

Outcomes of Care for 16,925 Planned Home Births in the United States: The Midwives Alliance of North America Statistics Project, 2004 to 2009

To the Editor:

We were pleased to see the recently published data from MANA.¹ However, critically reading the report leads to very different conclusions than those of the authors.

Absent statistical comparisons, statements regarding “statistical congruence” falsely imply statistical comparability to earlier publications. After indicting birth certificate-based data as unreliable, the authors repeatedly cite such evidence in support of their conclusions. These practices are at best inappropriate and at worst misleading.

The authors incorrectly contend that the data show lower cesarean and operative vaginal birth rates than planned hospital births. When low-risk nulliparous women enter labor spontaneously for planned hospital birth, 84% have spontaneous vaginal births, 8% have forceps-assisted births, and 8% have cesareans. The respective figures for multiparas are 98%, 1%, and 1%, virtually identical to the authors’ findings.²

The unexpectedly high rate of postpartum hemorrhage was speculatively attributed to inaccurate estimated blood loss and inconsistent active third stage management. Rather than suggesting a revised definition of postpartum hemorrhage, more appropriate alternative recommendations would include providing home birth midwives with training in estimating blood loss, third stage management, and improved candidate screening for hemorrhage risk.³

The authors state that the rate of successful trial of labor after cesarean (TOLAC) was higher than prior studies “with no significant increase in early or overall neonatal mortality.” The latter likely reflects the unexpectedly high number of intrapartum fetal deaths observed with TOLAC, dismissed as too few to reliably analyze. Three deaths in 1052 TOLACs starkly contrast 2 deaths among 15,338 in-hospital TOLACs, a highly significant difference ($P = .002$). Notably, more than 73% of women attempting in-hospital TOLAC gave birth vaginally.⁴

The intrapartum fetal and neonatal death rates are excessive. Even after excluding high-risk women and lethal anomalies, the intrapartum fetal death rate, 1.3 per 1000, is almost 10-fold that of low-risk women entering labor for a planned hospital birth, representing an absolute increased risk of more than one death per 1000 births. The neonatal mortality rate, 0.76 per 1000, is 2.5 times greater than that for low-risk planned hospital births.²

Contrary to the authors’ interpretation, the data show that planned home birth incurs significant avoidable intrapartum fetal and neonatal mortality while offering no measur-

able maternal benefit. The outcomes demand an immediate reappraisal and improvement of home birth client selection as well as intrapartum fetal and neonatal care. Women considering their birth options, and their offspring, deserve no less.

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In Reply:

My co-authors and I would like to thank Dr. Wax and Dr. Pinette for taking the time to so clearly lay out their concerns. We appreciate the opportunity to expand the discussion of our work. We address the letter’s critiques in the order they appear.

First, the authors take issue with our comparison to earlier publications. In keeping with the descriptive goal of our study, we provide basic rates and frequencies for key outcomes, such as cesarean and early neonatal mortality, from a large sample ($N = 16,924$) of planned, midwife-led home births. We never make direct comparisons to hospital births or to birth certificate data. We do, in the discussion section, compare our findings to outcomes from other studies on planned home and birth center birth in order to contextualize our findings. We were careful to provide point estimates and confidence intervals for our own findings whenever a direct comparison was attempted. We clearly state when our findings are or are not statistically congruent (based on confidence interval overlap with other reported point estimates) with previous studies.



Second, the authors state that we erroneously claim that home births are associated with a lower cesarean rate than hospital births for low-risk women. We never make statistical comparisons between our findings and hospital births due to the well-known and widely-cited difference in risk level between women who have home births and women who have hospital births. Yet, if we had, we very likely would not have selected the 4% cesarean rate cited as representative. The Worley et al study¹ referenced to support the laudably low cesarean rate cited by Dr. Wax and Dr. Pinette comes from one hospital in Texas, with data collection going back to 1988 when US cesarean rates were much lower than they are today. In addition, Worley et al defined *low risk* (criteria met by only 37% of laboring patients over the course of the study) differently than our study. We do not believe, given the balance of evidence, that a 4% cesarean rate is an accurate reflection of the cesarean rate for low-risk women birthing in US hospitals today.^{2,3} To the contrary, we find ourselves in agreement with the American College of Obstetricians and Gynecologists' recent call for a lowering of national cesarean rates.⁴

Third, the authors criticize us for failing to call for better training for home birth midwives with regard to the estimation of blood loss. We make no such recommendation largely because we make no clinical recommendations in our article whatsoever. The articles we cite on estimated blood loss make quite clear that estimation of blood loss is highly inaccurate among all provider types and places of birth^{5,6}; it is not simply a problem with home birth midwives. Rather than focusing on training to more accurately estimate blood loss, we believe it is more critical that all maternity care providers be able to identify when blood loss is clinically significant and to respond quickly and effectively.

Fourth, the authors critique our analysis of the nearly 1200 vaginal births after cesarean (VBACs) in our sample and provide their own assessment citing a single study from 2004⁷ with no evidence that the samples from that study and ours are comparable. We compared VBACs in our sample to other multiparous women in our sample and found no difference in early or late neonatal mortality rates. Again, we made no attempt to compare our findings to hospital birth samples largely because the time and cost involved in defining a cohort matched for risk was beyond the scope of our project. This is an important next step.

Fifth, the intrapartum mortality rate for low-risk women in our sample was 0.85/1000, not 1.3/1000 as miscited by the authors. The authors again compare our findings with those reported from one hospital in Texas, the Worley et al study.¹ The United States does not collect data on, or report, intrapartum mortality rates directly; they are subsumed within the larger category of stillbirths (deaths occurring at ≥ 20 weeks' gestation before the complete expulsion or extraction of the fetus).⁸ As such, there is not currently one clear benchmark or target value for US in-hospital intrapartum mortality.

Finally, the authors assert that home birth is associated with elevated intrapartum mortality, while conferring no measurable maternal benefit. We disagree. The lack of a clear

intrapartum mortality benchmark aside, we believe that a cesarean rate of 5.2%, an augmentation and/or epidural usage rate of less than 5%, and a successful breastfeeding rate of 98% at 6 weeks postpartum all confer both maternal and societal benefits, not the least of which is the possibility of reducing the costs of unnecessary procedures to the extent that all women, regardless of income level, can have access to culturally safe⁹ and affordable care.

We agree that our study, like any other, has limitations. Indeed, we went to great lengths to discuss these in our outcomes report, as well as in the companion article on methods.¹⁰ We welcome all discussion of both the strengths and limitations of our work, as long as they are accurately portrayed, with the intention of moving the conversation forward and finding ways to produce the highest possible quality research on maternity care in our nation.

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