home birth." This is dangerously misleading: rates for perinatal mortality and assisted ventilation were both higher in the home-birth population.

Although the authors acknowledge that the rates of some adverse outcomes were too low to provide statistical comparisons, they still suggest no difference in adverse outcomes. Clearly, one preventable episode of perinatal mortality or requirement for assisted ventilation is one too many. Given that this study is not large enough to detect a clinically relevant difference in these major outcomes, the authors have no basis to make this claim.

Unfortunately, the claims have already made it into the popular press, with the CBC stating: "Home births with a midwife are as safe as births in a hospital with a doctor." Once again, a medical publication has played a hand in misinforming the public.

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Reference

1. Janssen PA, Lee SK, Ryan EM, Etches DJ, Farquharson DF, Peacock D, et al. Outcomes of planned home births versus planned hospital births after regulation of midwifery in British Columbia. *CMAJ* 2002;166(3):315-23.

As a family physician who has provided obstetric services in rural British Columbia for over 20 years, I am upset by the implied safety attached to home births.[1] Statistically significant or not, in the study group involving 862 home births there were 3 times as many perinatal deaths compared with the cohort group involving 1314 in-hospital births. As well, 5 infants in the study group required prolonged ventilatory support versus none in the cohort group, and the only 2 cases of hemorrhagic shock occurred in the study group.

If, as the authors state, 7 to 8 years of data collection are required to compare perinatal death rates accurately, why did they then feel compelled to state that "there are no indications of increased risk associated with planned home births attended by regulated midwives"? The lay press has concluded that home births have been shown to be as safe as, if not safer than, in-hospital births. If we look at serious complications, this is clearly not the case.

If nothing else, the study should raise legitimate concerns regarding the safety of home births. Unfortunately, these concerns have not been conveyed to expectant mothers trying to make an informed choice.

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Reference

1. Janssen PA, Lee SK, Ryan EM, Etches DJ, Farquharson DF, Peacock D, et al. Outcomes of planned home births versus planned hospital births after regulation of midwifery in British Columbia. *CMAJ* 2002;166(3):315-23.

This study[1] contained significant biases. The groups were not like for like[2-5] because members of the hospital specialist group were shorter, more likely to have had a previous cesarean section, weighed more and were less likely to be multiparous. Hence, they were more prone to dystocia than members of the home-birth group.

As well, comparisons were made for induction of labour and epidural/spinal analgesia, but these interventions are usually unavailable during home births.[3] Are the authors implying that they are available at home in British Columbia? The overall transfer rate of about 22% was high. What were the major indications for transfer prepartum and intrapartum?

This article is too biased to allow us to draw any meaningful comparisons between home and hospital births. Moreover, the conclusions are not justified by the evidence presented.[6] The first step would be to compare like for like — a randomized selection of appropriate patients for home or hospital birth.[1-4]

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1. Janssen PA, Lee SK, Ryan EM, Etches DJ, Farquharson DF, Peacock D, et al. Outcomes of planned home births versus planned hospital births after regulation of midwifery in British Columbia. *CMAJ* 2002;166(3):315-23.
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4. Wiegers TA, Keirse MJ, van der Zee J, Berghs GA. Outcome of planned home and hospital births in low risk pregnancies: prospective study in midwifery practices in The Netherlands. *BMJ* 1996;313:1309-13.
5. Woodcock HC, Rad AW, Bower C, Stanley FJ, Moore DJ. A matched cohort study of planned home and hospital births in Western Australia 1981-1987. *Midwifery* 1994;10:125-35.
6. Olsen O, Jewell MD. Home versus hospital birth [Cochrane Review]. In: The Cochrane Library; 2000. Oxford: Update Software.

Janssen and colleagues[1] present data on a variety of adverse events and outcomes associated with childbirth. Although they compare home births attended by midwives, hospital births attended by midwives and hospital births attended by physicians, their primary focus is on the outcomes in births assisted by midwives. Those delivering at home would be expected to be at lower risk of medical interventions than those delivering in hospital. However, it might have helped to understand the results had they used a composite score of outcomes. The outcomes, taken from their data, are in my view important (see Table 1).

Comparing home delivery to hospital delivery attended by midwives (thus evaluating site of delivery and possibly selection criteria) eliminates the issue of different caregivers. A composite outcome variable of the need for obstetri-

Table 1: Births attended by midwives

Outcome	Home births *n = 862*	Hospital births *n = 571*
Obstetric shock	2	0
Blood transfusion	3	1
Ventilation > 24 hours	5	0
Perinatal death	3	1
Total no. of women	11*	2

*13 events

cal shock, neonatal ventilation and perinatal deaths shows a significant difference (1.16% vs. 0.18%, the Fisher exact 1-tailed p value = 0.03) between home and hospital deliveries. I recognize that this analysis selects outcomes post factum; nonetheless, these are important outcomes.

Hospital deliveries and births are safer, and this is why there is a selection process for assigning patients to home birth. The issue is how small the risk is to women delivering at home. Relevant risks of home birth and the risks of being transferred in labour (16.5%) need to be discussed and understood. Extensive information is available that shows lower rates of analgesia, monitoring and cesarean section at home, but this is to be expected of home deliveries.

Janssen and colleagues showed that the risks of home birth are quite low but possibly significant. An analogy may be that keeping patients in hospital for the full 9 months of pregnancy would be the safest thing to do. However, neither patients nor caregivers would consider the risks worthy of such a drastic measure. The still unanswered question is if home delivery carries a similar low risk in selected patients.

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Reference

1. Janssen PA, Lee SK, Ryan EM, Etches DJ, Farquharson DF, Peacock D, et al. Outcomes of planned home births versus planned hospital births after regulation of midwifery in British Columbia. *CMAJ* 2002;166(3):315-23

[One of the authors responds:]

We want to thank those who have responded to our manuscript. We would like to address the misconception that we were trying to create comparison groups in our study that were equal in obstetrical risk status. Although we tried to ensure that comparison groups met eligibility criteria for home birth, women who choose home birth differ from those who select hospital birth in both measurable and unmeasurable ways. This selection bias is unavoidable. The purpose of our study was not to determine which method of care was better, home vs. hospital, but rather to assess whether, at the 2-year interval, home birth was safe enough to continue to be offered as a choice for women in the context of ongoing evaluation.

Although we have expressed concern about the rates of some outcomes ("babies exposed to thick meconium who are not vigorous at birth may be disadvantaged in the home birth group"), the small numbers of mothers or babies who experienced adverse outcomes cannot justify a recommendation to avoid home birth at this time. We believe that the final statement "these comparisons are based on small numbers and warrant ongoing evaluation" reflect the possibility of a type II error, that is, lack of power to detect differences in some of the rare outcomes in our study.

With regard to Dan Farine's analysis, two of the subjects with obstetrical shock also received blood transfusions so should not be counted twice. Among the babies requiring ventilation > 24 hours, one was the baby that died during the neonatal period, who similarly should not be counted twice. With respect to perinatal mortality, note that the one perinatal death in the comparison groups occurred not in the group of hospital-intended births attended by midwives, as Farine's table indicates, but in the physician comparison group. No evidence suggests that any of the perinatal deaths in the home birth group were related to labour management at home. Composite outcome scores are normally presented separately for mothers and babies, as outcomes in the two groups are not always independent of each other. In addition, the denominators for the maternal and newborn analyses are different because only outcomes among newborns born without major anomalies were assessed. Although composite outcome scores have greater power than analyses of individual outcomes, we did not specify a composite outcome *a priori* because of the lack of validated tools relevant to babies born at term.

With respect to tracheal suctioning, we observed that only 45% of babies in the home birth group who were exposed to thick meconium and were not vigorous at birth (Apgar score less than 7 at 1 minute) received tracheal suctioning, compared with 75% in each comparison group. As a result of our observations, the Home Birth Demonstration Project Evaluation recommended to the Ministry of Health that this issue be referred to the Newborn Resuscitation Committee at BC's Children's Hospital. This committee will examine issues related to the expectation and maintenance of competency in tracheal intubation. However, maintenance of competency is a problem common to all health care providers who do not routinely practise intubation. A comprehensive approach to the acquisition and maintenance of intubation skills is needed throughout the province.

As we discussed in our interpretation section, our intrapartum transfer rate of 16.5% was well within published rates.

The small number of adverse outcomes among an essentially healthy population of women limits the power of a single study to make valid conclusions. We look forward to seeing either larger studies of home birth in Canada or pooled results from smaller studies.

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Politics at the CMA

The CMA has proposed a "Canadian Health Charter" to the Romanow commission — yet another political stance and an example of the weak leadership so often demonstrated by our organization. The proposal restates the ideals in the Canada Health Act, but conspicuously fails to address the obvious underlying problem: a severe money shortage.