effectiveness analysis is conducted from a societal perspective (direct and indirect costs) and from a health care perspective (direct costs only). Direct costs include pharmacological and physician visits. Indirect costs are calculated based on production losses (the human capital approach). The analysis uses a cost-effectiveness model which includes effect data from two clinical studies of gabapentin and one clinical study of pregabalin previously used in a Canadian cost-effectiveness analysis. In addition, the analysis and treatment doses are partly based on two clinical studies of pregabalin and gabapentin. Resource use is based on time spent in each pain state (mild, moderate, and severe). In the sensitivity analysis drug doses, costs, and quality of life weights were varied. Information regarding costs, resource use, and quality of life weights was collected from the Canadian study, Statistics Sweden, regional price lists, Pharmaceutical Specialties in Sweden, and from three burden of illness studies. Dr. Jorgen Boivie was consulted regarding Swedish treatment practice.

RESULTS: Since patients treated with pregabalin spend less time in the more severe pain states their health in terms of QALY’s is better compared to patients treated with gabapentin (0.5019 vs. 0.4596). In the societal perspective analysis, total costs of one year treatment were lower for pregabalin than for gabapentin (SEK100, 476 vs. SEK102, 103). Total costs were only slightly higher for pregabalin (SEK57,811 vs. SEK52, 645) and the cost per QALY gained was estimated to be SEK120,000 when indirect costs were excluded. CONCLUSION: The study shows that pregabalin is a cost-effective and, from a societal perspective, a cost-saving alternative compared to gabapentin in treatment of patients with PHN.

PSY23
COST-EFFECTIVENESS OF LAPAROSCOPIC ADJUSTABLE GASTRIC BANDING AND LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS IN THE TREATMENT OF MORBID OBESITY

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OBJECTIVE: To assess the cost-effectiveness of laparoscopic adjustable gastric banding (LAGB) as treatment for morbid obesity compared with laparoscopic roux-en-y gastric bypass (LRGBY) and no treatment. METHODS: A Markov model was developed to simulate weight loss, health consequences, and costs for surgical treatment of morbid obesity. The model was used to estimate lifetime medical-care costs, quality-adjusted life years (QALYs) and incremental cost-effectiveness ratios (ICERs) in terms of cost per QALY gained. Estimates of effectiveness were derived from published results of a head-to-head randomized controlled trial comparing LAGB and LRGBY. Patients receiving no treatment were assumed to maintain their original weight. Other model parameters, including complication rates, costs of treatment and adverse events, direct medical costs attributable to obesity, mortality rates, and utilities, were estimated from published literature and publicly available databases. Base-case analyses were stratified by gender and initial body mass index (BMI). We discounted costs (2006 US dollars) and QALYs by 3% per annum. RESULTS: Under conservative assumptions, for a woman aged 40 years with initial BMI of 35–40, LAGB has lower average costs than LRGBY for the initial procedure ($15,470 versus $23,160) and complications ($3650 versus $11,930), but results in less weight loss. ICERs are $13,990 and $14,690 for LAGB and LRGBY versus no treatment; and $16,540 for LRGBY versus LAGB. Corresponding ICERs for women with BMIs of 40–50 are $4860, $5150, and $5780. ICERs for men are generally higher than those of women due to shorter life expectancies. Sensitivity analyses show results to be robust to reasonable variation in model parameters and overall parameter uncertainty. CONCLUSION: Both LAGB and LRGBY provide significant weight loss and are cost-effective versus no treatment at conventionally-accepted thresholds for medical interventions. Accordingly, choice between the two procedures can be based on other factors such as patient or provider preference.

PSY24
THE ECONOMIC CONSEQUENCES OF POST OPERATIVE PAIN MANAGEMENT WITH TRANSDERMAL FENTANYL (IONSYS) VERSUS INTRAVENOUS PATIENT-CONTROLLED ANALGESIA

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OBJECTIVE: To analyze the economic consequences on staff time in post-operative wards in Sweden and Denmark of two modalities for treatment of post-operative pain, the fentanyl HCL iontophoretic transdermal system (fentanyl ITS) versus patient controlled intravenous analgesia (IV-PCA). METHODS: Current postoperative pain management is labor intensive. Fentanyl ITS is a new modality for moderate-to-severe postoperative pain. Clinical efficacy and side effects incidence have been reported as mainly the same for fentanyl ITS and IV-PCA in several randomized clinical trials. A cost analysis was therefore performed. Staff resources in post-operative wards were calculated based on findings from a Nordic Delphi panel where the participants (nurses and anesthesiologists) from Sweden and Denmark working with post-operative patients should determine the total time required to complete all tasks involved in fentanyl ITS and IV-PCA use and assess differences in staff time between the alternatives. The panelists identified the following tasks: set up, routine patient care, dosing, routine replacement, trouble shooting, and discontinuation of post-operative pain management. Staff costs were calculated based on official wages statistics for specialists and nurses in postoperative care. Costs were calculated in 2007 prices. RESULTS: Based on the panel information, the total post-operative staff time requirement per patient was 70 minutes for fentanyl ITS versus 146 minutes for IV-PCA. Most staff resources were spent on set up and routine patient care for both treatment alternatives. The post-operative staff cost per patient was calculated at €27 and €57 in Sweden and €31 and €66 in Denmark, respectively. CONCLUSION: The staff costs of post-operative management in post-operative wards with fentanyl ITS is 53% ($30) lower per patient in Sweden and 53% ($35) lower in Denmark compared with IV-PCA. Additional health-economic analyses of total resources used for post-operative pain management, including material costs, based on clinical observations would be valuable.

PSY25
ECONOMIC IMPACT AND CONSERVATION OF INTRAVENOUS IMMUNOGLOBULIN (IVIG) THROUGH THERAPEUTIC SUBSTITUTION WITH ANTI-D IN PATIENTS WITH IDIOPATHIC THROMBOCYTOPENIA PURPURA (ITP) AT AN URBAN TEACHING HOSPITAL IN STATEN ISLAND, NY

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OBJECTIVE: Corticosteroids, IVIG and Anti-D can be used as first-line therapy for the treatment of ITP. After review of the
literature, Anti-D was selected over IVIG as the preferred agent at Staten Island University Hospital. The objectives of this study were to investigate how much IVIG was spared after implementation of this decision and determine the cost savings realized when Anti-D is used in place of IVIG. METHODS: Literature supporting the utilization of Anti-D in treatment of ITP was presented by each of the key clinical faculty. The oncology pharmacist screened and verified all IVIG orders for ITP patients. Substitution with Anti-D was made for all Rh+ and non-splenectomized patients. The quantity of IVIG spared was calculated by subtracting the amount dispensed before and after implementation of the program. Savings realized were calculated by determining the cost of a treatment course with IVIG and with Anti-D for a 80 kg patient. RESULTS: A total of 904 and 130 g of IVIG were administered during the first and the second half of 2006, respectively. Similarly, 220,000 and 376,000 units of Anti-D were used during the same time period. A treatment course with IVIG (at 1 g/kg/day for two days) costs $8960 whereas a treatment course of Anti-D costs $4200 (at 7.5 g/kg). Since the treatment of a 80 kg patient would require 160 g of IVIG, the 774 g spared represent the amount necessary to treat 5 patients with IVIG. The sparing of 774 g of IVIG therefore helped save $23,800. Also, 3 other courses were done with Anti-D instead of IVIG yielding $14,280 in additional savings. CONCLUSION: In 2006, the implementation of a therapeutic substitution program at Staten Island University Hospital making Anti-D the preferred agent over IVIG in the treatment of ITP helped spare 774 grams of IVIG and saved $38,080.

PSY27

BURDEN OF OBESITY: 10-YEAR REVIEW OF PUBLISHED LITERATURE ON DIRECT AND INDIRECT COSTS IN NINE COUNTRIES

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OBJECTIVE: To examine literature published during the past ten years describing the impact of obesity and obesity-related disease on direct and indirect costs in Australia, Canada, France, Germany, Italy, Spain, Sweden, the UK, and the US. METHODS: A review of the medical literature published from 1997 to 2007 was conducted, including MEDLINE, EMBASE, Current Contents Connect, and International Pharmaceutical Abstracts databases; ISPOR abstracts; and data published by relevant governmental agencies. RESULTS: A substantial portion of direct costs related to obesity derive from treating comorbidities associated with the condition (e.g., type 2 diabetes, cardiovascular disease). Indirect costs, including those associated with reduced work productivity, increased absenteeism, and premature death, are significant, with the majority arising from comorbid conditions. Direct costs were greater for obese patients than for normal-weight patients; morbid obesity was associated with dramatic cost increases. Estimates of direct costs as a percentage of national health care expenditures were 5.7% for the US, and ranged from 2% to 2.6% for Australia, Canada, Sweden, and the UK. No estimates of indirect costs as a percentage of national health care costs were identified. No studies involving direct or indirect cost data collected since 1995 were identified for France, Italy, or Spain. CONCLUSION: Obesity has a substantial economic impact because of its high prevalence, association with multiple chronic diseases, and increased levels of disability and absenteeism. The lack of recent direct or indirect cost estimates in several countries highlights the need for further work to describe the global economic burden of obesity.

PSY26

THE DIRECT MEDICAL COSTS ASSOCIATED WITH SUSPECTED (CONFIRMED AND NEGATIVE) HEPARIN-INDUCED THROMBOCYTOPENIA

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OBJECTIVE: Heparin-induced thrombocytopenia (HIT) is an important adverse reaction associated with heparin utilization. No previous studies have assessed the cost of suspected HIT or examined HIT from a Canadian perspective. Therefore, the objective of our study was to quantify the direct medical costs associated with suspected and confirmed HIT from a Canadian hospital perspective. METHODS: A cost of illness analysis was conducted on a population of consecutive patients with suspected HIT during 2005. Suspected HIT was defined by the performance of a HIT enzyme-linked immunosorbent assay (ELISA). Confirmed HIT was defined by one of the following: 1) positive serotonin release assay (SRA), 2) positive HIT ELISA plus high clinical probability for HIT, or 3) strongly positive HIT ELISA (optical density > 1.0). Negative HIT was defined as a negative HIT ELISA or SRA result. Resource utilization variables included: 1) HIT-safe anticoagulant use, 2) laboratory tests, 3) diagnostic and surgical procedures, and 4) length of stay (LOS) attributed to HIT. The average cost (2007 CANS) per case of confirmed HIT, confirmed HIT with thrombosis (HITT), and negative HIT was calculated. Cost data was obtained from hospital and provincial sources. RESULTS: There were 110 suspected HIT cases (56 males: 54 females) in 2005. Two patients were excluded because their HIT status could not be determined. Average LOS was 36 ± 42 (range 3–244) days. There were 88 negative HIT cases, 8 with confirmed HIT, and 12 with confirmed HITT. Patients with confirmed HITT incurred substantially greater average costs ($25,696, range $357–$145,217) than those with confirmed HIT ($3846, range $38–$14,258). The average cost of a negative HIT case was $115 (range $38–$4119). CONCLUSION: This is the first study to identify the costs associated with confirmed HIT, confirmed HITT, and negative HIT. Suspected HIT increases the costs of hospital care.

PSY28

A SYSTEMATIC REVIEW OF LOW BACK PAIN COST OF ILLNESS STUDIES IN THE UNITED STATES AND INTERNATIONALLY

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OBJECTIVE: Conduct a systematic review of low back pain cost of illness studies. METHODS: Medline was searched to uncover studies about the direct or indirect costs of low back pain published in English from 1997 to 2007. Data extracted for each eligible study included study design, population, definition of low back pain, methodology for estimating costs, year of data, and estimates of direct, indirect, or total costs. RESULTS: The search yielded 147 studies; 27 were deemed relevant. The studies reported on data from Australia, Belgium, Japan, Korea, The Netherlands, Sweden, the UK, and the US. Nine studies estimated direct costs only, 9 indirect costs only, and 9 both direct and indirect costs, from a societal (n = 18) or private insurer (n = 9) perspective. Methodology used to derive both direct and indirect cost estimates differed markedly among the studies. Among