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**Long-term clinical outcomes and cost-effectiveness analysis in multivessel percutaneous coronary interventions: comparison of drug-eluting stents, bare-metal stents and a mixed approach in patients at high and low risk of repeat revascularisation.**

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## **Abstract**

**AIMS:** To evaluate the long-term effectiveness and cost-efficacy of drug-eluting stents (DES) in a real world setting of multivessel percutaneous coronary intervention (PCI).

**METHODS AND RESULTS:** We evaluated the 2-year outcome of all multivessel PCI in de novo lesions enrolled in a prospective web-based multicentre registry from July 2003 to December 2006. Among the 2,898 eligible patients, 1,315 were treated with bare-metal stent (BMS) alone, 657 with DES alone, and 926 with both. At 2-years, use of DES was associated with a lower propensity score adjusted incidence of major adverse cardiac events (MACE), death and myocardial infarction, and target vessel revascularisation (TVR) compared with BMS but only in patients at high risk of TVR. No difference was apparent between "pure" DES and the mixed approach. The matched cost-effectiveness analysis revealed DES to be more costly and more effective with a reasonable incremental cost-efficacy ratio for any MACE avoided only in patients with a high risk of TVR and only in comparison with "pure" BMS patients.

**CONCLUSIONS:** In this real-world multivessel PCI registry, the use of DES and a mixed approach were associated with a 2-year reduction of adverse clinical outcomes in comparison with BMS especially in patients with a high risk of TVR. DES were cost-effective only in patients at high risk of TVR.