estimate the ratio of incremental expected cost of ramipril therapy to the incremental life year gained (LYG). All costs were discounted at 3% per year. RESULTS: Discounted cost for within-trial CE analysis was $2600 for ramipril compared to $1554 for placebo (incremental cost, $1046). With a 2% absolute risk reduction in within-trial cardiac mortality, the incremental cost/LYG was $11,622. Cost/LYG under the persistent benefit was $4509. For extended benefit of therapy, cost/LYG was $4014. Sensitivity analysis ranged from cost/LYG of $7528 to $12,689. CONCLUSIONS: Ramipril is CE in preventing CV events in high-risk patients across multiple therapy benefit scenarios.

**HOSPITAL COSTS AND CHARGES ATTRIBUTABLE TO THE DEVELOPMENT OF ARI/ARF AFTER CABG**

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**OBJECTIVES:** To estimate hospital costs and charges attributable to the development of acute renal insufficiency (ARI) and acute renal failure (ARF) after coronary artery bypass grafting (CABG). METHODS: A retrospective analysis of patients undergoing CABG at University of Pittsburgh Medical Center from June 1998 through May 2002 was conducted. Patients were matched with respect to severity of illness by APACHE III scores. A Wilcoxon signed-rank test was used to assess differences in costs and charges. RESULTS: There were 3741 total patients that resulted in 644 matched pairs. The mean and median hospital charges among cases were approximately $221,864 and $158,312 respectively. The mean and median hospital charges among controls were approximately $110,868 and $91,738 respectively. Distribution of the hospital charges were positively skewed (Shapiro-Wilk test, p < 0.001). The difference in median hospital charges was $66,500 (Wilcoxon signed-rank test, p < 0.01). The mean and median hospital costs among cases were $44,180 and $28,901 respectively. The mean and median hospital costs among controls were $22,471 and $18,038 respectively. The difference in median hospital costs was $10,863 (Wilcoxon signed-rank test, p < 0.01). The mean and median ICU costs among cases were $35,566 and $21,183 respectively. The mean and median ICU costs among controls were $17,634 and $13,655 respectively. The difference in median ICU costs was $17,932 (Wilcoxon signed-rank test, p < 0.01). CONCLUSIONS: Although patients were matched using APACHE III scores, a severity of illness scoring system, patients with ARI/ARF after CABG had significantly higher hospital and ICU costs and charges than patients without ARI/ARF. These differences can be attributed to the development of renal complications after CABG.

**COST EFFECTIVENESS STUDY OF IMPLANTABLE CARDBVERTER DEFRIBRILLATOR VS. CONVENTIONAL TREATMENT IN PREVENTING SUDDEN DEATH AMONG PATIENTS WITH HEART FAILURE**

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Sudden death is one of the two main causes of mortality in congestive heart failure. Implanted cardioverter defibrillator (ICD) is an expensive but highly effective treatment in preventing sudden death. The gain of primary prophylactic ICD in preventing sudden death in heart failure has not been clearly established. **OBJECTIVE:** Compare the cost-effectiveness of prophylactic ICD with conventional treatment for preventing sudden death. METHODS: A lifetime decision model was built. The perspective is societal. The target population is U.S. HF patients, aged 60, with NYHA functional Class II and III. Estimates of cost, utility and probabilities are taken from literature, clinical experts, CMS fee schedule payment, and the Bureau of Labor Statistics. In all cases, we assume that ICD is effective in preventing all sudden death, and the ICD would be reimplanted at ninth year. In our base case, we assume that total annual mortality rate is 20%, of which sudden death accounts for 40%; the utility of ICD is 10% less during the 1st year after implantation, and reverts back to pre-implantation level in the 2nd year. We did a one-way sensitivity analyses on all model parameters. RESULTS: The lifetime cost is $117,095 for patients with prophylactic ICD and $24,709 for patients with conventional treatment in 2002; the QALYs gained were 2.9088 and 1.9045 respectively. The CE ratio was $91,990 per QALY saved. We failed to show that ICD is cost-effective under any plausible scenario if we use $50,000 per quality-adjusted-life-year saved as the cut-off point. CE ratio is sensitive to the utility at the second and subsequent years after ICD implantation, and the proportion of sudden death in all HF-related deaths. CONCLUSIONS: Using conventional cost effectiveness benchmarks of $50,000 per life year saved, it is unlikely that ICD would be cost-effectiveness in preventing sudden death compared to conventional treatment for heart failure patients. Future research should focus on patient utility with and without ICD.

**PREDICTING THE BURDEN OF CONGESTIVE HEART FAILURE (CHF) IN A MANAGED CARE SETTING: A NEW MODEL TO PREDICT OUTCOMES AND EVALUATE THE COST-BENEFIT OF CHF MANAGEMENT**

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**OBJECTIVES:** Previous studies have used Markov models to predict future CHF hospitalizations based on
EVALUATION ON THE COST OF MANAGEMENT OF ACUTE MYOCARDIAL INFARCTION IN A LOCAL PUBLIC HOSPITAL IN HONG KONG

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OBJECTIVES: Coronary artery disease (CAD) is the second most important disease resulting in mortality in Hong Kong. The most severe manifestation is acute myocardial infarction (AMI). Both treatment and cardiac rehabilitation for AMI are costly. Cost of management of AMI is an important baseline information for better planning under scarce allocation of medical resources. The present study aims to evaluate the cost of management of explicit Q-wave AMI in a local public hospital in Hong Kong. METHODS: A retrospective study was performed on patients admitted to the United Christian Hospital. The study cohort consisted of one hundred patients admitted to Coronary Care Unit who were aged 18 years old or above with a diagnosis of Q-wave AMI from 1 January 2000 to 31 December 2000. Cost items studied included hospital stay, outpatient clinic visits, diagnostic tests, medications, and percutaneous coronary interventions. RESULTS: Ninety-eight case notes (2 case notes were incomplete) were evaluated. The average annual medical cost per patient for AMI management in this population was USD 8990 (1 US $ = 7.8 HK$). The total annual medical cost per patient year increased with the complexity of the disease—from USD $7320 for non-fatal MI without procedure, USD $10,963 for non-fatal MI with angiogram, to USD $12,030 for non-fatal MI with procedure. Based on the local epidemiological data, the prevalence rate of CAD is 2.2% and assuming 3% of patients may experience AMI with medical care, the estimated total cost of AMI management in Hong Kong was USD 45 million per year, or 0.5% of the 2000–01 healthcare expenditure. CONCLUSIONS: The present study provides information of the cost of AMI management in Hong Kong. It confirms that AMI management is a significant burden to the healthcare budget. Public awareness on CAD and implementation of appropriate health measures should be reinforced.