current vaccination strategy or a paediatric PCV7 only strategy. Final cost-effectiveness will depend on the emergence of herd immunity benefits in the UK, impact on pneumonia, vaccine schedule and price.

**PINS5**

**COST-EFFECTIVENESS OF THE SURVIVING SEPSIS CAMPAIGN PROTOCOL FOR SEVERE SEPSIS IN SPAIN.**

**Sánchez-Ferrer R**, Artigas A, Gómez-Junge J, Levy MM

Fundación Parc Taulí Institut Universitari, Universitat Autònoma de Barcelona, Sabadell, Barcelona, Spain; 1Hospital de Sabadell. CIBER Enfermedades Respiratorias. Instituto Universitario Parc Taulí, UAB, Sabadell, Barcelona, Spain; 2Hospital Universitario Virgen del Rocio, Sevilla, Sevila, Spain; 3Brown University, School of Medicine, Providence, Rhode Island, USA

OBJECTIVES: To determine the cost-effectiveness of the protocol of the international ‘Surviving Sepsis Campaign’ (SSC) for the treatment of severe sepsis in Spain after the implementation of a multicentre educational program compared with the conventional protocol.
psychotropic strategies interventions. Clinical (hospital mortality) and economical (health care resource and treatment costs) outcomes were recorded. Health care system perspective was used for costs. Incremental cost-effectiveness ratios (ICERs) and incremental cost-utility ratios (ICURs) were used as primary outcomes. ICERs and ICURs were estimated by using multivariable regression models and its variants, as addressed by using bootstrapping. RESULTS: Patients in the SSC protocol care cohort had a lower risk of hospital mortality (44.0% vs. 39.7%, P = 0.04). However, the SSC protocol care resulted in a mean increase in cost of €1800 per patient, largely driven by increased length of stay. Mean life years gained (LYG) and quality-adjusted life years (QALYs) were higher in the SSC protocol care cohort: 0.7 years and 0.5 QALYs, respectively. The adjusted ICER of the SSC protocol was €25.56.9 per LYG and the adjusted ICUR was €57.9 per QALY. Ninety percent of the bootstrap replications were below the threshold of €30,000 per LYG. CONCLUSIONS: The SSC protocol seems to be a cost-effectiveness option for treating severe sepsis in Spain.

**QALYs, costs, and costs expressed in 2008 Swedish Kronor (SEK) were discounted at 3%. The impact of parameter uncertainty was explored in one way as well as probabilistic sensitivity analysis. Variability analyses explored different model assumptions. RESULTS: The ICUR of SEK362,583, ranging from 240,738 SEK/QALY to 474,935 SEK/QALY in sensitivity and variability analyses. CONCLUSIONS: The results suggest etravirine to be cost-effective in Sweden when added to a standard multi-drug regimen in pretreated HIV patients with evidence of NNRTI and PI resistance.**

**POTENTIAL ECONOMIC IMPACT OF OUTPATIENT CARBAPENEM TREATMENT FOR BACTERIA CAUSED BY ESBL-PRODUCING BACTERIA IN HONG KONG—A DECISION ANALYSIS**

**PIN59**

**A COMPARISON OF THE COST-EFFECTIVENESS OF THE 13-VALENT (PCV13) AND 10-VALENT PNEUMOCOCCAL CONJUGATE VACCINES IN THE UK**

**PIN57**

**A428**

**Paris Abstracts**

**POTENTIAL ECONOMIC IMPACT OF OUTPATIENT CARBAPENEM TREATMENT FOR BACTERIA CAUSED BY ESBL-PRODUCING BACTERIA IN HONG KONG—A DECISION ANALYSIS**

**METHODS:** Observational prospective before and after study in 59 medical-surgical intensive care units located throughout Spain. A total of 854 patients were enrolled in the pre-educational program cohort (usual or standard care of severe sepsis, November-December 2003) and 1463 patients during the post-educational program SSC protocol care of severe sepsis, March-June 2004. The pre-educational program aimed to increase the adherence to the SSC protocol. The SSC protocol included pharmacological (antibiotics, fluids, steroids and drotrecogina alfalfa (activated)) and medical (early-goal directed therapy, tigh glucose control and lung protective strategy) interventions. Clinical (hospital mortality) and economical (health care resource and treatment costs) outcomes were recorded. Health care system perspective was used for costs. Incremental cost-effectiveness ratios (ICERs) and incremental cost-utility ratios (ICURs) were used as primary outcomes. ICERs and ICURs were estimated by using multivariable regression models and its variants, as addressed by using bootstrapping. RESULTS: Patients in the SSC protocol care cohort had a lower risk of hospital mortality (44.0% vs. 39.7%, P = 0.04). However, the SSC protocol care resulted in a mean increase in cost of €1800 per patient, largely driven by increased length of stay. Mean life years gained (LYG) and quality-adjusted life years (QALYs) were higher in the SSC protocol care cohort: 0.7 years and 0.5 QALYs, respectively. The adjusted ICER of the SSC protocol was €25.56.9 per LYG and the adjusted ICUR was €57.9 per QALY. Ninety percent of the bootstrap replications were below the threshold of €30,000 per LYG. CONCLUSIONS: The SSC protocol seems to be a cost-effectiveness option for treating severe sepsis in Spain.

**COST-EFFECTIVENESS OF ATAZANAVIR/R VS. LOPINAVIR/R IN TREATMENT NAIVE HIV PATIENTS IN SPAIN**

**Thorsen PO1, Heeg B2, Serrano O3, Ramirez de Arellano A1**

**1PharMerit Europe, Rotterdam, The Netherlands, 2Bristol-Myers Squibb Iberia, Madrid, Spain**

**OBJECTIVES:** To assess the cost-effectiveness of atazanavir/r vs. lopinavir/r in treatment-naive HIV patients in Spain. METHODS: A life-time Markov cohort model was created with the following health states: 1° state, 2° state and salvage therapy. The model estimated that patients could switch treatment due to adverse events, lack of efficacy or non-compliance. Those discontinuing 1° state treatment due lack of efficacy switched to darunavir/r. Those that discontinued 1° state due to adverse events or non-compliance switched to efavirenz/entecavir/tenofovir. Everyone discontinuing 2° state was given a salvage therapy. Patients were at risk of developing a cardiovascular event or to die in each state. Drug specific safety and efficacy inputs were taken from the 48 week CASTLE trial, risk of cardiovascular events were estimated with Framingham equation and risk of death was from Spanish life-tables and literature. The analysis was done from a societal perspective; outcomes were total cost and Quality-Adjusted Life Years expressed in univariable and multivariable sensitivity analyses. Recent 96-week trial efficacy and safety data from the CASTLE was used as a scenario analysis. RESULTS: The model forecasted a difference of 0.20 (0.11 to 0.32) QALYs after life-time and a reduction in total costs of €47,000 (€24,888 to €12,491). Probabilistic sensitivity analyses showed that atazanavir/r has a 23.5% and a 76.5% probability to be in the NE and SE quadrant of cost-effectiveness plane. Univariate sensitivity analysis showed that results were most sensitive to changes in probabilities of switching treatment. In the scenario analysis 0.21 was estimated as the incremental cost due to atazanavir/r was €4500 higher for atazanavir/r. CONCLUSIONS: This analysis suggests that atazanavir/r has a favorable cost-effectiveness ratio for treatment naive HIV patients in Spain.