

pants were requested to categorize patients according to initial AF approach, i.e. pharmacological or non-pharmacological (interventional) treatment option. Discrete sets of answers were provided for each patient group. **RESULTS:** A pharmacological therapy was the initial treatment approach for 89.6% of patients (rhythm control: 59.5%, rate control: 40.5%), whereas 5.2% had initially undergone non-pharmacological therapy, mainly catheter ablation (96% of cases). The remaining 5.2% received no treatment. Patients on rhythm control were mainly prescribed a Class-III (28.9%), Class-Ic (28.9%) or Class-II anti-arrhythmic agent, whereas 13.4% received a combination. In the rate control group, the treatments of choice were b-blockers (37.0%) and digoxin (24.2%). The majority of patients, also, received anti-thrombotic medication (89.0%, 91.3% and 100% for rhythm control, rate control and non-pharmacological treatment, respectively). The most frequently performed diagnostic procedures across groups, on an annual basis, were INR monitoring (8.3–11.5 tests/year), echocardiogram (4.0–4.4), liver (1.8–2.0) and renal function tests (1.7–1.9) and Holter monitoring (1.4–1.6). On average 4.3, 4.0 and 3.1 consultations/year with a cardiologist are necessary for the monitoring of patients on rhythm, rate control and non-pharmacological treatment respectively. Annual hospitalization rates for patients under rhythm control were 20% due to AF recurrence, 13% due to cardiovascular complications and 5.63% due to drug adverse reactions. For patients under rate control, the corresponding percentages were 6%, 6.13% and 4% and for those under non-pharmacological therapy 18.75%, 3% and 4.86% respectively. **CONCLUSIONS:** Pharmacological rhythm control appears to be the prevailing initial AF treatment option in Greece. AF management requires an intense monitoring pattern, given that it can lead to increased frequency of hospitalizations.

PCV137

A SYSTEMATIC REVIEW ON DISEASE BURDEN AND UNMET NEEDS FOR VENOUS THROMBOEMBOLISM IN HOSPITALISED MEDICAL PATIENTS IN EUROPE SHOWS UNDER-UTILIZATION OF PREVENTIVE THERAPIES

Khoury H¹, Welner S¹, Kubin M², Folkerts K², Haas S³

¹BioMedCom Consultants inc., Dorval, QC, Canada; ²Bayer Schering Pharma AG, Wuppertal, Germany; ³Technical University Munich, Munich, Germany

OBJECTIVES: To assess the incidence of venous thromboembolism (VTE) and current practice patterns for VTE prophylaxis in hospitalised acutely ill medical patients in Europe. **METHODS:** A systematic literature search was conducted in major databases on the epidemiology and treatment practices of VTE prevention among adult patients treated in hospital for major medical conditions. Relevant studies published between 1999 and April 2010 were captured. **RESULTS:** Thirty-five multinational and country-specific studies were retrieved, including randomized clinical trials, registry and chart audits, meta-analyses, and cross-sectional, retrospective, prospective, and observational studies. Among patients admitted for an acute medical illness, the incidence of VTE diagnosed during hospitalization ranged from 3.01% (mean hospital stay: 4.5 days) to 15% (day 14 from index hospitalization). While clinical guidelines recommend pharmacological VTE prophylaxis to all patients hospitalised for an acute medical illness who are bedridden, a clear identification of specific risk groups who would benefit from VTE prevention is lacking. In the majority of studies captured, prophylaxis was underused among medical inpatients (all diseases); 33% to 82% of all patients hospitalised for acute medical illnesses did not receive any VTE prophylaxis. Furthermore, among patients who did receive prophylaxis, a considerable proportion received medication that was not in agreement with guidelines, due to short duration, suboptimal dose, or inappropriate type of prophylaxis. Of all prescriptions, low molecular weight heparin was the most widely prescribed anticoagulant. In most cases, the duration of VTE prophylaxis did not exceed hospital stay duration, and varied between 5 and 33.8 days (mean duration). **CONCLUSIONS:** VTE imposes a substantial burden among hospitalised medical patients. Despite the proven efficacy of prophylaxis, utilization remains suboptimal among medical patients at risk for VTE, stressing the necessity for improved or easier access to proven preventive therapies among these patients.

CARDIOVASCULAR DISORDERS – Conceptual Papers & Research on Methods

PCV138

MEASUREMENT PROPERTIES OF PEAK VO₂ IN CHILDREN WITH PULMONARY ARTERIAL HYPERTENSION

Cappelleri JC¹, Hwang LJ², Mardikian J², Mychaskiw MA²

¹Pfizer Inc, New London, CT, USA; ²Pfizer Inc, New York, NY, USA

OBJECTIVES: Although the 6-minute walk test (sub-maximal exercise test) historically has been used to evaluate the effect of pharmacologic intervention in adults with pulmonary arterial hypertension (PAH), it was not widely regarded as appropriate for children at all ages. Thus, Peak VO₂ (maximal exercise test) was used in a pediatric PAH trial (A1481131) to evaluate the effect of treatment. As this is the first large controlled trial using the Peak VO₂ endpoint in this population, we investigated its performance in terms of correlational analyses. **METHODS:** Relationships between change in Peak VO₂ and other endpoints were evaluated using correlation coefficients and regression analyses with the data from the 16-week randomized, placebo-controlled, clinical trial of sildenafil assessing Peak VO₂ at both baseline and week 16 in 106 evaluable pediatric patients. A Bland-Altman plot was used to assess the reliability of screen and baseline visit data. **RESULTS:** The intraclass correlation was 0.79 for

the screening and baseline visit Peak VO₂ data. Additionally, agreement between these visits was supported by a Bland-Altman plot. Correlations of percentage changes in Peak VO₂ from baseline with the change from baseline in the Physician Global Assessment (overall and for sildenafil doses) and in World Health Organization Functional Class (WHO FC, with baseline of I and III/IV) correlated well (correlations of ≥0.40) and were responsive to change, while the low correlation with the Subject Global Assessment (0.12) suggested influence by factors associated with child and parental proxy response and instrument administration. Percentage changes in Peak VO₂ gave no real association (0.04) with the Family Cohesion of the Child Health Questionnaire. **CONCLUSIONS:** In pediatric PAH, Peak VO₂ measurements exhibited good reliability. Improvements in Peak VO₂ were shown to be associated with improvements in qualitative clinical endpoints, including WHO FC and physician global assessment.

PCV139

INTEGRATING PATIENT PREFERENCES IN EFFICIENCY FRONTIER ANALYSES USING THE ANALYTIC HIERARCHY PROCESS

Hummel JM, Steuten L, Van Til J, Ijzerman MJ

University Twente, Enschede, The Netherlands

OBJECTIVES: In comparative effectiveness research and economic evaluations, benefits of technologies are measured using multiple outcomes measures. Information lacks however about the importance of these endpoints for patients. We propose a new methodology to integrate patient weighted outcomes in a cost-efficiency frontier. We illustrate this methodology by means of an efficiency frontier analysis of five alternative treatments of patients with equinovarus deformity poststroke. **METHODS:** The Analytic Hierarchy Process (AHP) is a technique for multi-criteria analysis. The AHP supported 140 patients to prioritize the outcome measures of treatments of equinovarus deformity poststroke, and 10 professionals to prioritize the treatments regarding the outcome measures. These outcome measures include functional outcomes, risk and side effects, comfort, daily effort, cosmetics, and impact of the treatment. Sensitivity analysis is based on bootstrapping of the participants' priorities. Relative costs include the device related costs and the care related costs of the treatments. **RESULTS:** The overall effectiveness of soft-tissue surgery (.41) is ranked first, followed by orthopedic footwear (.18), ankle-foot orthosis (.15), surface electrostimulation (.14), and finally implanted electrostimulation (.12). Implanted electrostimulation (.35) and soft-tissue surgery (.34) are considered to be most expensive, followed by surface electrostimulation (.26), orthopedic footwear (.03) and ankle-foot orthosis (.02). Based on these priorities of the treatments' overall effectiveness and costs, an efficiency frontier was drawn that includes decision uncertainty. **CONCLUSIONS:** The results suggest that the cost-effectiveness of implanted electrostimulation and surface electrostimulation are unfavourable. This new methodology for efficiency frontier analysis allows decision makers to integrate the outcomes about the diverse values and costs of health care technology, and can be applied broadly. It is particularly suitable in the field of early technology assessment, since the AHP supports a systematic estimation of priors about the effectiveness of alternative treatments.

PCV140

HOSPITAL QUALITY INDEX AND ITS USE ON RATES OF VENOUS THROMBOEMBOLISM

Baser O¹, Akin C², Wang L³, Dysinger A³

¹STATinMED Research/University of Michigan, Ann Arbor, MI, USA; ²STATinMED Research/Brigham and Women's Hospital, Ann Arbor, MI, USA; ³STATinMED Research, Ann Arbor, MI, USA

OBJECTIVES: We used the composite quality index (CompQual™) to examine the association between venous thromboembolism (VTE) events and hospital quality for patients who underwent major orthopedic surgery. **METHODS:** Using the empirical Bayes approach to combine mortality rates with information on hospital volume at each hospital, we created an index to weight observed mortality according to how reliable it is estimated, with remaining weight placed on hospital volume (CompQual™ scoring algorithm). Then, using a national database, all patients who underwent major orthopedic surgery were identified. Rates for patients who had a VTE event during their initial hospitalization were calculated. By using the algorithm, every provider in the Medicare data set was ranked according to their quality. Multivariate regression was used to see the effect of quality on VTE event rates. **RESULTS:** We obtained a sample that included 2,745 patients in the VTE group. After controlling for patients' demographic and clinical factors, VTE events in low quality hospitals were almost 2.5 times higher than VTE events in high quality hospitals (p = 0.000). We also compared the ranking with only volume and only for hospitals. Our combined measure to rank the hospital was more effective and explained more variation than the individual measures (pseudo R-square: 0.46 for composite score, 0.15 for volume only, 0.09 for mortality only). **CONCLUSIONS:** Using national Medicare data for patients with VTE, we found that a simple composite measure was a strong predictor of subsequent performance for operations. In this regard, it was more effective than individual measures. Such measures would be useful to help patients and payers identify low quality hospitals for major surgery. Any policy implementation that would decrease the variation in hospital quality would have a direct effect on the rates of VTE events.