OBJECTIVES: To assess the cost-effectiveness of ferric carboxymaltose (FCM) and iron sucrose (IS) in the correction of iron-deficiency anaemia (IDA) before elective major surgery in non-cardiac surgical patients and predict potential budget expenses for the day care services and blood transfusions. **METHODS:** The pharmacoeconomic model was developed based on the data from multicentre prospective study (E. Bisbe et al., 2011) on the efficacy of FCM and IS for correcting preoperative anaemia in patients undergoing major elective non-cardiac surgery. The cost-effectiveness of two intravenous iron formulations was measured as total costs of medicines and day care services per one patient attained iron replenishment or per one patient without IDA at the end of treatment. Budget impact analysis included expenses for the day care services and blood transfusion procedures during intraoperative and/or postoperative period. Sensitivity analysis was performed by including in the model of iron sucrose similars (ISSs). It was considered that treatment with ISSs requires dose increase up to 120-135% of dose of the original IS (E. Lee et al., 2013; J. Rottermbourg et al., 2010). **RESULTS:** The clinical efficacy of FCM was higher compared to that of IS, this was also reflected in better pharmacoeconomic profile of FCM. The CERs were 14,473.61 RUB and 15,222.83 RUB per one patient attained iron replenishment in the FCM and IS groups, respectively. Treatment with FCM was associated with 2.5-fold lower costs of day care services and 2.7-fold lower expenses for blood transfusion procedures. Additional expenses for the day care services were required for patients received ISSs due to increased frequency of injections; this was resulted in the highest CERs in the ISS group. **CONCLUSIONS:** The present study has demonstrated that administration of FCM is economically effective strategy to replenish body iron stores and correct IDA in surgical patients.

PSY15

COST ANALYSIS OF A FIBRIN SEALANT PATCH FOR MILD, MODERATE AND PROBLEMATIC SOFT TISSUE SURGICAL BLEEDING: A HOSPITAL PERSPECTIVE

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OBJECTIVES: Although there are several hemostats available, drawbacks include limitations with efficacy on first attempt and sub-optimal ease-of-use. Literature suggests that more efficacious hemostats may avert hospital resources and offset upfront acquisition costs. A study was conducted to estimate the cost impact of a novel fibrin sealant patch (i.e., EVARREST™) versus standard of care (SoC) in mild-moderate and problematic soft tissue surgical bleeding. **METHODS:** An economic model was developed to quantify 30-day cost impact of EVARREST from a U.S. hospital perspective. Key resources, collected from two trials, included quantity of initial treatment and re-treatment, operating time, hospitalization, transfusion risk, amount transfused, and ventilator utilization. SoC was composed of Surgicel (mild-moderate bleeding) or Surgicel (88%) and conventional methods (12%) (problematic bleeding). The primary analysis included resources clinically related to the significant hemostasis benefit of EVARREST vs. control (i.e., initial and re-treatment, operating time and transfusion). A secondary analysis included all resources collected. Published data on U.S. costs were applied to resource use. **RESULTS:** In problematic bleeding, the primary analysis predicted that EVARREST is cost-savings for the hospital vs. SoC (-$462 USD per patient) with robust one-way sensitivity results (range: -$199 to -$6,212 USD). In mild-moderate bleeding, EVARREST acquisition cost is partially offset with a cost impact of $507 USD per patient (sensitivity range: $175 to $851 USD). Secondary analyses predicted further resource reduction with EVARREST leading to cost-savings (-$5,096 USD per patient) or reduction in cost impact ($233 USD per patient) for problematic and mild-moderate bleeding respectively. **CONCLUSIONS:** This analysis suggests that the hospital cost impact of EVARREST depends on type of bleed. In problematic soft tissue bleeding, EVARREST may result in important cost savings for hospitals, in addition to meeting an important unmet need. Further study in additional populations may be required to confirm findings.

PSY16

COST ANALYSIS OF BYPASSING AGENT PROPHYLAXIS TREATMENT VERSUS ON-DEMAND THERAPY IN HEMOPHILIA A WITH INHIBITOR IN SPAIN

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OBJECTIVES: To estimate the treatment cost of prophylaxis and acute breakthrough bleeds with Activated Prothrombin Complex Concentrate (aPCC) versus on-demand therapy with recombinant Factor VIIa (rFVIIa) for severe hemophilia A (HA) with inhibitor patients, from the Spanish Healthcare System perspective. **METHODS:** A cost-analysis model was used to compare annual cost per patient of aPCC prophylaxis versus rFVIIa on-demand treatment. Cost estimation included prophylaxis pharmaceutical costs (aPCC), on-demand pharmaceutical treatment for bleedings, bleeding events management (excluding factor), surgeries and HA management. Prophylaxis regimen was 75.72IU/kg three times per week. Total dosage for each hemorrhagic event was 673.46µg/kg for rFVIIa and 233.13U/kg for aPCC, annual number of bleedings was 25 for on-demand therapy and 8 for prophylaxis, assuming 69% reduction due to prophylaxis. A baseline bleeding management cost (€2,971) was estimated based on resource use provided by an expert panel for four bleeding sites (joints [62.5%], muscle and soft tissue [28.6%], mucous membranes [3.6%] and other sites [5.4%]). Drug (ex-factory price with mandatory 7.5% rebate) and unitary costs (€, 2013) were obtained from local databases. **RESULTS:** Estimated annual treatment cost of prophylaxis with aPCC (€523,473) was lower than on-demand treatment with rFVIIa (€622,183). Based on the total agent consumption (789,109IU [aPCC] and 1,050,067µg [rFVIIa]) the pharmaceutical cost accounted for €496,350 for aPCC (14.6% on-demand bleedings and 85.4% prophylaxis) compared to €543,866 for rFVIIa (average bleeding cost of €9,062 [aPCC] and €21,556 [rFVIIa]). Yearly bleedings cost was €23,770 for aPCC versus €74,963 for rFVIIa. A baseline cost for HA management (€2,645) and an average cost of surgeries (€708/year) were estimated for both strategies. Results for sensitivity analyses showed cost-savings ranging from €22,525 to €996,384 of prophylaxis with aPCC vs. on-demand with rFVIIa. **CONCLUSIONS:** Three times/week aPCC prophylaxis could reduce 16% the total treatment cost of severe HA with inhibitor, saving up to €98,000/patient/year.

PSY17

RELATIONSHIP BETWEEN BODY MASS INDEX AND HEALTH CARE COSTS BY PLACE OF SERVICE IN EMPLOYED ADULTS

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OBJECTIVES: While previous studies have shown that overweight and obesity are associated with higher costs, less is known about health care costs by place of service (POS) at various levels of BMI. This study measures the impact of BMI as a continuous variable on health care cost at different places of service. POS categories include: pharmacy, doctor's office, inpatient hospital, outpatient hospital or clinic, emergency department, laboratory, and other. **METHODS:** Using 2003-2012 retrospective data from large employers throughout the United States, employees' BMI values were calculated using health risk appraisal data. All study employees were >=18, had >=12 months of health plan coverage after their index BMI screening date, and had no medical claims indicating pregnancy. Employees with BMI<18 (1st percentile) or BMI>47 (99thpercentile) were excluded. Generalized additive models on 12-month post-index POS costs produced estimates of the nonlinear relationship between BMI and cost after controlling for age, gender, marital status, race, salary, zip-code region and index year. **RESULTS:** This study included 71,633 eligible employees; 32.0% were female. The average BMI, age and annual salary were 27.3, 39.8 years and $81,382, respectively. Costs increased significantly with BMI in each POS (P<0.001). Total adjusted annual per-employee health care cost estimates at BMI values of 25, 30, 35, and 45 were $3043, $3932, $4357, and $7248, respectively. Cost estimates by POS at these BMI values were: Pharmacy ($706, $903, $1106, $1372), Inpatient ($398, $678, $643, $2440), Outpatient ($799, $1057, $1113, $1516), Office ($939, $1044, $1174, $1495), Emergency ($131, $159, $200, $186), Laboratory ($34, $38, $46, $43), and Other ($35, $53, $74, $196), respectively. **CONCLUSIONS:** Employees with higher BMI levels incurred more cost at each of the 7 places of service. Because of the high prevalence of overweight and obesity, these costs represent a significant burden for US employers.

PSY18

COHORT ANALYSIS ASSESSING HEALTH CARE COSTS ASSOCIATED WITH OBESITY AT VARIOUS PLACES OF SERVICE IN EMPLOYED ADULTS

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OBJECTIVES: This study determines the distribution of health care costs by place of service (POS; pharmacy, doctor's office, inpatient hospital, outpatient hospital or clinic, emergency department, laboratory, and other) among employees based upon body mass index (BMI). **METHODS:** Using 2003-2012 retrospective data from large employers throughout the US, employees' BMIs from health risk appraisal data defined three main cohorts (BMI<27 [normal weight], 27<=BMI<30 [overweight] and BMI>=30 [obese]). The 27<=BMI<30 cohort was further divided into 3 comorbidity subcohorts: those without diabetes, hypertension or dyslipidemia (NonT2DHtnDys), those with hypertension or dyslipidemia without diabetes (HtnDys), and those with diabetes with or without hypertension or dyslipidemia (T2D). All eligible employees were aged>=18, had >=12 months post-index health plan coverage, and had no pregnancy claims. Annual post-index costs were compared between cohorts and between subcohorts using two-part regression modeling, controlling for age, gender, marital status, race, salary, region, and index year. **RESULTS:** This study included 39,696 (BMI<27), 14,281 (27<=BMI<30), and 18,801 (BMI>=30) eligible employees, with total adjusted health care costs of $3,191, $3,695, and $4,844, respectively. Employees with higher BMI were significantly more likely to incur health care costs in every POS category. Obese employees (BMI>=30) had particularly high inpatient costs compared to other cohorts, averaging twice the cost of the BMI<27 cohort ($919 vs. $431, P<0.05). Total costs among subcohorts of 27<=BMI<30 were $2,863 (NonT2DHtnDys), $5,271 (HtnDys), and $7,594 (T2D). NonT2DHynDys employees had significantly lower health care cost than other subcohorts in every POS category. The T2D subcohort had significantly higher pharmacy, inpatient, doctor's office, laboratory and other health care costs when compared to HtnDys. **CONCLUSIONS:** Employees with higher BMI incurred higher average health care costs than other employees at all places of service. Comorbidities, particularly diabetes, exacerbate health care costs of overweight employees. This represents a significant economic burden for US employers given the high prevalence of overweight and obesity.

PSY19

HAEMOPHILIA A: ANNUAL COST COMPARISON BETWEEN FL-RFVIII AND BDD-RFVIII IN FRANCE: WE SHOULD COMPARE THE COST PER PATIENT INSTEAD OF THE PRICE PER UNIT

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OBJECTIVES: Hemophilia A is rare bleeding disorder where patients have defective or deficient levels of coagulation factor VIII (FVIII). Recombinant FVIII (rFVIII) are manufactured to treat the patients, either as a full-length rFVIII (FL-rFVIII) molecule replicating natural human FVIII or with the B-domain deleted (BDD-rFVIII). It has been suggested that Deletion of B domain had been implemented to improve production profitability. However, this deletion has been shown to induce increase factor consumption by 32.8% in the US (Epstein 2011) and also may increase the risk of developing inhibitors for previously treated patients (PTP) Hazard Ratio=10.8 (Aledort 2011). Both differences can have an important impact on patient health and on the national health care budget. **METHODS:** A Excel-based decision tree model had been developed to compare the overall cost to treat severe haemophilia A patients from a health care system perspective with the most used FL-rFVIII and