assessing quality, using common endpoints at 6 months, 1, and 2 years, five trials on orlistat (120 mg TID) and six on sibutramine (10 mg QD) were selected. Pooled estimates of weighted mean difference (between placebo and drug) in proportion of patients losing 10% or more of body weight (the primary outcome) were derived. Lifetime health and economic benefits of sustained 10% weight loss for adults aged 35–64 years with mild (BMI 27.5 kg/m²), moderate (BMI 32.5 kg/m²) and severe (BMI 37.5 kg/m²) obesity from a recently published cost-of-obesity model (Am J Public Health, 1999, 89:1536) of the relationship between BMI, risks, and cost of five obesity-related diseases (hypertension, hypercholesterolemia, diabetes, coronary heart disease, stroke) were used. Using direct costs, CBA was performed with weighted average savings (transformed to year 2001 US$) by age, BMI, and proportion losing 10% or more of body weight. Sensitivity analysis by varying the proportion of patients sustaining 10% weight loss (+/-20%) and discount rate was done.

RESULTS: Benefit-cost ratios of orlistat and sibutramine were less than one for the base-case analysis at 6 months, 1 year and 2 years. Best/worst-case benefit-cost ratio (via sensitivity analysis) of orlistat remained less than one, while that of sibutramine was 1.8/1.2 at 1 year.

CONCLUSIONS: Unless the proportion of patients sustaining 10% weight-loss increases, neither orlistat nor sibutramine would prove cost-beneficial in formulary coverage decisions.

THE ECONOMIC IMPACTS OF TROUGH: PEAK RATIO AND LIPOPHILICITY ON COST-EFFECTIVENESS OF ACE-INHIBITOR THERAPY FOR HYPERTENSION

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OBJECTIVE: While a “class effect” is often attributed to ACE-Inhibitor (ACE-I) therapy in hypertension, pharmacokinetic and pharmacodynamic differences exist between agents for endpoints such as trough:peak ratio and lipophilicity. Agents with these clinical advantages may enable patients to more consistently achieve and maintain low blood pressure (BP) than agents with lower trough:peak ratios and poorer lipophilicity. This study assessed the economic implications of these clinical benefits in the management of hypertension.

METHODS: A literature-based decision model was developed to project the relative costs and effectiveness over one year of four commonly prescribed ACE-Is (benazepril, lisinopril, ramipril and quinapril) versus trandolapril from the perspective of a typical managed care plan (MCO) with 100,000 members, of whom 1,700 were projected to take ACE-I for hypertension. Therapy effectiveness was measured as the proportion of patients achieving BP control. Controlled patients were assumed to incur substantially lower non-drug costs ($599–$1,048) than uncontrolled patients ($4,449–$17,751). Drug costs reflected the price and actual dose taken based on national prescription data. In the most conservative scenario, all therapies were assumed to result in identical levels of BP control (59%). In the least conservative scenario, it was assumed that patients taking therapies with either poorer lipophilicity or lower trough: peak ratio would be less frequently controlled (38%).

RESULTS: Trandolapril saved between $48,000 to $235,000 compared to other ACE-Is in the most conservative scenario. In the least conservative scenario, the cost of therapies with lower BP control increased significantly and exceeded that of trandolapril by $1.8 to $2.0 million.

CONCLUSIONS: In both scenarios, trandolapril saved costs relative to comparator ACE-I therapies. These savings were driven by trandolapril’s lower price and the clinical benefits anticipated to result from its lower trough:peak ratio and better lipophilicity. These benefits include more consistent BP control and reduced need for multiple dosing.

FIRST RUSSIAN EXPERIENCE OF ASSESSING WILLINGNESS TO PAY: AVOIDING AMPUTATION IN CASE OF CRITICAL LIMB ISCHEMIA

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This study presents first attempt in Russia to assess willingness to pay for medication treatment.

OBJECTIVE: To obtain monetary valuation of benefits concerned with avoiding amputation in case of critical limb ischemia in Russia.

METHODS: 191 physicians and 137 health care managers filled in the questionnaire about their willingness to pay for medication treatment for critical limb ischemia with prostaglandin E1 if amputation rate decreases to 12% in comparison with 48% in present common practice. The probability of amputation was extracted from a retrospective analysis of the outcomes of managing 105 patients with critical limb ischemia in common practice and a published follow-up study of 752 patients treated with prostaglandin E1 at Moscow surgery center. The respondents had to assess their maximum out-of-pocket expenses and maximum possible expenses for national health care system (NHCS).

RESULTS: 22.8% of respondents could not give a monetary value for the hypothetical situation. Median value for out-of-pocket expenses was 30,000 roubles (about 1,000 USD$); the range 1,500–435,000 roubles for physicians and 15,000 roubles (500 USD$); the range 500–175,000 roubles for health care managers. According to physicians opinion, payment from the NHCS should be 70 ± 30% of the named sum. Health care managers answered that NHCS should cover about 80 ± 27% of the expenses.

CONCLUSION: First experience of assessing willingness to pay showed that health care managers in Russia are
valuing benefits concerned with avoiding amputation twice less than physicians. Anyway the price of prostaglandin E1 is about 350 USD for a period of treatment that is much less than the median sum of money named by both groups of respondents.

**HEALTH ECONOMIC ASSESSMENT OF THE ARCTIC SUN™ MODEL 100 FOR TEMPERATURE MANAGEMENT IN OFF-PUMP CORONARY ARTERY BYPASS SURGERY**

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Hypothermia resulting from invasive surgical procedures can increase blood and fluid loss and complicate the post-operative course of recovery. Therefore, hypothermia can be quite costly to treat. The Arctic Sun™ Model 100 is a new non-invasive perioperative warming device, which controls body temperature through single use Arctic Sun Energy Transfer Pads™ regulated by a control module.

**OBJECTIVE:** To compare the initial surgical and intensive care unit (ICU) outcomes and costs resulting from use of the Arctic Sun vs. standard care of temperature management in patients undergoing off-pump coronary artery bypass (OPCAB) surgery.

**METHODS:** Data from two clinical studies conducted at a major university were combined with other published data to compare surgical outcomes and treatment costs to the hospital associated with patient re-warming methods.

**RESULTS:** Preliminary findings in OPCAB procedures indicate post-operative hypothermia incidence is lower for patients using the Arctic Sun™ Model 100 (5% n = 58) compared to patients warmed using the standard warming methods (48%, n = 48). An additional cost of over $338.00 per patient for blood products and fluids received by patients was incurred for the standard care population compared to the Arctic Sun™ population. Compared to normothermic patients, patients who are hypothermic have an average increased hospital stay of 5.8 days ($2,616.96), and an average increased ICU time of 4.2 hours ($236.88). Combining these costs with the costs to treat infections, morbid cardiac events, and additional lab work, the total additional costs for complications due to hypothermia can easily exceed $8,270 per patient.

**CONCLUSION:** The Arctic Sun™ is an effective temperature management device for OPCAB patients. Combining the Arctic Sun™ clinical data with published economic data suggests that the Arctic Sun™ for temperature management in OPCAB procedures could save over $33,800 in blood product costs and over $355,000 in complication costs per 100 patients.

**A COST ANALYSIS OF “BRIDGING THERAPY” FOR PATIENTS REQUIRING INTERRUPTION OF CHRONIC ANTICOAGULATION**

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**OBJECTIVE:** Patients on long-term anticoagulation requiring interruption of therapy for a surgical procedure historically have been hospitalized to receive “bridging therapy” with continuous infusion intravenous unfractionated heparin (UFH). Recently, low-molecular-weight heparins such as enoxaparin have been reported to have comparable safety and efficacy in this indication, and can be administered on an outpatient basis. The objective of this study was to compare the costs of bridging therapy with enoxaparin versus UFH in this patient population.

**METHODS:** We conducted a cost-minimization analysis of bridging therapy from the perspective of a third-party health insurer. Patient treatment protocols were set forth to reflect current clinical practice. Bridging therapy was assumed to take place over an eight-day period, reflecting three preoperative days, one day of surgery, and four postoperative days. Three alternative bridging strategies were considered: (1) UFH 30,000 units/day administered in hospital; (2) enoxaparin 1.0mg/kg self-administered twice-daily by the patient at home; and (3) enoxaparin 1.5mg/kg administered once-daily in the patient’s home by a visiting nurse. Various secondary sources were used to estimate the costs of drug acquisition, ancillary supplies, provider services, and hospitalization. Analyses were performed for day surgery, surgery requiring overnight stay, and surgery requiring a stay of 4+ days.

**RESULTS:** Bridging therapy with UFH in hospital costs $4,397 per patient for day surgery, $3,818 for procedures requiring an overnight stay, and $2,080 for procedures requiring a stay of 4+ days (2001 US$). Corresponding cost estimates for patient-administered enoxaparin are $663, $673, and $743. Cost estimates for nurse-administered enoxaparin are $990, $935, and $771, respectively.

**CONCLUSIONS:** Bridging therapy with enoxaparin at home whether patient-administered or nurse-administered is substantially less costly than bridging with UFH in hospital. The magnitude of cost savings is highest for day surgery and lowest for surgeries requiring a prolonged recovery in hospital.

**INFLUENCE OF COMORBID CONDITIONS IN THE HOSPITALIZATION OF ANGINA PATIENTS**

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