



**CABG in Canada**

In 2 recent *CMAJ* articles<sup>1,2</sup> we reported a favourable national trend of decreasing risk-adjusted rates of death after coronary artery bypass graft (CABG) surgery over 4 fiscal years — 1992/93 through 1995/96. The 17% relative decline in adjusted death rates over this period was judged to be comparable to the declines seen over similar periods in various regions of the United States.<sup>3-6</sup> We now briefly report results of more recent analyses that include data from 2 additional fiscal years, 1996/97 and 1997/98.

The updated results (Table 1) were generated using hospital discharge data from the Canadian Institute for Health Information. This data source provides information on CABG surgery cases from all provinces except Quebec. We performed risk adjustment analyses to control for differences in average severity of illness across years using the methods described in our original articles.<sup>1,2</sup>

These data demonstrate a steady increase in the number of CABG procedures performed each year and continuing improvement in both observed and adjusted death rates after CABG surgery, despite a concomitant increase in expected death rates. The latter suggests that, on average, patients selected for CABG surgery are becoming sicker and their cases more complex, and yet they are more likely to experience favourable short-term out-

comes after surgery. The 29.5% relative decline in risk-adjusted death rates seen over 6 years is unlikely to be the result of “upcoding” of severity of illness, because the coding of hospital discharge data is not done by the clinicians who care for the patients and because the observed death rates (which are not subject to coding biases) also dropped considerably.

Although the reasons for the improved outcomes are not clear from our analyses, we would nonetheless propose that collective congratulations ought to be extended to the community of cardiologists, intensivists, anesthesiologists and cardiac surgeons who care for these patients.

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**References**

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**Does treating hypertension protect against dementia?**

I enjoyed reading the guidelines from the Canadian Consensus Conference on Dementia<sup>1</sup> as well as the excellent physician’s guide to using the recommendations.<sup>2</sup> Having taken part in the conference, I can attest to the fact that the material published in your pages accurately reflects the deliberations at the meeting.

Despite my overall support for the guidelines, I must disagree with the statement that “the treatment of hypertension reduces the incidence of not only vascular dementia but also Alzheimer’s disease” in scenario 4 of the physician’s guide.<sup>2</sup> The authors cite an article by Forette and colleagues,<sup>3</sup> who make claims that are far too optimistic given the evidence they present. Forette and colleagues describe the Systolic Hypertension in Europe (Syst-Eur) trial, a secondary goal of which was to reduce the incidence of vascular dementia by the treatment of isolated systolic hypertension. Only 2 cases of vascular dementia occurred, far fewer than had been originally predicted. It was also found that treatment of hypertension apparently reduced the incidence of Alzheimer’s disease and mixed and vascular dementias by 50%. Although this finding is interesting, it should be pointed out that the confidence interval around the estimate of a 50% reduction included 0. Thus, the data are also just as compatible with no treatment effect. Forette and colleagues’ results constituted a post-hoc analysis, suggesting the possibility of false-positive results.

**Table 1: Risk-adjusted Canada-wide rates of death for coronary artery bypass grafting (CABG) for fiscal years 1992/93 through 1997/98**

Fiscal year	No. of cases	Observed death rate, %	Expected death rate, % *	Observed/expected ratio	Adjusted death rate, %†
1992/93	11 895	3.60	3.09	1.17	3.97
1993/94	12 094	3.89	3.19	1.22	4.16
1994/95	12 956	3.54	3.37	1.05	3.59
1995/96	13 412	3.36	3.46	0.97	3.31
1996/97	14 786	3.29	3.66	0.90	3.07
1997/98	15 926	2.93	3.57	0.82	2.80

\*The expected death rate was calculated by averaging the predicted probabilities of death (from the logistic regression model used for risk adjustment) for CABG cases performed in a given year.

†The risk-adjusted death rate was calculated by multiplying the observed/expected ratio by the death rate for the entire 6-year period, 3.41%.