OBJECTIVE: To estimate cost-effectiveness of pathogen inactivation for platelet transfusions in Dutch cardiac surgery. We used decision-tree analysis to evaluate the cost-effectiveness of the addition of pathogen inactivation of pooled platelets to standard procedures for platelet transfusion safety (such as, donor recruitment and screening). METHODS: Data on transfusions were derived from the University Hospital Groningen (Netherlands) for 1997. Characteristics of platelet recipients (age, gender, survival) and data/assumptions on viral and bacterial risks were linked to direct and indirect costs/benefits of pathogen inactivation. Post-transfusion survival was simulated with a Markov-model. Standard methods for cost-effectiveness were used. Cost-effectiveness was expressed in net costs per life-year gained and estimated in baseline-, sensitivity- and scenario analysis. Sensitivity analysis revealed that cost-effectiveness was insensitive to viral risks, but highly sensitive to, for example, the assumed reduction in the discard rate and discounting. Scenario analysis was elaborated on judicial aspects and occurrence of a new yet unknown virus. RESULTS: Net costs per life-year gained were €110,000 in the baseline (90% CI: €80,000–€180,000). Sensitivity analysis showed potential reductions in cost-effectiveness down to €50,000 per life-year gained. CONCLUSIONS: Given relatively high net costs per life-year gained that are internationally accepted for blood transfusion safety interventions, our estimated cost-effectiveness figures for pathogen inactivation may reflect acceptable cost-effectiveness in this specific area. Validation of several crucial parameters is required, in particular the Dutch risk for acquiring transfusion-related sepsis. Further work should extend the model to other countries, other patient groups (haematology) and the potential elimination of donor testing if pathogen inactivation is to cover the whole spectra of pathogens and blood products.

COSTS OF STROKE: A COMPARISON OF REGULAR CARE AND THREE EXPERIMENTAL STROKE SERVICES IN THE NETHERLANDS
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OBJECTIVES: Determine patient costs after stroke and compare costs between regular care for stroke patients and care organised in stroke services. METHODS: Patient costs after stroke were calculated within the framework of the evaluation of three experiments with stroke services in the Netherlands. Total costs of care per patient for the 6-month follow up were based on medical consumption of 598 patients in 6 regions consecutively admitted to a hospital after stroke. Care consumption and cost data were collected for hospital, rehabilitation, nursing home, and home care. Care consumption was retrieved from patients’ medical records and from patient interviews two and six months after stroke. Unit cost data were collected at participating institutions. RESULTS: We found that the total costs of care per patient for the 6 month follow up after stroke amount to almost €16,000 on average. Costs are dominated by institutional costs and accommodation costs. Patients who die during the acute phase incur less costs. For patients that survive the acute phase, severity of disability, age, gender and place of residence before stroke are the most important determinants of costs, as they influence patients’ stroke careers. These determinants of costs also interact. CONCLUSIONS: Stroke care organised in stroke service experiments potentially is more effective than regular care, although large differences in costs were found between the three stroke services. The most efficient stroke service experiment was the one that was most successful in coordinating patient flow from hospital to (nursing) home, through capacity planning and efficient discharge procedures. The other experiments suffered from waiting lists for (nursing) home care, leading to “blocked beds” and higher costs of care. The relations found between costs, organisation of care, patient characteristics and disease severity may be applied as building-blocks for DRGs for stroke care.

OBESITY AND POTENTIAL COST OFFSETS FROM WEIGHT LOSS—FINDINGS FROM THE SWEDISH MALMO PREVENTION STUDY
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OBJECTIVE: The study aims to 1) estimate the costs of hospital treatment and the value of lost production due to early death associated with underweight, overweight and obese patients, and to extrapolate the findings to national costs and 2) estimate the potential benefits of an obesity intervention program in terms of cost-offsets. METHODS: For the first aim we use a retrospective analysis of the hospital treatment episodes of a defined population with data obtained from screening of 33,196 middle-aged subjects living in Malmo, Sweden and collected during a 15-year follow-up period. For the second aim we apply a prospective cost analysis within a modeling framework. RESULTS: The yearly excess hospital (somatic, psychiatric) care cost (SEK) for overweight (BMI-29 kg/sqm) and obesity (BMI 30 kg/sqm and above) was estimated to SEK 1300 million (US$130 million, assuming $1 = SEK10), or about 2.3 percent of total hospital care costs in Sweden. Indirect costs due to early mortality for obese subjects were estimated to SEK 1200 million (US$120 million). For males at age 55+ the potential hospital cost savings, excluding costs of intervention, that could be gained by an intervention that successfully and safely could alter the weight of an overweight or obese individual to become normal weight was estimated to SEK 30,000 (US$3,000) over 15 years. CONCLUSION: Hospital treatment costs are found to have a J-
shaped relationship to weight (BMI) indicating potential cost offsets by effective weight-loss intervention.

CARDIOVASCULAR DISEASES/DISORDERS—Clinical Outcomes

**DOES COMPLIANCE WITH ACE-I, DIGOXIN AND SPIRONOLACTONE INFLUENCE THE TIME TO EVENT IN PATIENTS WITH HEART FAILURE?**

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**OBJECTIVES:** Patients with Heart Failure (HF) are known to have poor compliance even with medications that can help reduce mortality and events such as readmissions. We wanted to examine whether compliance with three such medications, primarily ACE-Inhibitors, Digoxin and Spironolactone would have any impact on the time to an event in HF patients. An event was defined as a readmission to hospital, an emergency room visit following a discharge from the index admission or death.

**METHODS:** Patients with HF who were admitted to the London Health Sciences Centre were stratified then randomized to receive either usual care education (U) or an enhanced educational intervention (I) aimed at improving compliance that was delivered in hospital, prior to discharge. Compliance data was collected from pharmacy refill data from baseline over the period of follow-up that was 12 months. A Cox Regression time-to-event analysis was run for all patients adjusting for randomization ARM and then adjusting for the covariates of interest, the minimum and mean compliance. **RESULTS:** Seventy-five out of 134 patients had an event. There was no difference in time to event by ARM. The inclusion of the minimum and mean compliance of each drug individually in the regression did not result in any significant changes in the time-to-event; however, there was a trend \( p = 0.082 \) in patients who were on spironolactone and had compliance <0.80. **CONCLUSIONS:** We can hypothesize that there may be a differential effect on the time to an event in this population depending upon the medication. We should be careful not to group all medication compliance into one composite number as different medications in HF have different effects on survival. This data warrants a more careful assessment of compliance for each HF medication and a determination of its effect on clinical outcomes of interest.

**LIPID LOWERING MEDICATIONS FOLLOWING CORONARY REVASCULARIZATION PROCEDURES**

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**OBJECTIVES:** Clinical trials have demonstrated improved outcomes in patients receiving cholesterol lowering medications (CLM) following coronary revascularization and clinical guidelines recommend aggressive cholesterol lowering therapy for patients with established coronary disease. However, in routine practice, the degree to which these recommendations are followed and their impact are unknown. **METHODS:** Using administrative databases, we examined the use of CLM in a consecutive cohort of 11,985 elderly (average age 71.4) patients undergoing coronary revascularization from 1995 until 1997 in Quebec, Canada. **RESULTS:** Before revascularization, 30.9% were receiving CLM. After a 3-year follow-up, 62.8% of cohort survivors had received at least 1 prescription for CLM. CABG patients had a decreased probability of receiving CLM compared to PCI patients (OR .75 95% CI .72–.79). High-risk patients especially the very elderly (>75) had a significantly decreased probability of receiving CLM (OR .61 95% CI .57–.66). The most potent predictor of a post-operative prescription use was pre-operative utilization (OR 7.1 95% CI 6.8–7.5). An adjusted time-dependent analysis showed that patients receiving CLM had a lower risk of death (RR 0.61 95% CI 0.52–0.79) or myocardial infarction (RR 0.78 95% CI 0.64–0.93) than those not exposed to these drugs. There was no difference in the need for a repeat revascularization between the groups (RR 1.05 95% CI 0.91–1.20). **CONCLUSIONS:** CLM were underused in this post revascularization population and this underuse was associated with an increase in adverse outcomes.

**A REVIEW OF THE PHARMACOTHERAPEUTIC MANAGEMENT OF PULMONARY ARTERIAL HYPERTENSION**

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Pulmonary arterial hypertension (PAH) is a rare, incurable and often fatal disorder of the lung in which pulmonary artery pressure rises to abnormal levels. It may either be idiopathic in nature (primary pulmonary hypertension) or a manifestation of many different disorders (secondary pulmonary hypertension). Current management includes prostacyclin vasodilator therapy, and conventional therapy consisting of calcium channel blockers, anticoagulation, oxygen therapy and diuretics; and newer agents such as bosentan, an endothelin antagonist. To date, no systematic review has assessed these interventions. **OBJECTIVES:** To perform a systematic review of the medical interventions used in the management of PAH. **METHODS:** A literature search of EMBASE and MEDLINE was performed, and studies matching the predefined inclusion criteria extracted to HTA-standardised grids and graded using the Jadad score. Data for three outcome measures survival, exercise capacity and right