ECONOMIC ANALYSIS OF THE ENDORNEV DRUG-ELUTING STENT VS. THE DRIVE BARE METAL STENT: RESULTS FROM THE ENDORNEV II TRIAL

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OBJECTIVES: To assess the economic attractiveness of the Endornev drug-eluting stent (DES) vs. the Drive bare metal stent (BMS) using 4-year follow-up information from the Endornev II clinical trial. METHODS: We used clinical, index procedural, and follow-up event data from subjects randomized to receive Endornev (n = 598) vs. Drive (n = 599), and applied Medicare cost and quality of life adjustments from secondary sources. We compared differences in clinical endpoints, medical costs, and quality adjusted survival through 4 years follow-up (1440 days). RESULTS: Economic outcomes in both treatment groups had similar baseline characteristics. The use of Endornev vs. Drive reduced 4-year target vessel revascularization (TVR) rates per 100 subjects (10.4 vs. 21.5), difference, -11.1; 95% confidence interval [CI], 16.0 to -6.1; p < .001, with no difference in the rates per 100 subjects of death (3.0 vs. 2.2; difference, -0.5; 95% CI, -3.4 to 2.4; p = .19), or non-fatal myocardial infarction (MI) (3.2 vs. 4.4; difference, -1.2; 95% CI, -3.4 to 1.0; p = .29). After discounting at a 3% annual rate, there were no differences in quality-adjusted survival days (1093 vs. 1090; difference, 3, 95% CI, -13 to 19; p = .69) and total medical costs ($21,483 vs. $21,680; difference, $196; 95% CI, -$1,608 to $1,207; p = .78). CONCLUSIONS: The use of Endornev vs. Drive was associated with a significant reduction in TVR through four years follow-up with no difference in death, non-fatal MI, quality-adjusted survival, or total medical costs. These results are comparable to those for other studies comparing DES vs. BMS.

ECONOMIC ANALYSIS OF ENDOREV VS. CYPER STENTS: RESULTS FROM THE ENDOREV III TRIAL

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OBJECTIVES: To evaluate the economic attractiveness of Endornev vs. Cypher drug-eluting stents (DES) in the ENDOREV III clinical trial. METHODS: We analyzed case report form information from subjects randomized to receive Endornev (n = 323) vs. Cypher (n = 113) stents, using quality of life adjustment and Medicare cost weights applied from secondary sources, and a $2100 cost for stents. We compared differences in outcomes and costs; and evaluated cost-effectiveness through 3 years follow-up (1080 days). RESULTS: The use of Endornev vs. Cypher stents reduced the 3-year rates of 100 subjects of death or myocardial infarction (MI) by 3.8% (p = .01). Also, revascularization rates were 17.9 vs. 22.2; difference, 4.3; 95% confidence interval [CI], 11.1 to -2.5. Finally, the quality of life adjusted values were 0.86 vs. 0.84; difference, -0.02; 95% confidence interval [CI], -0.04 to 0.001. CONCLUSIONS: The use of Endornev vs. Cypher is economically attractive.

MEDICAL EXPENDITURES ATTRIBUTABLE TO CORONARY ARTERY DISEASE IN THE UNITED STATES

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OBJECTIVES: This study estimated medical expenditures attributable to coronary artery disease (CAD) in the US and investigated CAD case definition in a nationally representative data sample. METHODS: Data from 2005 Medical Expenditure Panel Survey (MEPS) were used to estimate the population with CAD and their medical expenditures. CAD cases were identified by patient-reported myocardial infarction (MI), angina pectoris and/or coronary heart disease (CHD) ICD codes. Case definition analyses used variable logistic regression models and national expenditures were estimated on a logarithmic scale using a maximum likelihood Heckman selection model and Smearing re-transformation. All analyses employed Taylor series linearization methods to account for the complex survey design and adjusted for age, race, ethnicity, gender, income, education, and overweight status. RESULTS: In the 2005 civilian noninstitutionalized adult population (n = 22262), there were 1016 CAD cases using a strict definition of either MI or angina and 1266 cases using a broad definition including patient-reported CHD. Of those reporting CHD, 12% had MI and 88% had no MI. CAD case definition was 65% (95% CI, 57% to 74%) for the combined definition and 741 (SD = 22) for the combined intervention. CONCLUSIONS: Home blood pressure monitoring and/or the behavioral intervention had little impact on medical cost or resource use over 2 years. Our analysis demonstrated that these interventions are cost-additive to the health care system and that patients’ time costs are considerable.

IDENTIFYING DRIVERS OF POST-HOSPITAL DISCHARGE FOR PATIENTS WITH ACUTE CORONARY SYNDROME (ACS) USING QUANTILE REGRESSIONS

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OBJECTIVES: To identify drivers of post-hospital costs among ACS patients, including treatment type received. Patients who were hospitalized with ACS have different hospitalization, treatment, and discharge options, including receiving revascularization procedures. Hospitalization costs are expensive, there might be offsets in future health care costs by preventing adverse coronary events. METHODS: We studied commercially insured individuals, aged 18–64, with 36 months continuous enrollment in a large, geographically diverse health plan between January 2003 and December 2006. Patients were identified if they were hospitalized between January 1, 2004 and December 31, 2005, a diagnosis of ACS. A 1 year follow-up period was used and costs incurred after patients’ initial hospital discharge were examined. In addition to ordinary least squares (OLS), quantile-regression models were used to identify drivers of post-hospital costs. QRMs make no assumption about the distribution of the error term and provide quantile-specific covariate effects, which is useful in applications with highly skewed data. RESULTS: OLS results indicated co-morbidity scores, prior health care costs and initial hospital diagnosis were main drivers of post-hospital discharge costs (p < 0.01). Also, revascularization procedures during the initial hospitalization were not significantly associated with post-hospital costs. QRM confirmed the other findings but showed, at the lower end of the post-hospital costs distribution, having revascularization procedures during the initial hospitalization was significantly associated with higher post-hospital costs. This effect was not significant in the upper quantiles. CONCLUSIONS: In this study, initial hospital diagnosis, higher co-morbidity scores and prior health care costs were associated with higher post-hospital costs. Also, QRM showed revascularization procedures were drivers of cost for patients with lower post-hospital expenditures. These results are implications for patients who have revascularization procedures may have more follow-up care compared to those without revascularization. However, these patients may have fewer secondary events requiring hospitalization, thus keeping them in the lower cost quantiles.