

## PIN14

**ECONOMIC EVALUATION OF CASPOFUNGIN (CANCIDAS®) VERSUS LIPOSOMAL AMPHOTERICIN B FOR EMPIRICAL THERAPY OF SUSPECTED SYSTEMIC FUNGAL INFECTION IN THE GERMAN HOSPITAL SETTING**Kaskel P<sup>1</sup>, Tuschy S<sup>2</sup>, Wagner A<sup>1</sup>, Bannert C<sup>3</sup>, Cornely OA<sup>4</sup>, Glasmacher A<sup>2</sup>, Lütke P<sup>5</sup>, Lipp HP<sup>6</sup>, Ullmann AJ<sup>7</sup><sup>1</sup>MSD Sharp & Dohme GmbH, Haar, Germany, <sup>2</sup>Bonn University Hospital, Bonn, Germany, <sup>3</sup>Augsburg Academic Hospital, Augsburg, Germany, <sup>4</sup>Cologne University Hospital, Köln, Germany, <sup>5</sup>Essen University Hospital, Essen, Germany, <sup>6</sup>Tübingen University and University Hospital, Tübingen, Germany, <sup>7</sup>Johannes Gutenberg-University Mainz, Mainz, Germany

**OBJECTIVES:** Caspofungin was non-inferior to liposomal amphotericin-B (L-AmB) in a recently conducted double-blind, randomized clinical trial (RCT) in 1095 hematology/oncology patients with persistent fever and neutropenia. Fewer patients developed nephrotoxicity with caspofungin than with L-AmB (2.6% vs. 11.5%,  $p < 0.001$ ; Walsh et al., 2004). Based on the RCT data, cost and consequences of treatment with caspofungin versus L-AmB for empirical therapy of suspected systemic fungal infection were determined for the German hospital setting. **METHODS:** Our model is based on: (i) RCT nephrotoxicity rates; (ii) prolonged length of hospital stay due to nephrotoxicity in hematology/oncology patients in Europe (5.3 days, accounting perspective, 95%CI 1.6;9.1,  $p = 0.004$ ; Ullmann et al., 2006); and (iii) bottom-up data on direct cost of hematology/oncology stay per day. Bootstrapping and Monte-Carlo simulations were performed (SAS 9.1.3, WinBUGS 1.4.1). Calculations were based on patient-individualized doses per treatment episode per RCT treatment arm (Caspofungin 13 days; L-AmB 12.5 days; 70 kg patient), on both, official German price list, and German high-user hospital antifungal acquisition cost. **RESULTS:** The number needed to treat for one patient to be harmed due to nephrotoxicity for L-AmB versus caspofungin was 12 (95%CI 8;17). The nephrotoxicity-related prolongation of hospital stay per patient was 0.48 days (95%CI 0.14;0.88). Based on official list prices, caspofungin was cost-saving compared to L-AmB. Based on high-user hospital pharmacy acquisition cost and cost from longer stay in hospital due to L-AmB nephrotoxicity, caspofungin was cost-saving at hospital cost per day of  $\geq \text{€}670$ , and  $\geq \text{€}1060$ , respectively, with and without “Zusatzentgelt” (2006), a partial compensation German hospitals can apply for to cover cost of caspofungin and L-AmB. **CONCLUSIONS:** This model provides a framework for hospital-based economic evaluations of two different antifungal agents with respect to tolerability and length of hospital stay. Such evaluations can improve the quality of medical care and help to thoughtfully allocate resources.

## PIN15

**CHRONIC HEPATITIS B (CHB) MANAGEMENT COSTS IN SWEDEN**De Cock E<sup>1</sup>, Dale PL<sup>1</sup>, Cerri KH<sup>2</sup>, Zammit D<sup>2</sup>, Flamholz L<sup>3</sup><sup>1</sup>United Biosource, London, England, UK, <sup>2</sup>Bristol-Myers Squibb, Braine l'Alleud, Wallonie, Belgium, <sup>3</sup>Dept of Infectious Diseases, Malmö, Sweden

**OBJECTIVE:** Chronic Hepatitis B (CHB) can lead to cirrhosis and hepatocellular carcinoma. This study aims to estimate resource utilisation (RU) and costs associated with CHB management in Sweden, from a health-system perspective. **METHODS:** Medical management patterns were estimated for: Chronic Hepatitis B (CHB), Compensated Cirrhosis (CC), Decompensated Cirrhosis (DC), and Hepatocellular Carcinoma (HC). Resources considered were physician visits, drug therapy,

lab tests, diagnostic/therapeutic procedures and hospitalisation. RU data were obtained from a Delphi panel of 5 hospital specialists. Complications considered for DC were: ascites, variceal haemorrhage, hepatic encephalopathy, and bacterial peritonitis. For HC, RU was estimated for the first year post identification of the cancer. Based on RU, 2005 direct costs were estimated per health state. **RESULTS:** Resource utilisation increased across disease states, reflecting disease progression. The average annual cost (range) of each state was: CHB: SEK 8001 (SEK 1891—SEK 17,011); CC: SEK 34,649 (SEK 7378—SEK 93,185); DC: SEK 135,783 (SEK 20,171—SEK 442,785); HC: SEK 280,009 (SEK 52,759—SEK 619,031); Average LT cost was SEK 668,027. Hospitalisation is a key cost driver in DC and HC states. No GP visits were reported. Hospital admissions were unneeded in the CHB state. For CC, 5.8% of patients needed 1.25 admissions (average 0.08) and in DC, 68% needed 2 admissions (average 1.4). In HC state, all patients were admitted on average 3.4 times. Average LOS in DC and HC states was 11 days. 35% of HC patients needed hospice admission with an average LOS of 38 days. Common procedures include paracentesis (60%), sclerotherapy (50%), and TIPS (30%) in the DC state, and paracentesis (70%), radiofrequency ablation (15%), and ethanol injection (10%) in HC. **CONCLUSIONS:** RU and costs increase with disease progression: costs for the HC state are more than 30 times those for the CHB stage.

## PIN16

**AN OBSERVATIONAL HEALTH-ECONOMIC ANALYSIS OF THE TREATMENT OF PATIENTS WITH VORICONAZOLE IN A REAL LIFE SETTING**Van Campenhout H<sup>1</sup>, De Mees V<sup>1</sup>, Marbaix S<sup>1</sup>, Annemans L<sup>2</sup><sup>1</sup>Pfizer, Brussels, Belgium, <sup>2</sup>Health Economics and Outcomes Research, Brussels, Belgium

**OBJECTIVE:** To assess, in a real life setting, the predictive validity of a health-economic model that had been applied for the Belgian reimbursement submission of voriconazole in proven and probable invasive aspergillosis. **METHODS:** An observational study was designed to prospectively collect health-economic data of patients with invasive aspergillosis starting treatment with voriconazole. The same direct costs as in the model were considered: costs for hospital stay, diagnostic procedures, treatment/monitoring of side effects, outpatient care and use of anti-fungal drug(s). Resource utilization, expressed in physical units, was multiplied with unit costs from the public payer's perspective. Costs were expressed as total costs and costs for switchers/non-switchers from initial voriconazole treatment. Effectiveness was expressed as clinical response and survival rate at day 84. **RESULTS:** A total of 115 patients were included. The average total cost was €14,153 (C.I.: €11,493; €16,812). This was below the cost predicted by the model (€21,298). The difference was mainly caused by shorter hospitalization in this study (9.59 days) than assumed in the model (29.4 days). On average the total cost for switchers/non-switchers amounted to €16,216/€10,067 in this study, which was below the estimated cost of €27,586/€18,783 in the model, mainly due to a lower hospitalization cost. The clinical response rate (50% successful outcome) as well as the infection related survival rate (86.7%) were in line with the ones applied in the model and reported from the clinical trials (52% and 87.5% respectively). The overall survival rate was lower compared to the model (58% vs. 70.8%), likely due to treating patients with poor prognosis at baseline who would have been excluded from the clinical trial. **CONCLUSIONS:** This observational study demonstrated that the health-economic model provided an overestimate of the real