

### What is already known on this topic

Planned home births for low risk women in high resource countries where midwifery is well integrated into the healthcare system are associated with similar safety as low risk hospital births

Midwives involved with home births are not well integrated into the healthcare system in the United States

Evidence on safety of such home births is limited

### What this study adds

Planned home births with certified professional midwives in the United States had similar rates of intrapartum and neonatal mortality to those of low risk hospital births

Medical intervention rates for planned home births were lower than for planned low risk hospital births

An economic analysis found that an uncomplicated vaginal birth in hospital in the United States cost on average three times as much as a similar birth at home with a midwife.<sup>22</sup> Our study of certified professional midwives suggests that they achieve good outcomes among low risk women without routine use of expensive hospital interventions. This evidence supports the American Public Health Association's recommendation<sup>3</sup> to increase access to out of hospital maternity care services with direct entry midwives in the United States.

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Competing interests: None declared.

Ethical approval: Ethical approval was obtained from an ethics committee created for the North American Registry of Midwives to review epidemiological research involving certified professional midwives.

1 Macfarlane A, McCandlish R, Campbell R. Choosing between home and hospital delivery. There is no evidence that hospital is the safest place to give birth. *BMJ* 2000;320:798.

- 2 College of Physicians and Surgeons of Ontario. Reports from council. *Home birth policy rescinded*. Toronto: CPSO, 2001.
- 3 Society of Obstetricians and Gynecologists of Canada. Policy statement No 126. Midwifery. *J Obstet Gynaecol Can* 2003;25:5.
- 4 American Public Health Association. 2001-3: increasing access to out-of-hospital maternity care services through state-regulated and nationally-certified direct-entry midwives. *Am J Public Health* 2002;92:453-5.
- 5 American College of Obstetricians and Gynecologists. Frequently asked questions about having a baby in the 21st century [monograph]. Washington; 12 Dec 2001. [www.acog.org/from\\_home/publications/press\\_releases/nr12-12-01-4.cfm](http://www.acog.org/from_home/publications/press_releases/nr12-12-01-4.cfm) (accessed 3 Apr 2005).
- 6 Martin JA, Hamilton BE, Ventura SJ, Menacker F, Park MM. Births: final data for 2000. *National vital statistics reports*. Hyattsville, MD: National Center for Health Statistics, 2002;50(5).
- 7 Declercq ER, Sakala C, Corry MP, Applebaum S, Risher P. Listening to mothers: report of the first national US survey of women's childbearing experiences [monograph]. New York: Maternity Center Association; 2002. [www.maternitywise.org/listeningtomothers/](http://www.maternitywise.org/listeningtomothers/) (accessed 3 Apr 2005).
- 8 Olsen O. Meta-analysis of the safety of home birth. *Birth* 1997;24:4-13.
- 9 Campbell R, Macfarlane A. *Where to be born: the debate and the evidence*, 2nd ed. Oxford: National Perinatal Epidemiology Unit, 1994.
- 10 Collaborative survey of perinatal loss in planned and unplanned home births. Northern Region Perinatal Mortality Survey Coordinating Group. *BMJ* 1996;313:1306-9.
- 11 Ackermann-Lieblich U, Voegeli T, Gunter-Witt K, Kunz I, Zullig M, Schindler C, et al. Home versus hospital deliveries: follow up study of matched pairs for procedures and outcome. Zurich Study Team. *BMJ* 1996;313:1313-8.
- 12 Wieggers TA, Keirse MJ, van der ZJ, Berghs GA. Outcome of planned home and planned hospital births in low risk pregnancies: prospective study in midwifery practices in the Netherlands. *BMJ* 1996;313:1309-13.
- 13 Bastian H, Keirse MJ, Lancaster PA. Perinatal death associated with planned home birth in Australia: population based study. *BMJ* 1998;317:384-8.
- 14 Murphy PA, Fullerton J. Outcomes of intended home births in nurse-midwifery practice: a prospective descriptive study. *Obstet Gynecol* 1998;92:461-70.
- 15 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;166:315-23.
- 16 Pang JW, Heffelfinger JD, Huang GJ, Benedetti TJ, Weiss NS. Outcomes of planned home births in Washington State: 1989-1996. *Obstet Gynecol* 2002;100:253-9.
- 17 Rooks JP. Safety of out-of-hospital births in the United States. *Midwifery and childbirth in America*. Philadelphia: Temple University Press, 1997:345-84.
- 18 Johnson KC, Daviss BA. Outcomes of planned home births in Washington State: 1989-1996. *Obstet Gynecol* 2003;101:198-200.
- 19 Buescher PA, Taylor KP, Davis MH, Bowling JM. The quality of the new birth certificate data: a validation study in North Carolina. *Am J Public Health* 1993;83:1163-5.
- 20 Piper JM, Mitchel EF Jr, Snowden M, Hall C, Adams M, Taylor P. Validation of 1989 Tennessee birth certificates using maternal and newborn hospital records. *Am J Epidemiol* 1993;137:758-68.
- 21 Woolbright LA, Harshbarger DS. The revised standard certificate of live birth: analysis of medical risk factor data from birth certificates in Alabama, 1988-92. *Public Health Rep* 1995;110:59-63.
- 22 Anderson RE, Anderson DA. The cost-effectiveness of home birth. *J Nurse Midwifery* 1999;44:30-5.

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### Corrections and clarifications

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The statement made in this editorial from 2003 by Tony Delamothe and Richard Smith (*BMJ* 2003;327:241-2) that "[library subscriptions to the *BMJ* are] 9% lower than the same time last year, whereas the publishing group's 26 specialist journals, 25 of which have access controls, have experienced falls of only 4%" is based on an underestimation of the true fall in subscriptions to specialist journals. At that time, our fulfilment system was overcounting electronic subscriptions to the group's specialist journals, so their true fall is likely to be greater. While we cannot recover the correct figures for mid-2003, we can report that in the seven years between December 1997 (when none of the group's journals had full text websites) and December 2004 (the last month before [bmj.com](http://bmj.com) went behind access controls) library subscriptions to the *BMJ* fell by 44.5% compared with a fall of 39.7% for the group's specialist journals.