that women's and families' experiences of current standard practice are often unsatisfactory. I do not think that these 2 views are necessarily discordant. It is possible that although bereavement counselling is standard, women and families do not optimally benefit from such counselling. This would appear to support the claim of Chambers and Chan[1] that further rigorous trials are needed.

I strongly disagree with the notion expressed by Lang and Edwards that systematic reviews with no or few rigorous studies are unhelpful. Such reviews point out the limitations of the current evidence base, define the future research agenda and identify the most critical elements for future randomized trials. For example, Chambers and Chan commented that "further trials should ensure that the range of outcome measures is clearly defined and is assessed by standard psychometric tools, as far as possible validated for the purpose, that data [are] numerically complete and appropriately presented and that adequate follow-up is possible."

As described in my commentary,[2] one unique element of Cochrane reviews is that readers are encouraged to send feedback; reviewers are required to respond to such feedback and update their reviews if appropriate. I would encourage Lang and Edwards to submit such feedback if my response has not adequately addressed their concerns.

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References
1. Chambers HM, Chan FY. Support for women/families after perinatal death [Cochrane review]. In: The Cochrane Library; Issue 2, 2004. Oxford: Update Software.
2. Grimshaw J. So what has the Cochrane Collaboration ever done for us? A report card on the first 10 years [editorial]. *CMAJ* 2004;171(7):747-9.

Competing interests: Jeremy Grimshaw is Director of the Canadian Cochrane Centre, Co-ordinating Editor of the Cochrane Effective Practice and Organisation of Care (EPOC) review group and author of several Cochrane reviews.

DOI:10.1503/cmaj.1050040

Infant mortality in Alberta and all of Canada

CMAJ recently drew attention to Alberta's high infant mortality rate and implicated babies from neighbouring provinces, multiple births and "a large First Nations population that experiences higher rates of alcohol and tobacco use."[1] However, as the Canadian Perinatal Surveillance System has consistently maintained, infant mortality comparisons are compromised if they do not account for differences in birth registration practices, especially those pertaining to live births at the borderline of viability.[2–6] For instance, an increasing temporal trend in the registration of live births less than 500 g (without a corresponding increase in other low-birth-weight categories) was deemed responsible for the increase in Canada's infant mortality rate in 1993.[2]

The registration of live births less than 500 g and less than 24 weeks gestation is more meticulous in Alberta than elsewhere in Canada (Table 1).[2,7,8] Such differential registration (of a subgroup at very high risk of infant death) explains Alberta's poor infant mortality ranking and also the increase in mortality rates in Alberta (in 2002) and in Canada (in 1993 and 2002).

Although more detailed analyses are warranted, it is evident (and ironic) that the province with good birth registration practices is being singled out for criticism. On the other hand, Ontario, which has a dismal record in terms of registering births, is rarely mentioned by the news media. Problems in Ontario include underregistration of births (especially among vulnerable subpopulations such as single mothers) because of fees for birth registration,[9] missing birth registrations for 25% of infant deaths[6] and delays in reporting that affect the timeliness of Canadian vital statistics and surveillance reports.

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References
1. Gregoire L. Alberta infant mortality high. *CMAJ* 2004;171(11):1336.
2. Joseph KS, Kramer MS. Recent trends in Canadian infant mortality rates: effect of changes in the registration of live newborns weighing less than 500 g. *CMAJ* 1996;155(8):1047-52.
3. Svenson LW, Schopflocher DP, Sauve RS,

Table 1: Numbers and rates of infant deaths and live births with birth weight less than 500 g or gestational age less than 24 weeks in Alberta and all of Canada[2,7,8]

			Live births < 500 g		Live births < 24 wk	
Year	No. of infant deaths	Infant mortality rate (per 1000 live births)	No.	Rate (per 10 000 live births)	No.	Rate (per 10 000 live births)
Alberta						
2000	244	6.6	48	13.0	81	21.9
2001	210	5.6	43	11.4	66	17.5
2002	283	7.3	62	16.0	103	26.6
Canada						
1992	2431	6.1	202	5.1	339	8.5
1993	2448	6.3	329	8.5	411	10.6
2000	1737	5.3	261	8.0	423	12.9
2001	1739	5.2	266	8.0	445	13.4
2002	1762	5.4	327	10.0	502	15.3

Robertson CMT. Alberta's infant mortality rate: the effect of the registration of live newborns weighing less than 500 grams. *Can J Public Health* 1998;89:188-9.
4. *Canadian perinatal health report 2000*. Ottawa: Health Canada; 2000.
5. Kramer MS, Platt RW, Yang H, Haglund B, Cnattingius S, Bergsjo P. Registration artifacts in international comparisons of infant mortality. *Paediatr Perinat Epidemiol* 2002;16:16-22.
6. *Canadian perinatal health report 2003*. Ottawa: Health Canada; 2003.
7. *Births 2002*. Ottawa: Statistics Canada; 2004. Cat no. 84F0210XIE. Available: www.statcan.ca/english/freepub/84F0210XIE/2002000/index.htm (accessed 2004 Nov 29).
8. *Deaths 2002*. Ottawa: Statistics Canada; 2004. Cat no. 84F0211XIE. Available: www.statcan.ca/english/freepub/84F0211XIE/2002000/index.htm (accessed 2004 Nov 29).
9. Woodward GL, Bienefeld MK, Ardal S. Underreporting of live births in Ontario: 1991-1997. *Can J Public Health* 2003;94:463-7.

DOI:10.1503/cmaj.1041753

Outcome reporting bias in government-funded RCTs

An-Wen Chan and associates,[1] in their evaluation of outcome reporting bias in 48 randomized controlled trials funded by the Canadian Institutes of Health Research (CIHR), found that a high number (median 26) of outcomes were declared in each protocol, but not all of these outcomes were reported in the published papers; in addition, statistically significant efficacy outcomes had a higher likelihood of being reported than nonsignificant ones.

Twenty of the 48 studies were jointly funded by industry and CIHR. It would be of interest to know whether the results were consistent between the 2 subgroups of studies, those funded by government only and those cofunded by industry.

This work shows that research promoted through public funding is not free from bias. The explanation of outcome reporting bias is challenging. In particular, further investigation is needed to identify the factors that affect selection of outcomes between a study's protocol and the published report of the study.

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Reference

1. Chan AW, Krleža-Jerić K, Schmid I, Altman DG. Outcome reporting bias in randomized trials funded by the Canadian Institutes of Health Research. *CMAJ* 2004;171(7):735-40.

Competing interests: None declared.

DOI:10.1503/cmaj.1041669

[The authors respond:]

In response to Pasquale Moja and associates, we would first like to clarify 2 points in their letter. First, it would be more accurate to state that a median of 26 outcomes was declared in both the protocols and the publications, rather than in the protocols alone. Also, with regard to the assertion that "research promoted through public funding is not free from bias," we would clarify that it is not the research itself that is biased, but rather the reporting of the research.[1]

Moja and associates ask about the consistency of results across sources of funding. We would not expect significantly greater deficiencies among trials that were jointly funded by government and industry sources, as these studies were investigator-driven rather than fully controlled by the industry sponsor. Furthermore, formal subgroup analyses would be underpowered to detect any differences.

However, we do agree that stratifying the data by funding source would provide valuable preliminary insight into factors that might affect selective outcome reporting. Exploratory post hoc analyses for efficacy outcomes revealed consistent results across funding subgroups. The odds ratios for outcome reporting bias were 3.4 (95% confidence interval [CI] 1.3–9.3) for trials funded jointly by industry and CIHR (n = 11 trials) and 2.3 (95% CI 1.1–5.1) for trials funded by CIHR alone (n = 19 trials). The prevalence of major discrepancies in the specification of primary outcomes also did not differ significantly between jointly funded (7/20, 35%) or CIHR-funded (12/28, 43%) trials.

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1. Chan AW, Krleža-Jerić K, Schmid I, Altman DG. Outcome reporting bias in randomized trials funded by the Canadian Institutes of Health Research. *CMAJ* 2004;171(7):735-40.

Competing interests: None declared.

DOI:10.1503/cmaj.1041723

Medical education and chronic disease

Anton Miller and associates,[1] in their commentary on the need to improve health care services for children with chronic health conditions, reveal one of the weaknesses of the medical profession. We have difficulty adapting to new situations, such as that presented by the increasing prevalence of chronic disease in our society.

Although we can improve patients' quality of life or soothe the burden of certain diseases, many chronic conditions simply cannot be cured, and patients will have to accept that limita-