

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 ur-

ban 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

References

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.
2. Black DP, Fyfe IM. The safety of obstetric services in small communities in northern Ontario. *CMAJ* 1984;130:571-6.
3. Rosenblatt RA, Reinken J, Shoemack P. Is obstetrics safe in small hospitals? Evidence from New Zealand's regionalized perinatal system. *Lancet* 1985;2(8452):429-32.
4. Nesbitt TS, Connell FA, Hart LG, Rosenblatt RA. Access to obstetric care in rural areas: effect on birth outcomes. *Am J Public Health* 1990;80(7):814-8.
5. Iglesias S, Grzybowski S, Klein MC, Gagné GP, Lalonde A. Rural obstetrics. Joint position paper on rural maternity care. Joint Working Group of the Society of Rural Physicians of Canada (SRPC), The Maternity Care Committee of the College of Family Physicians of Canada (CFPC), and the Society of Obstetricians and Gynaecologists of Canada (SOGC). *Can Fam Physician* 1998;44:831-43.
6. Johnson D, Jin Y. Low-volume obstetrics: characteristics of family physicians' practices in Alberta. *Can Fam Physician* 2002;48:1208-15.

[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.

References

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.
2. Society of Obstetricians and Gynaecologists of Canada, College of Family Physicians of Canada, Society of Rural Physicians of Canada. Number of births to maintain competence [policy statement]. *Can Fam Physician* 2002 Apr;48:751, 758.

Scouting 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-

vant injury has the highest relative frequency. In this case, the relative frequency of scooter injuries was highest among children aged 8–13, accounting for about 72 out of every 100 000 injuries in the CHIRPP database.

Susan G. Mackenzie

Senior Epidemiologist, Injury Section
Health Surveillance and Epidemiology
Division
Health Canada
Ottawa, Ont.

Reference

1. Scooting into the ER. *CMAJ* 2002;167(1):55.

[The author responds]:

I apologize for hastily reading the CHIRPP tables and misinterpreting the denominator. Thank you for the correction to my article.¹

Erica Weir

PGY 5 Community Medicine Resident
McMaster University
Hamilton, Ont.

Reference

1. Scooting into the ER. *CMAJ* 2002;167(1):55.

Occupational and environmental exposure

The recent article by Lynn Marshall and colleagues¹ addresses an important issue: occupational and environmental exposures that may have a causal relation to symptoms and illness. However, the example of a photocopier in the sample case is unfortunate.

From the information provided, it is not clear that the photocopier is causing the symptoms. Regardless, some might argue that moving the photocopier is a request that could be easily accommodated. But what if this small business has no other location for it? If the patient's physician suggested the photocopier is making her ill, she is likely to believe it. Should she leave the workplace? Who is responsible for her lost wages if she leaves?

This is not to suggest that no cases

require physician action. Those that do are established clinical entities: asthma, contact dermatitis and toxicities where exposures, dose responses, symptoms, signs and mechanisms are well understood. And there are other cases, sentinel events, where a more direct causality is demonstrable, and the physician may need to notify the employee, workplace and public agencies.

In all cases, a treating physician's advice should be based on an established scientific body of knowledge.

Michael Schweigert

Occupational Health Services Program
St. Michael's Hospital
Toronto, Ont.

Reference

1. Marshall L, Weir E, Abelsohn A, Sanborn MD. Identifying and managing adverse environmental health effects: 1. Taking an exposure history. *CMAJ* 2002;166(8):1049-55.

[The authors respond]:

We thank Michael Schweigert for his attention to our article¹ and for raising some interesting questions. Our primary intent was to suggest organizing principles to aid the physician

in taking a comprehensive environmental history. We also wished to illustrate the weighing of evidence and a precautionary approach to guide decision-making in the many (if not most) real-life clinical situations where incomplete objective evidence is available.² For this purpose we used a composite case example, closely based on actual cases.

The example illustrates the physician weighing the evidence for and against a symptom–exposure association and possibilities for intervention, and deciding that the combined weight of evidence was sufficient to recommend a trial removal of the photocopier (Table 1).

We appreciate that there are differing views as to what constitutes reasonable accommodation. This is particularly so in some modern workplaces where people are share space and have diminished control over their environment. Employers have faced liability when reasonable accommodation was not made.⁸ If an employer was reluctant or unable to accommodate the employee's need, or if the employee's symptoms did not improve with the trial intervention, then the cost of further clinical and workplace investigations could be justified. In this example,

Table 1: Weighing the evidence for precautionary avoidance in case example

For

Onset of symptoms concurrent with change in workplace
Symptoms worse at work and in winter, better on weekends and holidays
Previously well, high-functioning woman with potentially predisposing mild atopy (infantile eczema) and no other environmental or lifestyle changes
Some objective physical findings
Shares symptoms, temporal pattern and some scientifically established host risk factors for sick building syndrome³
Workroom small, poorly ventilated, window sealed in winter with frequently used photocopier
Photocopiers known to emit volatile organic compounds (VOCs) and ozone,⁴ which could provoke the described symptoms⁵
Some people metabolize xenobiotics poorly⁶ and so may be susceptible to toxic effects at exposure levels tolerated by others
Sensitization to some xenobiotics may occur and may be reversed after removal of the source of exposure⁷
Access to industrial hygiene investigation of ventilation rate and ozone/VOC levels limited by geography and expense
Trial removal of photocopier likely feasible and inexpensive

Against

Symptoms not specific or measurable (as in asthma or contact dermatitis)
Physical findings nonspecific
No evaluation of workplace ventilation rate, VOC and ozone levels