

dered eating attitudes and behaviours in a large school-based sample of teenaged girls in Ontario.¹ We agree that self-report screening measures should not be used to diagnose eating disorders, and we did not use them for this purpose in our study. In the presentation of our findings, we have not suggested that the percentage of girls who scored above the cut-off on a self-report measure, specifically the Eating Attitudes Test-26 (EAT-26),² be equated with the prevalence estimate of a psychiatric disorder in our sample. Nor did we use our other self-report screening measures (i.e., the Eating Disorder Inventory³ or the Diagnostic Survey for Eating Disorders⁴) as diagnostic instruments.

As Elgar correctly notes, many girls who scored above cut-off on the EAT-26 in our sample would likely not meet the criteria for a clinical eating disorder, based on a diagnostic assessment.⁵ However, self-report screening instruments can provide valuable information regarding the presence of disturbed attitudes and behaviours that may put some young women at increased risk for the development of clinical eating disorders.^{6,7} The alarmingly high frequency of disordered attitudes about weight and food and of unhealthy weight loss behaviours (as reported in our sample) highlights the importance of routine screening and the need for primary and secondary preventive interventions.

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Centralizing coronary artery bypass grafting surgery

In its 2001 annual report on Canada's health care system, the Canadian In-

stitute for Health Information discussed inverse relationships between the number of surgical procedures and the incidence of adverse post-operative events, for surgery in general and for coronary artery bypass grafting in particular.¹ The Institute's president was quoted as saying "we have too many centres undertaking ... heart surgery. The result may be unnecessary complications and ... death."² Similarly, the chair of the Montreal regional health board stated "it's proven beyond a reasonable doubt that patient outcomes are better" at high-volume centres.² A Quebec task force on tertiary cardiology recommended that centres each perform a minimum of 400 to 450 operations annually to maintain the quality of the service, without reference to supporting evidence.³ The policy implication of these statements is clear.

Does the evidence warrant such a degree of certainty? The report from the Canadian Institute for Health In-

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New material

formation provides 3 references to support its position: 2 original research studies from the 1980s^{4,5} and a review article that provides details on only 1 of 10 studies reviewed.⁶ We are aware of 8 recent cohort studies that were not cited. Six of these reported mortality odds ratios for low- versus high-volume centres (low-volume centres treated fewer than 225 cases), and 5 had ratios very close to 1, which indicates an absence of a demonstrable volume-mortality relationship. For the other 2 cohorts, multiple regression analysis showed no volume effect on mortality after controlling for other factors. The odds ratios from early and recent cohorts together showed a linear progression over time, from -0.45 to 1. The most conservative conclusion at this time is that the available evidence does not provide a basis for a policy decision to centralize coronary artery bypass grafting surgery. It should be noted that these studies are concerned with hospital outcomes, not with those of individual surgeons.

We believe that there are 2 lessons to be learned. First, even highly regarded institutions may be subject to error or bias in presenting information. Second, bandwagons, buzzwords and self-interest often influence our thinking. Health care policymakers must avoid these effects and must base their decisions on careful review of the evidence, just as physicians are urged to do.

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[The Canadian Institute for Health Information responds:]

Kalant and Shrier discuss findings regarding low-volume surgical procedures in a recent report by the Canadian Institute for Health Information.¹ We agree with their position that health care policymakers must base their decisions on careful review of the entire body of evidence.

In evaluating research findings, we believe that rigorous, systematic literature reviews are important. Well-established methods exist for conducting such reviews (e.g., the QUORUM statement² referenced by major journals). Use of similarly rigorous standards to synthesize the research literature minimizes the possibility of random or systematic error biasing conclusions.

In *Health Care in Canada 2001*, we cite several early articles in the field plus the only published recent broad systematic review of the literature on the relationship between volume and mortality. This review, published in *JAMA* in 2000,³ summarized research on the relationship between hospital caseload and outcomes for 40 conditions based on findings from 72 studies that were evaluated for scientific merit and relevance according to explicit, predetermined criteria. Eleven published studies on coronary artery bypass graft surgery (CABG) met these criteria. All showed better outcomes with higher volumes; the difference was statistically significant in 9 of them.

In Canada, the number of both rare and common surgical procedures currently performed by individual hospi-

tals varies, often significantly. Some types of care are becoming concentrated over time. For example, as of 1998/99, no Canadian hospital performing CABG surgery had less than 200 cases per year, down from 5 hospitals in 1996/97.¹

Volume-outcome relationships are clearly an area of current clinical and policy interest. Indeed, the recent Sinclair inquest found that “the limited number of cases [of pediatric cardiac surgery] that can be undertaken in a province like Manitoba with a population of just over 1 million increases the risk of morbidity and mortality.”⁴

Based on current evidence, we stand by our original conclusion that “deciding how much to centralize care requires us to strike a balance across [a variety of] issues. This balance is likely to vary from procedure to procedure and place to place.” In this context, systematic reviews of the research literature, an understanding of current Canadian volume patterns, and better information about patient outcomes at individual hospitals can all provide evidence to support decisions about how best to organize health services and distribute health care resources.

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