primary care (range: 1.0%–9.4%) than in general hospitals (range: 5.8%–43.3%), and highest in specialist nephrology settings (range: 16.0%–97.6%). Also, prevalence rates increased with the CKD stage (1–2: 14.1%–27.9%; 3: 25.5%–91.1%; 4: 36.0%–85.5%; 5: 97.6%). The cost of managing anaemia per patient per year varied across studies from £2,616 (2006–2007 Great British Pounds; GBP) to £3,740 (2006 GBP) in the UK, to €5,617 in France (cost year not reported). One study reported that the overall cost of managing anaemia was highest in patients with CKD Stage 3 compared with other stages (3: £4,162,056 vs. 4–5: £243,288; 2006–2007 GBP). Another study reported higher costs per patient per annum for individuals with lower haemoglobin (Hb) levels (Hb >12 g/dL: €2,418; Hb <10 g/dL: €13,005; cost year not reported). Among patients with CKD, those with anaemia were more likely to be hospitalised (61% vs. 50% of those without anaemia). **CONCLUSIONS:** Anaemia is a highly prevalent condition in CKD across treatment settings in Europe, and the limited evidence available suggests it is associated with a substantial economic burden.

PSY26

MODELLING THE PREDICTIVE VALUE OF PAIN INTENSITY ON COSTS AND RESOURCES UTILIZATION IN PATIENTS WITH PERIPHERAL NEUROPATHIC PAIN

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OBJECTIVES: Peripheral neuropathic pain (PNP) implies a significant economic burden that results in major health care and indirect costs. The aim of the present analysis was modelling the association and predictive value of pain intensity on costs and resources utilization (health care and non-health resources) in patients with chronic PNP treated in routine clinical practice conditions in Spain. **METHODS:** Secondary economic analysis based on data from a multicenter, observational and prospective cost-of-illness study in patients with chronic PNP refractory to previous treatment. Data on resources utilization and pain intensity was collected at baseline and 12 weeks after starting a new treatment. Pain intensity was measured using the 0-100 mm Visual Analogue Scale (VAS) of the Short Form McGill Pain Questionnaire. Univariate and multivariate linear regression models were fitted to identify independent predictors of costs and health care and non-health care resources utilization. **RESULTS:** A total of 1703 patients were included in the current analysis. Pain intensity was an independent predictor of total costs ([Total costs(Euros)] = 35.6 x [VAS pain intensity] + 214.5; coefficient of determination [R^2]=0.19, p<0.001), direct costs ([Direct costs(Euros)] = 10.8 x [VAS pain intensity] + 257.7; R^2=0.06, p<0.001) and indirect costs ([Indirect costs(Euros)] = 24.8 x [VAS pain intensity] – 43.4; R^2=0.19, p<0.001) related to chronic PNP in the univariate analysis. Pain intensity remain significantly associated with total costs, direct costs and indirect costs after adjustment by other covariates in the multivariate analysis (p<0.001). The impact of pain intensity on health care and non-health care resources utilization accounted for such findings. **CONCLUSIONS:** Pain intensity predicts the health care and non-health care resources utilization, and costs related to chronic PNP. Management of patients with drugs associated with a higher reduction of pain intensity will have a greater impact on the economic burden of that condition.

PSY27

RESOURCE UTILIZATION AND COSTS ASSOCIATED WITH RITUXIMAB TREATMENT IN PATIENTS WITH PEMPHIGUS AND PEMPHIGOID: A COMPARISON OF 6 MONTHS BEFORE AND 6 MONTHS AFTER TREATMENT

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OBJECTIVES: Pemphigus and pemphigoid are a rare group of potentially fatal diseases, causing blistering on mucosal and epidermal surfaces. Long-term treatment with systemic corticosteroids and immunosuppressive agents such as intravenous immunoglobulin (IVIg) are usually required. Rituximab (RTX) is increasingly being used for autoimmune bullous dermatoses (AIBD) and has shown to be effective, however, in Canada, RTX is not approved for AIBD. Given the potential cost associated with the use of RTX, there is a need to quantify the issues around accessing it for AIBD patients. **METHODS:** Resources (e.g., treatment, lab costs, procedures, access to health care providers) associated with 89 AIBD patients were collected and quantified 6 months prior and 6 months post RTX initiation. Costs of adverse events secondary to standard treatment (e.g., steroid adverse effects such as diabetes, cataracts, osteoporosis etc) and costs of medications used to prevent steroid adverse effects (e.g., proton pump inhibitors, bisphosphonates) were not calculated. Unit costs (2013 $CAN) were applied to the resources. Overall cohort costs pre and post RTX, as well as cost per patient, were calculated. Cost drivers were identified. **RESULTS:** The overall cohort cost for 6 months pre-RTX was $3.7million (M), and 6 months post was $2.6M (30.3% decrease). IVIg was shown to be the main cost driver. 6 months pre-RTX, 157 months of IVIG was used ($3.6M) compared to 71 months ($1.6M) 6 months post. The cost associated with access to health care resources significantly reduced from $46,715 vs. $22,978, and fewer visits to the dermatologist were required (377 vs. 256 visits). A decrease was also observed in the cost of specialist consultations required ($5,807 vs. $3,234) and other treatment/medication use ($64,548 vs. $48,045). The cost per patient decreased ($41,497 vs. $28,923). **CONCLUSIONS:** RTX is effective in reducing the number of resources and costs associated with treatment of AIBD.

PSY28

HEALTH AND SOCIAL CARE RESOURCE USE BY INDIVIDUALS WITH FRAGILE X SYNDROME: RESULTS OF TWO DELPHI PANELS

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OBJECTIVES: To estimate health and social care resource use in treating individuals with Fragile X Syndrome (FXS) in Canada and the United Kingdom (UK). FXS is the most common inherited form of intellectual disability (ID) worldwide; however its impact on resource use is not well documented. **METHODS:** Delphi panels were formed to generate consensus-based estimates of resource use. Panelists from multiple disciplines were recruited (7 panelists in Canada, 6 in UK) and a questionnaire developed to obtain estimates from each panelist by 2 age groups, 2 severity levels and 24 service types for each of 9 items from the Aberrant Behavior Checklist (ABC) a proxy completed instrument to rate maladaptive behaviors of individuals with ID. A factor weight was estimated to differentiate costs by gender and a self-declared confidence score (1 – 5) was reported for each ABC item. Mean total service counts and coefficients of variation (CV) were calculated to assess variance between panelists and between rounds. Initial results were reviewed with panelists in a facilitated group discussion after which the questionnaire was repeated. Final data were based on the second round of estimation. **RESULTS:** Comprehensive resource data were collected for both countries. There was lower variance and higher confidence in both countries in round 2 compared to 1. Rounds 1 and 2 means (CV) for Canada were [6,723 (0.69) 8,575 (0.52)] and for UK were [6,953 (0.96) 6,023 (0.76)]. The average level of self-declared confidence increased from 2.6 to 3.3 in Canada and from 2.6 to 2.8 in the UK. **CONCLUSIONS:** The study generated comprehensive resource use data for treating individuals with FXS in Canada and the UK. Credible and validated estimates were generated through group discussion and refinement of initial estimates. The resulting data will be important in performing economic evaluations of treatments for patients with FXS.

PSY29

IMPACT OF BARIATRIC SURGERY ON OBESE PATIENTS MANAGEMENT AND RELATED COSTS: A FRENCH NATIONAL CLAIMS DATABASE ANALYSIS OVER THE PERIOD 2005 -2011

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OBJECTIVES: To gain an understanding of the impact of bariatric surgery on the current medical management of obese patients. **METHODS:** The EGB database is a 1/97 representative sample (around 600,000 individuals) of the national claims database covering the whole French population including outpatients and inpatient care. Adult patients treated for the first time over the period 01/01/2007 to 31/12/2009 by bariatric surgery were identified through related procedures and obesity ICD-10 codes. A cohort of patients was constituted with a 2-year follow-up before and after the index procedure date (T). Reimbursed medical consumption over this 4-year period was recorded and presence of co-morbidities was identified through ICD-10 codes, reimbursement of specific drugs or procedures. **RESULTS:** A total of 350 patients meeting the selection criteria were identified in the database with a mean age of 38.9 (+/- 11.3) years, 83.4% female and 69.7% had a BMI in the range 40-50. The distribution of patients according to bariatric procedure was gastric banding (62.6%), gastric by-pass (19.7%), sleeve gastrectomy (16.6%) and bilio-pancreatic diversion (1.1%). The annual per capita reimbursed health expenses evolved from 2.633€ (+/-3.124€) in Year (T-2), to 3.557€ (+/-3.380€) in Year (T-1), to 4.240€ (+/-3.840€) in Year (T+1) (excluding procedure cost) to 3.755€ (+/-5.037€) in Year (T+2). In 39% of patients those costs decreased between T-2 and T+2, (>5%) and the only two variables significantly explaining this decrease were the reduction of consumption for anti-Diabetes and/or anti-Hypertension drugs. Most items of medical consumption increased over the period pre and post procedure but started to decrease in Year T+2. **CONCLUSIONS:** The visits for preparing bariatric surgery were probably an opportunity for those patients to benefit from a general check-up which has generated extra short term medical consumption. Additional research with longer follow up could better capture the benefits of bariatric surgery on medical consumption.

PSY30

COST-CONSEQUENCE ANALYSIS OF A TREATMENT STRATEGY INCLUDING PONATINIB COMPARED TO A TREATMENT STRATEGY INCLUDING ONLY THE 2ND GENERATION TYROSINE KINASE INHIBITORS (2G TKIS), DASATINIB OR NILOTINIB, IN RESISTANT PATIENTS WITH PHILADELPHIA CHROMOSOME-POSITIVE (PH+) LEUKEMIA, IN ITALY

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OBJECTIVES: To assess treatment cost and duration (months) of major cytogenetic response (MCyR) using ponatinib in patients intolerant or resistant to 2G TKI, compared to treating with only 2G TKIs, in patients with Ph+ leukemia, in Italy. **METHODS:** A 3-year Markov model with 1-year cycles simulated patients with Ph+ leukemia to estimate outcomes in those eligible for ponatinib therapy, defined as 1) 2G TKI-resistant, 2) 2G TKI-intolerant if imatinib is not clinically appropriate, or 3) with T315I mutation. Eligible patients received treatment sequences including 2G TKIs and ponatinib in the ponatinib arm and 2G TKI only in the comparator arm. Patients without MCyR by 12 months were switched to the next therapy line until TKI options were exhausted, then to best supportive care. MCyR rates for 2G TKI or ponatinib were estimated from clinical trial data and expert opinion. Patients were assumed to accrue MCyR months until estimated treatment failure. Monthly treatment costs reflect approved EU dosing and list prices; cost of ponatinib was assumed equivalent to the US. **RESULTS:** We estimated 184, 280, and 360 ponatinib-eligible patients in years 1-3, respectively. Treating ponatinib-eligible Ph+ leukemia patients with 2G TKIs yielded a 3-year cost of €58.51 million and a total of 2,536 months in MCyR, at an average cost of €23,068/MCyR month. Using ponatinib in eligible patients cost €79.54 million and provided 5,649 months in MCyR, at an average cost of €14,079/MCyR month. **CONCLUSIONS:** The treatment strategy includ-

ing ponatinib provided more than double (2.2-fold) the MCyR months at 36% higher cost compared to the 2G TKI strategy. The average cost/MCyR month with ponatinib was lower than the average cost/MCyR month with 2G TKIs. While there are limitations with the methology and assumptions of the model, this analysis suggests treatment with ponatinib may provide good value for ponatinib-eligible Italian patients.

PSY31

EVALUATION OF THE COST-EFFECTIVENESS OF THE CAPSAICIN PATCH QUTENZATM FOR THE TREATMENT OF PERIPHERAL NEUROPATHIC PAIN IN THE UNITED KINGDOM

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OBJECTIVES: To estimate the cost-effectiveness of using the capsaicin patch QUTENZATM prior to use of more costly neuropathic pain medications for individuals with peripheral neuropathic pain (PnP). **METHODS:** A decision tree and Markov model was developed using inputs from a prospective, observational study. This study provided estimates of clinical efficacy, health utility and resource use. The model considered two treatment strategies: 1. a capsaicin patch followed by pregabalin and then a subsequent last-line therapy, and 2. no exposure to a capsaicin patch. A systematic review and meta-analysis were used to estimate the effectiveness of pregabalin. Response was defined as a ≥50% reduction in pain at week-8. Patients who responded were assumed to experience pain relief and increase in health-related quality of life until the resolution of pain (or death). Non-responders were assumed to switch therapy, and individual's that failed last-line therapy were assumed to experience baseline pain (unless resolution of pain or death). Costs were based on published sources. The primary outcome was the incremental cost-effectiveness ratio (ICER). The perspective was the UK National Health Service and personal social services. **RESULTS:** Key parameter estimates derived from the observational study were: the probability of response for capsaicin patch (29.5%), the mean number of patches per application (1.5), the mean time to retreatment (218 days), The baseline EQ-5D score was 0.370; response was associated with an increase in EQ-5D utility of 0.353 from baseline. The base-case ICER was £2,292 per quality-adjusted life-year (QALY). This varied by time horizon. Probabilistic sensitivity analysis suggested that over a lifetime horizon, a treatment strategy placing capsaicin patches before pregabalin had a 99.9% probability of being cost effective at a willingness-to-pay threshold of £20,000. **CONCLUSIONS:** The capsaicin patch used before pregabalin was a highly cost-effective treatment in the management of peripheral neuropathic pain.

PSY32

COST EFFECTIVENESS OF INDUCTION ANESTHETIC AGENTS

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OBJECTIVES: To evaluate the cost effectivenss of Thiopentone and Propofol for over night induction anesthesia in a tertiary care hospital. **METHODS:** A prospective observational study in which the patients scheduled for general anaesthesia were adminsitred EQ5D 5L(Qol question aire) after six hour and 24 hours of administering Induction Aneasthesia. Kuppuswamy scale was applied to asses the socioeconomic status along with the demographic detials **RESULTS:** The average of EQ5D5L scores for Propofal was 14.2 and for Thiopentone 16.0. The cost of the Propofol brand used in hospital were 250INR and 260INR. Thiopentone , only one brand was avialable costing 62 INR. The Propofol was the most commonly used induction anesthetic and it costs more than 4 times of Thipentone. The patients socioeconomic categorirzation based on Kuppuswmy Scale revealed nearly 50% of patients belonged to lower middle class and 35% middle class and rest of the patients to Upper class. Incremental cost effectivness ratio for Thiopentone agianst Propofol was found to be -110; **CONCLUSIONS:** The Propofol although expensive does not offer any advantage over the Thiopentone as for quality of life among patients who under went induction anethesia

PSY33

COST-EFFECTIVENESS ANALYSIS OF CYSTEAMINE IN THE TREATMENT OF PATIENTS WITH CYSTINOSIS – A RARE DISEASE

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OBJECTIVES: To perform a cost-effectiveness analysis (CEA) of cysteamine in the treatment of infantile cystinosis vs. control group consisting of patients who had been given only conservative and symptomatic treatment (CaST). **METHODS:** Markov model was developed in TreeAge Pro 2009. The model evaluated the costs and health outcomes of cysteamine treatment at a dose of 1.30 g/m^2/day compared with the use of CaST. The model distinguished two populations, depending on the time of initiation of the treatment (before the age of two – P1 and after the age of two – P2, which implies worse prognosis for the time of occurrence of end stage renal disease (ESRD)). The CEA was conducted from both a common payer perspective (a patient and a public payer) and a public payer perspective. The time horizon of the analysis covered the period from the age of one or four (depending on the start of cysteamine therapy) to fifty (currently, the oldest living patients with cystinosis reach the fifth decade of life). The main measures of the outcomes in the CEA were life-years gained (LYG) and life-years gained to the onset of ESRD. **RESULTS:** From the common payer perspective the cost per LYG was PLN 95,337 and PLN 192,272, respectively for the population P1 and P2. Cost of LYG to the onset of ESRD was PLN 33,317 and PLN 64,163, respectively for populations P1 and P2. The results obtained from the public payer perspective did not differ significantly from the results obtained from the common payer perspective. **CONCLUSIONS:** Cysteamine treatment of patients with cystinosis vs. therapy involving only CaST is more expensive, however produces better health outcomes. Regarding the acceptability threshold in Poland cysteamine therapy can be considered a cost-effective technology compared with CaST in patients who began treatment before the age of two.

PSY34

COST-EFFECTIVENESS OF SUGAMMADEX FOR ROUTINE REVERSAL OF NEUROMUSCULAR BLOCKADE, WITH EXTUBATION AT A TOF RATIO OF 0.9, IN ANAESTHETISED PATIENTS UNDERGOING ELECTIVE SURGERY IN ENGLAND AND WALES

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OBJECTIVES: To assess the cost-effectiveness of sugammadex compared with neostigmine + glycopyrrolate as a reversal agent for moderate and deep rocuronium or vecuronium-induced neuromuscular blockade (NMB) in the elective setting in England and Wales, when extubation occurs at a train-of-four (TOF) ratio of 0.9. **METHODS:** A decision tree comparing the cost-effectiveness of sugammadex versus neostigmine + glycopyrrolate when reversing moderate or deep NMB induced by commonly used neuromuscular blocking agents (NMBAs) (atracurium/rocuronium/vecuronium) was developed. Extubation was modelled to occur at a TOF ratio of 0.9, as may happen when using objective NMB monitoring to determine when to safely extubate. Time to recovery was used to calculate the cost of patients recovering in theatre based on both the average cost per minute of theatre time, and operating room (OR) staff costs per minute. Effectiveness was measured by the number of prolonged paralysis cases prevented by each treatment regimen. **RESULTS:** Reversal of moderate NMB: when considering average cost per minute of theatre time, results show that sugammadex strategies are dominant compared with all assessed comparators. When considering OR staff cost per minute, results show that rocuronium with sugammadex is dominant over all assessed comparators, with the exception of atracurium with neostigmine + glycopyrrolate (ICER< £100). Reversal of deep NMB: when considering either costing scenario, results show that sugammadex strategies are dominant over all assessed comparators, with the exception of atracurium with neostigmine + glycopyrrolate (ICER < £330). **CONCLUSIONS:** In clinical settings where extubation occurs at a TOF ratio of 0.9, and time savings may be realized for all OR staff, under both moderate and deep NMB scenarios in the elective surgery setting, sugammadex is either dominant or shows reasonable levels of cost-effectiveness (with low ICERs <£330 when not dominant against neostigmine+ glycopyrrolate), whilst also filling an unmet need for deep NMB reversal.

PSY35

COST-EFFECTIVENESS ANALYSIS OF A VACCINATION PROGRAMME FOR THE PREVENTION OF HERPES ZOSTER AND POST-HERPETIC NEURALGIA IN ADULTS AGED 50 AND OVER IN GERMANY

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OBJECTIVES: A vaccine is licensed in Europe for the prevention of Herpes Zoster (HZ) and postherpetic neuralgia (PHN) in adults aged ≥50 years. The objective of this study was to assess the cost-effectiveness of a vaccination programme in Germany in this population. **METHODS:** An existing European Markov Model was adapted to the German health care setting and cost-effectiveness outcomes were assessed from the statutory health insurance (SHI) and from the societal perspective. The Markov Model compares a HZ vaccination policy for adults aged ≥50 years with a no vaccination policy. Health states considered are healthy, HZ, PHN, healthy post-HZ and death. HZ and PHN states are further split by pain severity (mild, moderate or severe). Model outcomes include cost/HZ case avoided, cost/PHN case avoided and cost/quality-adjusted life year (QALY) gained. Additionally we assessed the number needed to vaccinate (NNV) to avoid one case of HZ or PHN. Input data were obtained from German data sources, international and German study results as well as published literature. Discounting was done in accordance to guidelines from the German Institute for Quality and Efficiency in Health Care (IQWiG). **RESULTS:** Preliminary results of the base-case analysis show incremental cost-effectiveness and cost-utility ratios (ICER) in amount of € 2,223 per HZ case avoided and € 22,923 per QALY gained from a payer perspective. In sensitivity analyses discount rates, vaccine prices and no hospitalization assumption showed a major impact on the results. **CONCLUSIONS:** Our cost-effectiveness analysis shows that a HZ vaccination policy for adults aged ≥50 years in Germany could provide public health and economic effects in the German health care system.

PSY36

THE POTENTIAL OF A REDUCTION IN THE RISK OF OPIOID-RELATED FRACTURES TO DRIVE THE COST-EFFECTIVNESS OF AN ANALGESIC

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OBJECTIVES: An increased risk for fractures has been observed in patients treated with opiates, possibly resulting from falls related to central nervous system effects, such as dizziness. Observational data suggest that the semisynthetic opioid, buprenorphine, may be associated with a lower fracture risk than some other opiates such as tramadol. Our objective was to perform a preliminary analysis to explore whether a buprenorphine-class drug has the potential to be cost-effective due to a reduced risk for fracture. **METHODS:** Decision-analytic modeling was used to project fracture-related outcomes and costs over 1 year. Quality-adjusted life-years (QALYs) and costs (in 2012 pounds sterling) were estimated from a health service perspective. Odds ratios for forearm, hip, and spine fractures, by drug, estimated from real-world hospital discharge data (Vestergaard et al., 2006), were applied to the risk for fracture in the general population.