

Correspondance

tiveness, safety and portability, parenteral magnesium would appear to offer the epitome of efficacy in such situations. It also has many features friendly to the heart.³

Much has been written about the ubiquitous magnesium salts, which until fairly recently were primarily used to treat gastrointestinal problems and preeclampsia. Seelig and colleagues outlined a wide range of studies showing positive results in acute myocardial infarction,⁴ one impressive large study being LIMIT-2.⁵ Whereas others demonstrated no benefit,⁶ Frakes and Richardson advocate the use of magnesium in a handful of emergency situations.⁷ The MAGIC study, involving 10 400 high-risk patients, is currently in progress⁸ and results are expected soon. I would like to see a study performed in which intravenous magnesium is given earlier than the 6-hour limit entered in the MAGIC protocol. Delaying and playing second fiddle may have contributed to the inferior results in some studies.⁶

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[One of the authors of the research article responds:]

The decrease in mortality related to acute myocardial infarction in Quebec is good news.¹ However, it is difficult to isolate the exact reasons for this decline. Daniel Kollek is right to point out the role of prehospital and emergency room care; the decrease in mortality should encourage health care professionals involved at all stages of caring for patients with acute myocardial infarction to continue to work to ensure delivery of the type of care that has been shown to be effective.

Our data do not allow us to reach a firm conclusion about the role of primary angioplasty in the care of these patients. The decline in mortality might have been greater had primary angioplasty been more readily available in Quebec.

William Panton suggests the use of magnesium therapy for patients admitted to hospitals that are not fully equipped to carry out invasive cardiac procedures. Thrombolytic therapy certainly can be used in peripheral hospitals and it is more effective than use of magnesium sulfate. Magnesium sulfate has been extensively studied; its effectiveness remains controversial in view of the contradictory conclusions of a meta-analysis and a large clinical trial. Before we push the use of controversial treatments, we should maximize the use of treatments that are known to be effective.

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1. Pilote L, Lavoie F, Ho V, Eisenberg MJ. Changes in the treatment and outcomes of acute myocardial infarction in Quebec, 1988-1995. *CMAJ* 2000;163(1):31-6.

[The author of the commentary responds:]

Daniel Kollek has made a good point in that most patients with acute myocardial infarction are seen initially by emergency physicians. In

most cases, emergency physicians now commence thrombolytic therapy. The increased use of thrombolytic agents has been associated with reduced mortality and improved outcomes in the treatment of patients with acute myocardial infarction.¹

However, there are additional factors that may contribute to reductions in in-hospital mortality as well to reductions in mortality following hospital discharge: increased use of medications such as β -blockers, angiotensin-converting-enzyme inhibitors and lipid-lowering agents;² and increased use of angiography and revascularization procedures.³

Although "primary coronary angioplasty may be the optimal treatment of acute myocardial infarction,"³ it is available in only 10% of hospitals and therefore we must rely on prompt treatment with thrombolysis, which is delivered diligently by Kollek and other emergency room physicians.⁴ This pattern of practice has improved patients' outcomes.

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Gauging the health of our health care system

In a *CMAJ* commentary,¹ Noralou Roos says, "although only 20% of Canadians report having confidence in the health care system, more than 50% say that the medical care they and their

family personally received in the last year was very good or excellent," quoting a report from the Canadian Institute for Health Information.²

Is it not odd that as many as 20% of Canadians have confidence in the health care system when they feel that the chances that their medical care will be very good or excellent are barely above 50%? Would this satisfaction rate be acceptable in other industries? How many of us would have confidence in an auto repair shop that produced satisfaction rates barely above 50%? Does the health care industry have appropriate aspirations?

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Samuel Sheps and colleagues interpret their data to show that changes in health care use among elderly British Columbians after downsizing of acute care services were small and that no overall changes in age-related death rates were demonstrable.¹ The latter conclusion is counterintuitive if one looks at the data presented.

In the study, cohort size increased by 16.6%, from 79 175 people in the first cohort (1986–1988) to 92 320 in the second cohort (1993–1995). The number of deaths increased by 24.7%, from 12 034 in the first cohort to 15 004 in the second. Age-adjusted proportionate 3-year death rates in Fig. 1 were uniformly higher in every category in the second than in the first cohort. I have no reason to dispute the report that the crude death rate rose from 15.2% to 16.3%, nor the report that after direct age adjustment using the combined population as the standard the death rate was 15.7% in the first cohort and 15.8% in the second. I dispute the suggestion that these results are

"virtually identical"; the death rates reflect an increase in death after adjustment for age of 0.1%, or 1 death for every 1000 people 65 years or over.

Age-specific death rates have reportedly been declining steadily for decades in the United States,² in the United Kingdom and Western Europe³ and in Australia.⁴ Even if we were to accept that an age-adjusted death rate increment of 0.1% represents "no overall change," why has British Columbia failed to demonstrate the decline in mortality rate in this age group seen in other areas of the Western world? The obvious answer is that a 30% reduction in acute care capacity has had a demonstrably deleterious effect.

There were estimated to be 518 825 British Columbians aged 65 years and over in 1999.⁵ If we accept the authors' findings that the age-adjusted death rate rose by 0.1% between the late 1980s and the mid 1990s, this would translate into 519 deaths of British Columbians annually that might not have occurred if acute care services had been maintained at 1986–1988 levels.

Evidently, in the minds of some, the potentially preventable deaths of over 500 elderly people per year represent an acceptable price to pay to achieve the benefits of so-called health care reform. Apologists for the status quo might even describe these as minimal repercussions. I see these effects of deliberate health care downsizing as a cause for shame. Perhaps there is a connection between the data and the headlines after all.⁶

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[The author of the commentary responds:]

David Zitner suggests that it is unacceptable that only 50% of Canadians said that the medical care they or their family had received was very good or excellent. It is important to put this statistic into perspective. Statistics from the neighbours to the south suggest that the Canadian health care "industry" is not doing that badly. That is, 52% of Americans "completely agree" that "there is something seriously wrong with [the US] health care system" and an additional 27% agree somewhat with this statement.¹ Another 49% of Americans agree completely (and 25% agree somewhat) that "quality care is often compromised by insurance companies to save money."

Although it is true that in another series of polls 59% of Canadian generalist physicians reported that things have "gotten worse" relative to their ability to provide quality care, 56% of US generalist physicians made the same assessment about their system.² Perhaps the most revealing comparisons relate to physicians' concerns for the future. Canadian physicians were more concerned that "patients will wait longer than they should for medical treatment" than American physicians (74% v. 43%) On the other hand, American physicians were more concerned that "patients will not be able to afford the care they need" (54% of American physicians v. 32% of Canadian physicians). And since so many Americans feel that their system puts profits ahead of people, it is clear that many patients in the United States do not even trust their physicians to do what is in their best interests — a situation that erodes the core of the physician-patient relationship.

Ralph Hawkins is right that death rates have been declining steadily for decades in the United States, the United Kingdom, Western Europe and Australia. Hawkins fails to mention that

acute care capacity has also been declining dramatically in all of these jurisdictions, just as it did in British Columbia. For example, between 1985 and 1995, days of care in US short-stay hospitals declined by 38%.³ Declines in the United Kingdom, Western Europe and Australia have been similarly steep. The same pattern —decrease in acute care beds and improvement in health — has occurred across Canada, including British Columbia.⁴ For example, mortality rates fell 7.4% in Manitoba between 1987 and 1996; over the same period, hospital days per capita decreased by 23%. Changes in Ontario were even more dramatic: mortality rates fell 10.7% over a period when hospital use was essentially cut in half.

Following Hawkins' logic, should we conclude that the "obvious answer" is that a decline in acute care capacity has a demonstrably beneficial effect on population health? Obviously not. Hawkins' letter criticizing the piece by Sheps and colleagues⁵ is precisely the type of un-

tempered claim on the part of the stakeholders that leads to the disconnect between the headlines and the facts.⁶ Rather than assumptions that the Canadian health care system can't get it right, that more medical care must be better and that any decrease in medical spending represents a threat to life and limb, we need collaboration between medical professionals and health care researchers to better understand how well or poorly the system is working, and more importantly, the actual role of medical care in making and keeping people healthy.

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[Two of the authors of the research article respond:]

Ralph Hawkins' main point appears to be that if British Columbia were like the other jurisdictions he cites, we should have seen a decline in mortality; he asserts that our reported 0.1% increase in age-adjusted mortality rate between the 2 cohorts must be the result of hospital downsizing.

We would direct Hawkins' attention to Table 2,¹ in which it is clear that the mortality rate decreased by 8.7% and 4% among British Columbia residents aged 65 and 75-76 years respectively. In our article we also point out specific age and care groups in which the mortality rate increased and comment on possible reasons for these changes (e.g., increasing acuity among people aged 90-93 years).¹ We specifically skewed our cohorts to represent larger proportions of more elderly groups (e.g., people aged 83-85 and 90-93 years) to have sufficient numbers of people in each age group to be able to compare care patterns. Thus, because of differences in the age composition of our cohorts, the age-adjusted rates (using the combined population of the cohorts as the standard) are not comparable to overall mortality rates for the total population of elderly British Columbians or, probably, to mortality rates in any other jurisdiction. Moreover, Hawkins' citations represent mortality trends for

populations and (or) time periods quite different from ours (the Australian data assess mortality trends for all age groups from 1907 to 1990; the European data cover mortality from 1960 to 1990 among people aged 60-64, 70-74 and 80-84 years; and the US data are primarily for the years 1997-1998). Therefore, for important methodological reasons, it is inappropriate to compare these mortality data with the findings of our study.

As pointed out by Noralou Roos,² significant downsizing in acute care capacity and decreased mortality rates have occurred simultaneously in the jurisdictions Hawkins mentions. Thus, from our perspective, the link proposed by Hawkins between acute care downsizing and mortality is, at best, far from clear.

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2. Roos NP. Gauging the health of our health care system [letter]. *CMAJ* 2000;164(3):325-6.

Correction

A recently published article by Robert L. Kaman contained an error.¹ The first sentence of the third paragraph should read as follows: "Certainly, epidemiologists and biostatisticians will approve of the analytical approach that the authors took to calculate the \$2.1 billion annual cost of physical inactivity to Canadians."

Reference

1. Kaman RL. Will increasing fiscal resources promote physical fitness? [commentary]. *CMAJ* 2000;163(11):1467.