

Effect of hospital ownership status and payment structure on the adoption and use of drug-eluting stents for percutaneous coronary interventions

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BACKGROUND:The impact of the use of drug-eluting stents in percutaneous coronary intervention (PCI) on cardiac care is still uncertain. We examined the influence of systemic factors, such as hospital ownership status, organizational characteristics and payment structure, on the use of drug-eluting stents in PCI and the effect on cardiac surgery volume.

METHODS: We conducted a cross-sectional analysis of drug-eluting stent use in 12 993 patients undergoing PCI with stenting (drug-eluting or bare-metal) and time-series regression analyses of the monthly number of cardiac surgery and PCI procedures performed using data collected from 1998 to 2004 at 13 public and private hospitals in the Emilia-Romagna region of Italy.

RESULTS: Public hospitals used drug-eluting stents more selectively than private hospitals, targeting the new device to patients at high risk of adverse events. The time-series regression analyses showed that the number of PCI procedures performed per year increased during this period, both in public (slope coefficient 36.4, 95% confidence interval [CI] 30.2 to 43.1) and private centres (slope coefficient 6.4, 95% CI 3.1 to 9.2). Concurrently, there was a reduction in the number of isolated coronary artery bypass graft (CABG) surgeries, although the degree of change was higher in public than in private hospitals (coefficient -16.1 v. -6.2 respectively). The number of CABG procedures associated with valve surgery decreased in public hospitals(coefficient -5.0, 95% CI -6.1 to -3.8) but increased in private hospitals(coefficient 4.1, 95% CI 2.0 to 6.1).

INTERPRETATION: Public and private hospitals behaved differently in adopting drug-eluting stents and in using PCI with drug-eluting stents as a substitute for surgical revascularization.