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COST EFFECTIVENESS OF EVEROLIMUS- VS. PACLITAXEL-ELUTING STENTS FOR PATIENTS UNDERGOING PERCUTANEOUS CORONARY REVASCULARIZATION. 2-YEAR RESULTS FROM THE SPIRIT-IV TRIAL

i2 Poster Contributions
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Session Title: PCI - DES I
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Background: While several drug eluting stents (DES) have been shown to be economically attractive compared with bare metal stents, little is known about the relative cost-effectiveness of alternative DES designs.

Methods: We designed a prospective economic study in conjunction with the SPIRIT IV trial_the largest comparison of alternative DES designs performed to date. SPIRIT IV randomized 3,687 patients undergoing PCI to either everolimus-eluting stents (EES, n=2,458) or paclitaxel-eluting stents (PES, n=1,229), without routine angiographic follow-up. Costs through 2-years of follow-up will be assessed from the perspective of the US healthcare system using a combination of resource-based accounting (for procedural costs), regression modeling based on a large, single-center PCI database (for other hospital costs including complications), and Medicare reimbursement rates (for subsequent cardiovascular hospitalizations and revascularization procedures).

Results: Clinical and angiographic characteristics were well-matched for the 2 arms. Mean age was 63 ± 10 years, 32% were women, 39% had multivessel disease, 32% were diabetic, with 1.3 ± 0.5 target lesions per patient, and patients received 1.5 ± 0.8 study stents. The primary endpoint_the composite of cardiac death, target vessel MI, or ischemia-driven target lesion revascularization (ID TLR) _ was reduced by 30% with EES vs. PES (6.9% vs. 9.9%, p=0.003) _ driven predominantly by a reduction in ID TLR (4.5% vs. 6.9%, p=0.001). In addition, randomization to EES significantly reduced target-vessel MI (2.3% vs. 3.5%, p=0.04) and stent thrombosis (0.33% vs. 1.2%, p=0.002). Cost-effectiveness will be assessed in terms of multiple endpoints including cost per repeat revascularization avoided, cost per target vessel failure avoided, and cost per quality-adjusted life-year gained - all of which will be available for presentation in March 2010.

Conclusions: SPIRIT IV demonstrated that use of EES vs. PES was associated with improved clinical outcomes across a range of endpoints. The impact of these clinical benefits on net healthcare costs and the cost-effectiveness of these alternative stent designs at 2-years will be presented.