OBJECTIVES: To measure cost of care in cardiologic departements for inpatients with decompensated, systolic heart failure and to study major cost drivers. **METHODS:** In 2000, a multicentric observational study was set up within 8 cardiology departments in France. Patients over 18, hospitalized with decompensated systolic heart failure (HF), and LVEF < 45% were prospectively included. Data were collected up to final discharge from the department. Cost of lab tests, procedures, blood products and pharmacy were extracted from official guidelines or public hospital sources. Other patients' stay fixed costs, including staff and overheads, were averaged from hospital sources. Factorial analysis was performed on patients' socio-demographic and clinical caracteristics. **RESULTS:** Two hundred twenty-one patients were included, with mean age 66 years, 62% male. Main diagnoses were coronary heart disease (CHD): 48%, and dilated cardiomyopathy: 28%. Average length of stay (LOS) in cardiologic departement was 12.4 days. Average total cost was €5770 (sd: €3975) for each patient. Factors linked to higher costs were: transfert from an other department, emergency admittance, new diagnosis, no previous treatment, and first hospitalization. Factorial analysis identified 3 clusters: one cluster of elderly patients, mean age 77 years, higher LVEF (36%), 60% previously known HF, two clusters with younger patients: mean age 64 years, mainly with CHD; patients in cluster 2 had 97% HF already known and 88% former hospitalization, lower LVEF (26%), whereas in cluster3 100% new diagnosis of HF, high proportion of ICU stay. Hospitalization costs were higher (p < 0.01) in cluster 3 (€6792) than in cluster 2 (€5692) or 1 (€5016), without difference in LOS. Main cost difference was linked to invasive cardio-vascular procedures (€1177 in cluster 3, versus €266 in other clusters, p < 0.001). **CONCLUSION:** Higher costs for patients with decompensated heart failure were related to first hospitalization and new diagnosis, intensive cardiac procedures, mainly for coronary artery disease. Hospitalization costs were lower for relapses.

PCV33

THE COST-EFFECTIVENESS OF TARKA IN THE TREATMENT OF HEART FAILURE AFTER MYOCARDIAL INFARCTION IN THE US HEALTH CARE SETTING

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OBJECTIVE: To generate estimates of the cost-effectiveness of combined ACE-inhibitor and calcium antagonist therapy (Tarka) versus ACE-inhibitors (usual care) in patients with heart failure after myocardial infarction in the US health care setting. **METHODS:** Markov process analysis techniques were used to model the health eonomic outcomes. Data on probabilities of clinical events were derived from clinical trial data and other published literature; units of health care utilization were derived from the literature and the HCUP database; prices/tariffs were derived from official lists. Study perspective was that of the third party payer. **RESULTS:** An analysis over the Tarka trial period shows that Tarka decreases the costs from US$24,567 to US$19,907. The mortality for Tarka is at least equal to usual care (1.96% versus 2.04%) and consequently Tarka can be considered dominant over usual care. Tarka remains cost saving over a follow-up of 5 and 10 years. The cost saving are respectively US$5120 and US$3642. The use of Tarka also leads to substantial reductions in cumulative mortality, which are respectively 9.4% and 11.7% over 5 and 10 years. The lifetime model shows that the use of Tarka leads to an incremental cost-effectiveness ratio of US$1730 per life year gained. Probabilistic sensitivity analysis showed that the probability is 55% that the incremental cost effectiveness ratio of Tarka is less than US$5000 per life year gained, while the incremental cost effectiveness ratio will always be less than US$10,000. **CONCLUSION:** The results showed that the favourable clinical benefit of Tarka results in positive short and long-term health economic benefits.

PCV34

COST-EFFECTIVENESS OF FRACTIONAL FLOW RESERVE TESTING TO GUIDE PERCUTANEOUS CORONARY INTERVENTION IN THE DRUG-ELUTING STENT ERA: A DECISION ANALYSIS

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OBJECTIVE: Pressure-based fractional flow reserve (FFR) is an invasive test for assessing the functional significance of intermediate coronary stenoses. Previous studies have found that FFR testing to guide percutaneous coronary intervention (PCI) is cost-effective. In this study we evaluate the impact of using drug-eluting stents (DES) on this decision. **METHODS:** We developed a Markov model to compare the long-term costs and outcomes of 2 strategies for patients with indeterminate coronary stenosis scheduled for PCI: 1) Universal PCI (UNIV) without FFR testing, and 2) FFR testing followed by PCI only for those with FFR < 0.75 (TEST). Base-case: 60-year-old man under the optimistic assumption (for UNIV) that relative mortality reduction with revascularization is independent of functional significance. Data: long-term clinical outcomes of PCI and medical management including recurrence rates, disease progression, and quality of life based on published literature. Based on fixed effects meta-analysis, we estimated that DES reduce clinical restenosis rates by 79% compared with bare metal stents (BMS). Perspective: societal. Discounting: 3% per year. **RESULTS:** For the case of BMS, UNIV increased costs by $2800/patient and improved outcome by 12 quality-adjusted life days (QALD), yielding an incremental cost-

effectiveness ratio (ICER) of $84,000 per quality-adjusted life year (QALY) gained. When considering the benefits of DES, incremental costs increased to $3300 and benefit of UNIV increased to 18 QALDs, with an ICER of $69,000/QALY. Results were similar for women and over a broad age range (55–75 years). If we assumed that PCI in functionally insignificant stenoses did not reduce long-term mortality, the ICER for UNIV vs. TEST was >$1 million/QALY. **CONCLUSIONS:** Regardless of stent type (BMS or DES), measuring FFR to guide the decision to perform PCI leads to significant cost savings. Even under very optimistic assumptions regarding mortality benefits and restenosis rates for DES, universal stenting does not appear to be cost-effective when compared to other well-accepted interventions in health care.

PCV35

BURDEN OF HYPERCHOLESTEROLEMIA IN GERMANY

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OBJECTIVE: The objective of this analysis is to assess the cost and quality of life of patients treated for hyper-cholesterolemia in Germany. **METHODS:** The following analysis uses the baseline data assessed at the beginning of the randomised controlled German ORBITAL study, designed to determine the impact of a compliance-enhancing program on long-term disease-related outcomes and costs. More than 8000 patients with hypercholesterolemia (HC) eligible for statin therapy have been enrolled. At baseline patients completed a detailed questionnaire. Health care resource use over the past 6 months, preceding enrolment, as well as quality of life (SF-12, EQ-5D and EQ-VAS) was assessed. **RESULTS:** A total of 2500 patients (mean age 61 ± 11 years, 44% female) were included in this analysis, 32% were employed at the time of inclusion, 19% had a history of myocardial infarction, 8% a history of stroke, 61% had hypertension and 28% diabetes. Disease-related direct costs amounted to a mean of €655 per patient in the six months period, indirect costs to €1495 per patient. Direct costs included mainly costs for hospital stays (€433), primary care consultations (€111), outpatient therapeutic measures (€54), and rehabilitation (€43). Indirect costs due to days off work amounted to €303, due to early retirement to €1191. Mean quality of life according to the EQ-5D was 0.81 (EQ-VAS 0.69). The mean scores of the SF-12 were 47.60 (PCS) and 43.24 (MCS). **CONCLUSIONS:** Indirect costs due to a loss of

productivity contributed markedly to the disease-related costs in patients with HC. The considerable economic burden of HC indicates the need to assess long-term effectiveness of health care programmes in patients with the disorder.

PCV36

COST-EFFECTIVENESS OF EARLY THROMBOLYSIS FOR THE TREATMENT OF ACUTE MYOCARDIAL INFARCTION: A SYSTEMATIC REVIEW OF THE LITERATURE

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OBJECTIVES: To carry out a systematic review of the literature comparing the cost-effectiveness of thrombolytic agents currently available in the UK for treatment of AMI in either a hospital or pre-hospital setting. The aim of this review was to identify economic evaluations that had been undertaken in the context of high quality randomised controlled trials in order to inform UK NHS decision-making. **METHODS:** The search included a number of strategies. Search terms for electronic databases (MEDLINE, EMBASE, HTA, DARE, NHS-EED, Cochrane Trials Register) included a combination of index terms and free word text. Using explicit, predetermined criteria, two reviewers independently identified studies for inclusion in the cost-effectiveness review process. Quality assessment using the Drummond 10-point checklist was also performed. **RESULTS:** No studies in the pre-hospital setting met the inclusion criteria. In the hospital setting, 107 papers were considered for inclusion in the review and 8 met the inclusion criteria. All of the studies justified their choice of comparator, performed incremental cost-effectiveness analysis and included relevant comparators. Authors in Europe applied the results of the GUSTO I study to their own settings in an attempt to compare the cost-effectiveness of alteplase versus streptokinase. Consequently, cost-effectiveness ratios were expressed in several currencies, a reflection of the international interest in the choice between alteplase and streptokinase. Some studies did not sufficiently explore the true cost of complications over the patient's lifetime, nor was this addressed fully by sensitivity analysis. Only three studies considered issues that can be addressed by cost-utility analyses. Overall the studies were of good quality. **CONCLUSIONS:** Existing economic evaluations are of limited value in determining the relative cost-effectiveness of thrombolytic drugs in the NHS. Published studies are almost all industry funded and interpretation of results depends on whether one accepts or rejects the assumption of superiority of alteplase over streptokinase.