the largely consistent higher mortality rates in private for-profit hospitals.

P.J. Devereaux
Maureen Meade
Gordon H. Guyatt
Department of Medicine
McMaster University
Hamilton, Ont.
Peter T.L. Choi
Christina Lacchetti
Bruce Weaver
John N. Lavis
Brydon J.B. Grant
Clinical Epidemiology and Biostatistics
McMaster University
Hamilton, Ont.
Holger J. Schünemann
Department of Medicine
University at Buffalo
Buffalo, NY
Terrence Sullivan
Department of Health Policy
Management and Evaluation
University of Toronto
Toronto, Ont.

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Delivery volume debated

CMAJ is to be congratulated for publishing Michael Klein and colleagues' article.[1] For many family physicians, like myself, who are committed to practising obstetrics (low-risk, dare I say), it was a breath of much-needed fresh air. The Society of Obstetricians and Gynaecologists of Canada (SOGC) policy statement 24 never did make much sense in the absence of evidence when subjected to critical review by individual family physicians practising low-risk, low-volume obstetrics. Any policies or clinical practice guidelines that affect a broad section of practising physicians such as family doctors ought to be subjected to due diligence and mandatory endorsement or rejection by the body that represents us, the College of Family Physicians of Canada (CFPC) I am not really surprised by the conclusions of the study and was indeed very pleased to read the bottom line, the postscript.

Dan Dattani
Assistant Clinical Professor of Family Medicine
University of Saskatchewan
Saskatoon, Sask.

Reference
1. Klein MC, Spence A, Kaczorowski K, Kelly A, Grzybowski S. Does delivery volume of family physicians predict maternal and newborn outcomes? *CMAJ* 2002;166(10):1257-63.

Klein and colleagues[1] overstate the case when they conclude that "the conventional wisdom related to volume and outcome is based primarily on surgical practices and should not be applied to other types of practice" (such as delivering babies). The authors studied this problem in a teaching hospital with residents, readily available obstetricians as consultants, teaching rounds, quality assurance programs and established maternal-care policies and procedures. This setting surely has an effect on the quality of obstetric care practised by family physicians. The problem of volume (experience) influencing practice outcomes should not be an issue in today's teaching hospitals, but it may be in rural areas. The findings of this study, therefore, should not be used as the basis for altering obstetric experience criteria set by the SOGC.

T.B. MacLachlan
Retired Obstetrician
University of Saskatchewan
Saskatoon, Sask.

Reference
1. Klein MC, Spence A, Kaczorowski K, Kelly A, Grzybowski S. Does delivery volume of family physicians predict maternal and newborn outcomes? *CMAJ* 2002;166(10):1257-63.

Although Michael Klein and colleagues[1] have not established a relation between delivery volume and outcome in obstetrics, we cannot say that no relation exists. Their sample size does not allow enough precision to exclude a clinically meaningful association.

The adjusted odds ratios of 0.908 and 0.849 (high volume v. low volume) for low Apgar score and neonatal intensive care unit/special care unit (NICU/SCU) admissions were not statistically significant, but some might consider such odds ratios *clinically* significant if they are true. More important, the confidence intervals for these odds ratios were wide and include effects that would certainly be clinically meaningful. In multivariate analysis, there were trends (again not statistically significant) of more episiotomies, cesarean sections and instrument deliveries in the low-volume group.

This study (which included 549 births attended by low-volume physicians) adds to reassuring literature that suggests no association between delivery volume and outcomes. However, the trends favouring higher delivery volume and the relatively rarity of poor neonatal outcomes necessitate a larger sample size to demonstrate that no clinically significant association exists between adverse outcomes and delivery volume.

Erik J. Lindbloom
Assistant Professor
Michael L. LeFevre
Professor
University of Missouri-Columbia
Department of Family and Community Medicine
Columbia, Mo.

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[One of the authors responds:]

Dan Dattani makes an important point regarding who scrutinizes the establishment of clinical practice guidelines. We are therefore pleased that the SOGC has joined the CFPC and the Society of Rural Physicians of Canada (SRPC) in developing a new policy statement on the number of births required to maintain competence. Since more than half of family physicians in both rural and urban settings attend fewer than 25 births per year, the previous

guideline, if implemented (as it was by some governing authorities), could decimate maternity care in Canada.

T.B. MacLachlan is correct in saying that our results from a well-resourced teaching hospital ought not to be generalized to rural Canada. We made that point strongly ourselves.[1] We acknowledged that our study had internal but not necessarily external validity. However, there are settings in rural Canada and elsewhere that have fewer than 25 births per year and good birth outcomes.[2–4] We are now working with colleagues in small-volume settings to continue to study these relations.

We do not agree with MacLachlan's final point. It is not appropriate for the SOGC to be prescribing standards for settings where obstetricians do not practise. The SOGC felt comfortable in rescinding the previous guideline, based on our work and the work of others as well as our joint position paper on rural maternity care.[5] This kind of partnership between our 3 organizations is a positive for the women and families of Canada.

Although statistically correct, Lindbloom and LeFevre's critique has focused only on our multivariate tables. We also reported unadjusted outcomes. They revealed 5-minute Apgar scores of less than 7 for low- versus high-volume family physicians (4.0% v. 3.7%) and NICU/SCU admissions of 11.6% versus 11.3%. Regarding procedures, the rates for episiotomy were 22.7% versus 19.1%, for instrumental deliveries 14.4% versus 13.3% and for cesarean sections 17.5% versus 16.3%. We find it difficult to believe that these minimal differences are clinically important, and it is unlikely that more study power would materially change the results in either of our reported formats.

Moreover, low-volume family physicians are a heterogeneous group made up of people with various career backgrounds. This also overshadows the minimal differences. Certainly, policy decisions ought not to be made on the basis of such differences. More important, if policy decisions were made, as they have been, on the unsupported belief that low volume is a problem, the denial of access to maternity care to large numbers of urban and rural women would lead to genuine adverse outcomes.

We do agree that more data on low-volume deliveries would be desirable. Thus we will pool data from urban, rural and remote settings to examine infrequently occurring events. And we are pleased to draw attention to a recent publication based on all births in Alberta, also showing low-volume maternity care to be a non-issue.[6]

Michael C. Klein
Head, Division of Maternity and Newborn Care
University of British Columbia
Vancouver, BC

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[The SOGC responds:]

During the preparation of the article by Michael Klein and colleagues,[1] the SOGC executive committee and council, in consultation with the CFPC and the SRPC, published a joint policy statement dated April 2002, which declared that competence in obstetrics care is not dependent on the number of births attended annually, but is based on hospital privileges that are determined by quality assurance programs and individual participation in self-directed maintenance-of-competence programs.[2]

The SOGC is now developing a new quality-assurance program entitled MORE (Managing Obstetrical Risks Efficiently). This program will be delivered simultaneously to obstetricians, family physicians and midwives across Canada and therefore will promote collaborative practice among all health care providers.

André B. Lalonde
Executive Vice-President
Society of Obstetricians and Gynaecologists of Canada
Ottawa, Ont.

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Scooting mishaps

We were pleased to see Erica Weir's article on injuries associated with scooters.[1] It is good to inform readers of the causes of injuries, how they can be prevented and where further information can be obtained.

The Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP) is an emergency department-based injury surveillance program and is a good source of information on the circumstances in which injuries occur. However, the CHIRPP data are not population based and cannot be used to calculate injury rates.

In the CHIRPP report on scooter injuries, Weir has unfortunately misinterpreted information from the first table as rate of injuries per 100 000 people. The number of cases per 100 000 is actually the number of scooter injuries per 100 000 reported injuries of all kinds for people in each age group. This calculation is done to compensate for (1) the skewed age distribution of the CHIRPP data that results from collecting data in 10 pediatric and 5 general hospitals and (2) the use of age groupings of unequal range. It is therefore possible to identify the age group or groups in which the rele-