switch (OR=1.6; 1.2-2.1) and discontinuation (OR=1.8; 1.5-2.1). Heart failure was associated with augmentation (OR=1.6; 1.0-2.5) and discontinuation (OR=1.7; 1.2-2.4). Age was inversely associated with augmentation and discontinuation and time since diabetes diagnosis was also inversely associated with augmentation. **CONCLUSIONS:** HbA1c is a clear driver of treatment regimen changes although there are other factors also independently related to change such as age, heart failure and baseline OAD.

PDB79

TREATMENT PATTERNS OF ORAL ANTI-DIABETIC DRUGS IN THE UK

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OBJECTIVES: In the UK, Oral Anti-Diabetic drugs "OAD" are administered to control hyperglycaemia in type 2 diabetes when HbA1c exceeds 48mmol/mol. Treatment guidelines determine initial OAD and subsequent changes in regimen depend on HbA1c response. Hence, the aim of this study is to quantify OAD treatment patterns. **METHODS:** All patients who initiated an OAD (except rosiglitazone) with first use as index date, in the GPRD database between 1/1/2006 and 25/2/2011 were included. Periods of continuous and overlapping prescribing (Rx) were used to define discontinuation, switching and augmentation; a gap of 60 days since expiry of Rx defined discontinuation. **RESULTS:** Of 63060 patients commencing OAD, 88% started on metformin and 8% on gliclazide both as monotherapy. Hence, all other OAD regimens comprised only 4% of all patients. Compared to metformin, the gliclazide patient group was older (mean age 67 vs. 61 years) and had higher median baseline HbA1c (70 (IQR 60-95) vs. 64 (IQR 56-74) mmol/mol). The rate of discontinuation of baseline OAD at one year was 32% whilst the discontinuation of all OAD was 26%. It was rare for discontinuation of OAD to be permanent; only 3.3% of patients who discontinued in the 1st 12 months did not restart during 4 years. The rate of switching was 6.4% and the rate of augmentation was 15% over the first year. These rates differed according to baseline OAD. Compared to metformin the discontinuation rate of gliclazide was higher (41% vs. 30%), as was switching (8.4% vs. 6.1%) and augmentation (23% vs. 14%). Lastly, insulin uptake was just 2% by one year since OAD initiation; again this was higher in the gliclazide group compared to metformin (7% vs. 1.4%). **CONCLUSIONS:** Most patients initiated on metformin, whilst for those initiating on gliclazide, discontinuation, switching, augmentation and insulin initiation were all higher. Most patients who discontinued OAD subsequently restarted.

SYSTEMIC DISORDERS/CONDITIONS - Clinical Outcomes Studies

PSY1

CARDIOVASCULAR AND CONGENITAL SAFETY EVALUATION OF ANTIOBESITY AGENTS, INCLUDING TOPIRAMATE: A PHARMACOVIGILANCE ANALYSIS OF THE ADVERSE EVENT REPORTING SYSTEM

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OBJECTIVES: A myriad of pharmacologic agents are developed in attempts to control obesity, including the extension of the antiepileptic topiramate as an antiobesity agent. However, concerns about the safety of such agents are mounting. This study aimed at evaluating the cardiovascular and congenital (CC) safety of marketed antiobesity agents, including topiramate. **METHODS:** A pharmacovigilance analysis of adverse event reports spontaneously submitted to the US Food and Drug Administration's Adverse Event Reporting System (AERS) from 2004 to 2011 was conducted. The Proportional Reporting Ratio (PRR) data mining algorithm is used to detect signals of CC adverse events that are reported for orlistat, phentermine, sibutramine, and topiramate. Safety signals are detected for PRR values >2. The values are compared within antiobesity class and to all drugs in AERS. **RESULTS:** A total of 41,930 adverse event reports for antiobesity agents were submitted to the AERS during the study period. About 4% and 1% of the reports were for cardiovascular and congenital problems, respectively. Compared to all drugs in AERS, antiobesity agents didn't show higher than expected reporting of cardiovascular events (PRR 0.71, 95%CI 0.68-0.74). However, they showed significant safety signals regarding congenital anomalies (PRR 7.45, 95%CI 6.82-8.0), which were mostly attributed by topiramate. Compared to other antiobesity agents, sibutramine was associated with higher cardiovascular reporting rates (PRR 4.42, 95%CI 4.0-4.85), e.g. cardiac arrhythmias, pulmonary hypertension, hypertension, coronary artery disease, and stroke. Phentermine was associated with valvular heart disease (VHD), pulmonary hypertension, and stroke. Topiramate was associated with congenital anomalies and VHD. **CONCLUSIONS:** Antiobesity agents should be prescribed with caution to patients with cardiovascular risk factors. Regulatory authorities should define cardiovascular safety surveillance requirements for antiobesity agents at postmarketing stages of product's lifecycle. An alternative to topiramate should be prescribed to females of childbearing age. Epidemiological studies are warranted to test the generated hypotheses.

PSY2

PRELIMINARY VALIDATION OF COLLECT SCALE: A CO-MORBIDITY ASSESSMENT TOOL FOR PATIENTS WITH CHRONIC LYMPHOCYTIC LEUKAEMIA

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OBJECTIVES: COLLECT scale was developed to assess the level of comorbidity with an impact on treatment decision for patients with Chronic Lymphocytic Leukaemia (CLL) in 5 steps: 1.-Literature review, 2.-Focus Group, 3.-Pilot study to evaluate scale feasibility, 4.-Scale design, 5.-Scale validation in an observational, prospective phase IV study (evaluating safety profile of Rituximab in CLL). This communication presents the preliminary validation of the COLLECT scale. **METHODS:** A total of 219 patients were included. The scale is to be fulfilled before initiating CLL treatment and it collates and rates the presence of 11 relevant comorbidities. The range of the score goes from 0 to 57 points. Four scoring clusters were predefined: 0-3 points (low comorbidity), 4-6 (mild comorbidity), 7-10 (moderate comorbidity) and >10 (high comorbidity). **RESULTS:** Data from 218 patients of 47 hospitals were analyzed. Most frequent therapeutic scheme was Rituximab-Fludarabine-Cyclophosphamide (R-FC) (41.3%), followed by Rituximab-Bendamustine (R-B) (29.6%) and Rituximab-Chlorambucil (R-Cl) or schemes including alkylating agents (21.1%). COLLECT median score (SD) was 4 (0-21) with a mean of 4.8 (3.1) points. 39.2% of patients scored between 4-6 and 33% between 0-3. Statistically significant differences were observed in COLLECT score according to age ($p<0.01$) and EGOG ($p<0.01$): the greater the age and ECOG, the greater the score. The election of inmunochemotherapy treatment differed depending on the score cluster ($p=0.002$): 50.6% and 32,9% of patients treated with R-FC had low and mild comorbidity level respectively. 40,0% of patients receiving R-B had medium and 26.5% high comorbidity level. 50% of patients treated with R-Cl scored between 4-6 and the 23.5% between 7-10. **CONCLUSIONS:** COLLECT scale allows defining 4 levels of comorbidities, with a very good correlation to age and ECOG status. Although the aim of the scale is not to drive treatment decision, the study shows a trend to associate comorbidity score with intensity of treatment.

PSY3

DISEASE ACTIVITY INDICES (DAIS) IN SYSTEMIC LUPUS ERYTHEMATOSUS (SLE)

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OBJECTIVES: Review the development and properties of systemic lupus erythematosus (SLE) disease activity indices (DAIs) used in clinical trials, observational studies, and case studies. **METHODS:** A structured search was conducted to identify published articles in 2005-2011 through key literature databases (EMBASE and MEDLINE/PUBMED). Conference abstracts from targeted rheumatology, outcomes research and quality-of-life scientific meetings in 2009-2011 were included. SLE therapy clinical trials within the past five years were identified through the ClinicalTrials.gov database. **RESULTS:** The search resulted in more than 15 different DAIs, with the most frequently used being the British Isles Lupus Assessment Group Scale (BILAG), European Consensus Lupus Activity Measure (ECLAM), Systemic Lupus Activity Measure (SLAM), SLAM-revised (SLAM-R), Systemic Lupus Erythematosus Disease Activity Index (SLEDAI), SLEDAI-2K, Safety of Estrogen in Lupus Erythematosus National-SLEDAI (SELENA-SLEDAI), and SLEDAI-2K-50 (SRI-50). The number of items (24-97), time to complete (5-20 mins; >20 mins for some tools in case of less physician training/familiarity), scoring (no global score or 0-105), organ/systems assessed (8-24), and subscales observed in these measures varied widely. These eight DAIs all demonstrated substantial inter-rater reliability (ICC=.61-1.0) and had moderate to strong correlations with each other ($r=0.43$-0.97). Measures in all but BILAG were weighted. All of these tools require periodic laboratory assessments such as hemoglobin, white cell count, complement levels, or increased DNA binding. Ability to discriminate between-patient and between-visit differences varied across the tools. **CONCLUSIONS:** BILAG and SELENA-SLEDAI or instruments derived from these tools are used widely in SLE clinical research. However, given the complexity, clinician time required for accurate completion, and need for lab assessments to complete these tools, further investigation is needed to assess their feasibility for use outside of the research arena in routine clinical practice for optimal SLE management.

PSY4

LENALIDOMIDE OR BORTEZOMIB FOR THE TREATMENT OF RELAPSED/REFRACTORY MULTIPLE MYELOMA (MM): A COMPARATIVE EFFECTIVENESS ANALYSIS USING INDIRECT STATISTICAL TECHNIQUES

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OBJECTIVES: Lenalidomide (LEN) and bortezomib (BORT) are both effective for the treatment of relapsed/refractory MM. The former is administered 25 mg/day orally on days 1-21 of repeated 28-day cycles. The latter as a 1.3 mg/m^2 intravenous dose on days 1, 4, 8 and 11 for eight, three week cycles. Currently, there are no data from head to head randomized trials comparing LEN and BORT. In the absence of such data, an indirect comparison between LEN and BORT was performed in the relapsed/refractory MM setting. Such an analysis was feasible because comparable controls were used in the pivotal randomized trials and patients had similar baseline characteristics. **METHODS:** Three pivotal randomized trials with LEN (n=2) and BORT (n=1) in the relapsed/refractory setting were identified. Patients within each trial had similar disease characteristics. Data in terms of response rate (RR), time to progression (TTP) and overall survival (OS) were extracted from the pivotal trials. An indirect statistical comparison between LEN and BORT was then performed on these endpoints using the method of Bucher et al. (1997), which partly maintains the benefits of randomization on the magnitude of benefit. **RESULTS:** The analysis identified significant differences in efficacy between these drugs. Patients treated with LEN were significantly more likely to achieve a disease response (OR=1.92; 95%CI: 1.15 - 3.20) and to have a prolongation in TTP (HR = 0.64; 95%CI: 0.44 - 0.91). The analysis also identified a trend for an OS benefit in patients receiving treatment with LEN over BORT (HR = 0.71; 95%CI: 0.46 - 1.11). **CONCLUSIONS:**

Keeping in mind the caveats associated with cross trial comparisons, the analysis suggested increased effectiveness of LEN over BORT in MM patients with refractory/relapsed disease. These findings, along with its oral route of administration and established safety profile suggest that LEN should be the preferred agent for refractory/relapsed MM.

PSY5

COMPARING BRENTUXIMAB VEDOTIN OVERALL SURVIVAL DATA TO STANDARD OF CARE IN PATIENTS WITH RELAPSED/REFRACTORY HODGKIN LYMPHOMA (HL) POST-AUTOLOGOUS STEM CELL TRANSPLANT (ASCT)

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OBJECTIVES: Health care decision makers require estimates of the incremental health benefit of any new technology relative to existing treatments. For treatments targeting small patient subgroups, randomised controlled trial (RCT) data is often unavailable requiring alternative methods to estimate comparative efficacy. We illustrate two approaches, using the example of brentuximab vedotin. **METHODS:** Brentuximab vedotin has been studied in HL patients relapsed following ASCT (SG035-0003; Younes et al, JCO 2012). We compare 2-year survival data from the 0003 study to: (1) A systematic review in ASCT failures – carried out according to standard methods; no restrictions on study design/treatment. Percentages of patients alive at six-monthly intervals for up to five years were extracted. Comparative graphs were produced, with proportions of patients alive in each study versus time; each point sized to reflect number of patients/study (2) A large observational study, adjusted to reflect prognosis in 0003 – Martinez 2010, reported OS according to whether patients had 0, 1 or ≥2 risk factors. Results were reported for chemotherapy+/−radiotherapy and allogeneic SCT. Survival curves for these comparators were re-weighted to reflect the proportion of patients with 0, 1 or ≥2 risk factors in the 0003 trial. **RESULTS:** Thirty-one studies reported retrievable OS for radiotherapy, chemotherapy, palliative care, or allogeneic SCT or ASCT. OS for brentuximab vedotin was higher than or very similar to all but five small (n=13–38) studies. The adjusted Martinez 2010 comparison estimated 2 year OS of 48% and 65% for chemotherapy+/−radiotherapy and ASCT. OS for brentuximab vedotin at 2 years is 65% comparing favourably to Martinez 2010. **CONCLUSIONS:** Both methods suggested a favourable OS profile for brentuximab vedotin when compared to other reported data sets. If available, access to individual patient data from the Martinez 2010 study would allow use of more advanced methods to adjust for potential confounders.

SYSTEMIC DISORDERS/CONDITIONS - Cost Studies

PSY6

ECONOMIC EFFICIENCY OF FERRIC CARBOXYMALTOSE TO TREAT OR PREVENT IRON DEFICIENCY ANEMIA: VALUE TO THE PORTUGUESE HOSPITALS

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OBJECTIVES: Among the approved intravenous iron formulations, ferric carboxymaltose (Ferinject®) is the most efficacious in the treatment or prevention of iron deficiency anemia, it's less burdensome to administer (easier and shorter time administration) and it reduces the need for expensive resource utilization like erythropoietin and blood transfusions. The objective was to develop a tool to assess the relative cost-efficiency of different intravenous iron formulations in the perspective of the Portuguese hospitals. **METHODS:** A fully parameterizable Microsoft® Excel based tool was developed to compare the economic efficiency of intravenous iron formulations available to the Portuguese hospitals: ferric carboxymaltose (Ferinject®); ferric hydroxide saccharose (generic and Venofer®); ferric hydroxide dextran (Cosmofer®). Economic efficiency was calculate as the balance between hospitals incurred costs relative to the number of patients to be treated, the dose and number of administrations of intravenous iron, and the need for erythropoietin and blood transfusions. The tool default values are from a literature review used to populate the model. The tool allows studying the cost and benefits of treating/preventing chronic kidney disease, inflammatory bowel disease, chemotherapy, and orthopedic surgery related anemia. **RESULTS:** Ferric hydroxide saccharose (generic) is to the most used and lower price intravenous iron in Portugal. Relative to generic ferric hydroxide saccharose (FHS), ferric carboxymaltose (FC) is estimated to lower mean per patient annual costs in all four anemic conditions in major hospitals: 3,087.60€ (FC) vs. 3,482.20€ (FHS) for chronic kidney disease; 2,195.75€ (FC) vs. 2,427.4€ (FHS) for inflammatory bowel disease; 3,626.17€ (FC) vs. 3,793.13€ (FHS) for chemotherapy; and 3,485.74€ (FC) vs. 3,849.47€ (FHS) for orthopedic surgery. These results were consistent irrespective of the type of hospital. **CONCLUSIONS:** This is a valuable tool to inform hospital decison makers about the economic value of ferric carboxymaltose as compared to other intravenous iron formulations.

PSY7

SOCIETAL BURDEN ASSOCIATED WITH NEUROPATHIC PAIN IN EUROPE

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OBJECTIVES: Neuropathic Pain (NeP) is a common disorder that can be chronic, severe and disabling, While the burden regarding quality of life and health care costs is understood, societal costs are less researched. This analysis addresses the implications in terms of work productivity loss and caregiver needs. **METHODS:** Data were drawn from the 2012 Adelphi NeP Disease Specific Programme, a, cross-sectional survey of 121 primary care physicians and 292 specialists and their patients run in five European countries (France, Germany, Italy, Spain and the UK). Physicians provided data relating to diagnosis, treatment patterns and caregiver requirements, patients were invited to fill a self-completion questionnaire including the Work Productivity and Activity Impairment (WPAI) questionnaire. **RESULTS:** A total of 3956 patients were included, of whom 2639 were of working age and 1341 in either full or part time employment. 23% of those employed were currently on sick leave, with mean duration of absence being 10 weeks. A total of 751 patients completed the WPAI; of whom 30% reported that NeP had stopped them from working (limited periods or permanently). These patients reported absenteeism from work 23% of the time. Whilst at work, on a scale of 0 (no effect) to 10 (complete prevention from work) patients reported a mean score of 4.4, implying significantly reduced on-the-job effectiveness. Regarding regular daily activities (housework, shopping etc.) on a similar scale from 0 to 10 patients again reported a value of 4.4; 19% of patients had a caregiver responsible for their daily activities. The most common caregiver was partner/spouse (66%) while only 15% received care from a professional caregiver. The mean amount of care provided was 27 hours per week across Europe, ranging from 10 hours (France) to 48 hours (Italy). **CONCLUSIONS:** This abstract implies evidence suggesting a major societal burden within humanistic and economic societal burden associated with NeP in Europe.

PSY8

NUMBER NEEDED TO TREAT (NNT) AND COST ESTIMATION TO ACHIEVE A MAJOR MOLECULAR RESPONSE (MMR) IN NEWLY DIAGNOSED CHRONIC MYELOID LEUKEMIA PATIENTS IN GREECE

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OBJECTIVES: NNT can be a useful approach to compare treatments in the absence of direct comparative clinical trials. Imatinib, nilotinib and dasatinib are approved as first-line treatments for patients newly diagnosed with Philadelphia chromosome positive chronic myeloid leukemia in the chronic phase (CP-CML). The objective of this analysis is to compare these treatments with regards to: (1) the NNT to achieve one MMR by 12 months (2) the cost of achieving one MMR and the annual cost treatment including of adverse events (AEs) from the perspective of the Greek National Health System (NHS). **METHODS:** MMR and AE rates were taken from the CML-CP frontline trials –DASISION (dasatinib 100mg QD vs. imatinib 400mg QD) and ENESTnd (nilotinib 300mg BID vs imatinib 400mg QD). The NNT was calculated as the inverse of the MMR rate by 12 months (1/MMR). AE management costs were estimated from patient records at Evangelismos Hospital and multiplied by the incidence reported in the trials. **RESULTS:** The nilotinib NNT was 51% lower than the imatinib NNT in ENESTnd (1.8 vs. 3.7) and the dasatinib NNT was 39% lower that the imatinib NNT in DASISION (2.2 vs. 3.6). Annual cost of nilotinib including cost of AEs is estimated at €34.349, dasatinib €35.504 and of imatinib €25.040. The cost of achieving 1 MMR is €62.453 for nilotinib, €78.389 for dasatinib and €92.741 for imatinib. Therefore, the cost of achieving 1 MMR with nilotinib is lower by 20,33% vs. dasatinib and 33% vs. imatinib. **CONCLUSIONS:** The NNT findings and the differential cost of managing AEs in each treatment from this evaluation suggests that nilotinib provides better clinical outcomes and would result in lower costs for hematologic AE management from the perspective of the Greek NHS.

PSY9

REAL-LIFE COST-ANALYSES OF CHRONIC LOW-BACK PAIN PATIENTS WITH NEUROPATHIC PAIN COMPONENTS IN DENMARK

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OBJECTIVES: To evaluate the health care and productivity costs in chronic low back pain (CLBP) patients with a probable neuropathic pain (NeP) component before and after the initiation of pregabalin, gabapentin or a TCA (tricycle antidepressant). **METHODS:** Patients with primary diagnosis of CLBP (ICD-10: M43, M45-48, M50-51, M53-54) and at least two prescription claims for either pregabalin, gabapentin or a TCA were identified using data from the National Patient Registry, the Medicinal Registry, and other registries (2004-2010). Patients identified with generalized anxiety disorders or seizures were excluded. The index date was considered the first prescription for pregabalin, gabapentin or a TCA. Descriptive assessments of health care and productivity costs were conducted 12 months pre and 12 months post the index date using the full dataset. To control for selection bias, a propensity score matched cohort controlling for age, gender, socioeconomic status, education, depression, and health care resource use was also conducted. Statistical tests performed were Wilcoxon (α=0.05). **RESULTS:** A total of 6,028 of 7,282 CLBP patients with NeP met the inclusion criteria (treatment courses included: 3,507 TCA; 2,735 gabapentin; 1,293 pregabalin). Twelve months health care costs increased significantly in all 3 groups (€377 - €1,113) (P<0.001). Matched sub-analyses covering 1,217 patients in each group showed similar significant health care cost increases; however, the pregabalin group was the only group to result in a significant reduction in hospitalization costs (P=0.03). Across all three groups number of job losses was reduced, whereas long-term sickness increased; however, insignificantly so in the pregabalin group. **CONCLUSIONS:** This study showed increasing healthc are costs 12 months after the initiation of NeP drug treatment in CBLP patients with NeP. In matched analyses the increased health care costs in the pregabalin group were partly offset by significant savings in hospitalization costs. Production lost increased in all three groups; however, only significant in the TCA and gabapentin groups.

PSY10

AN INDIRECT COMPARISON OF ICATIBANT AND FOUR OTHER THERAPIES FOR THE SYMPTOMATIC TREATMENT OF ACUTE ATTACKS OF HEREDITARY