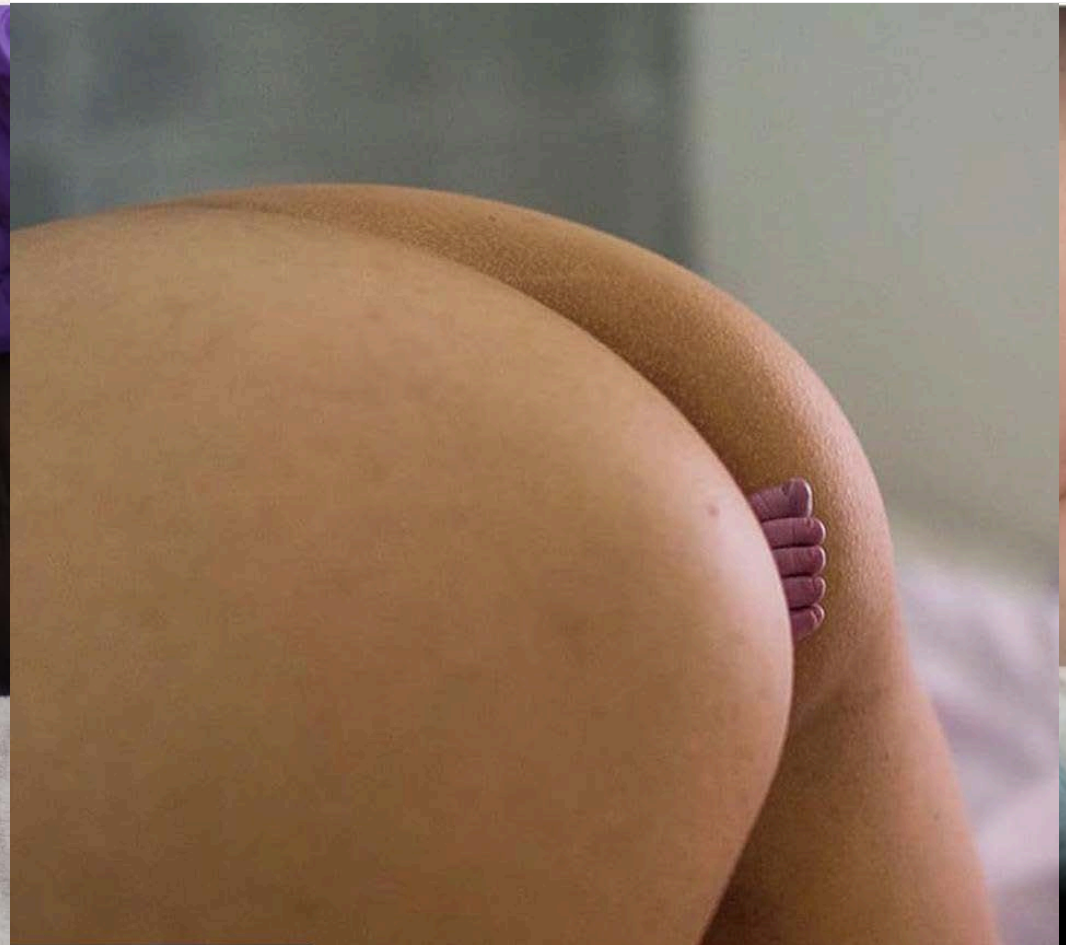
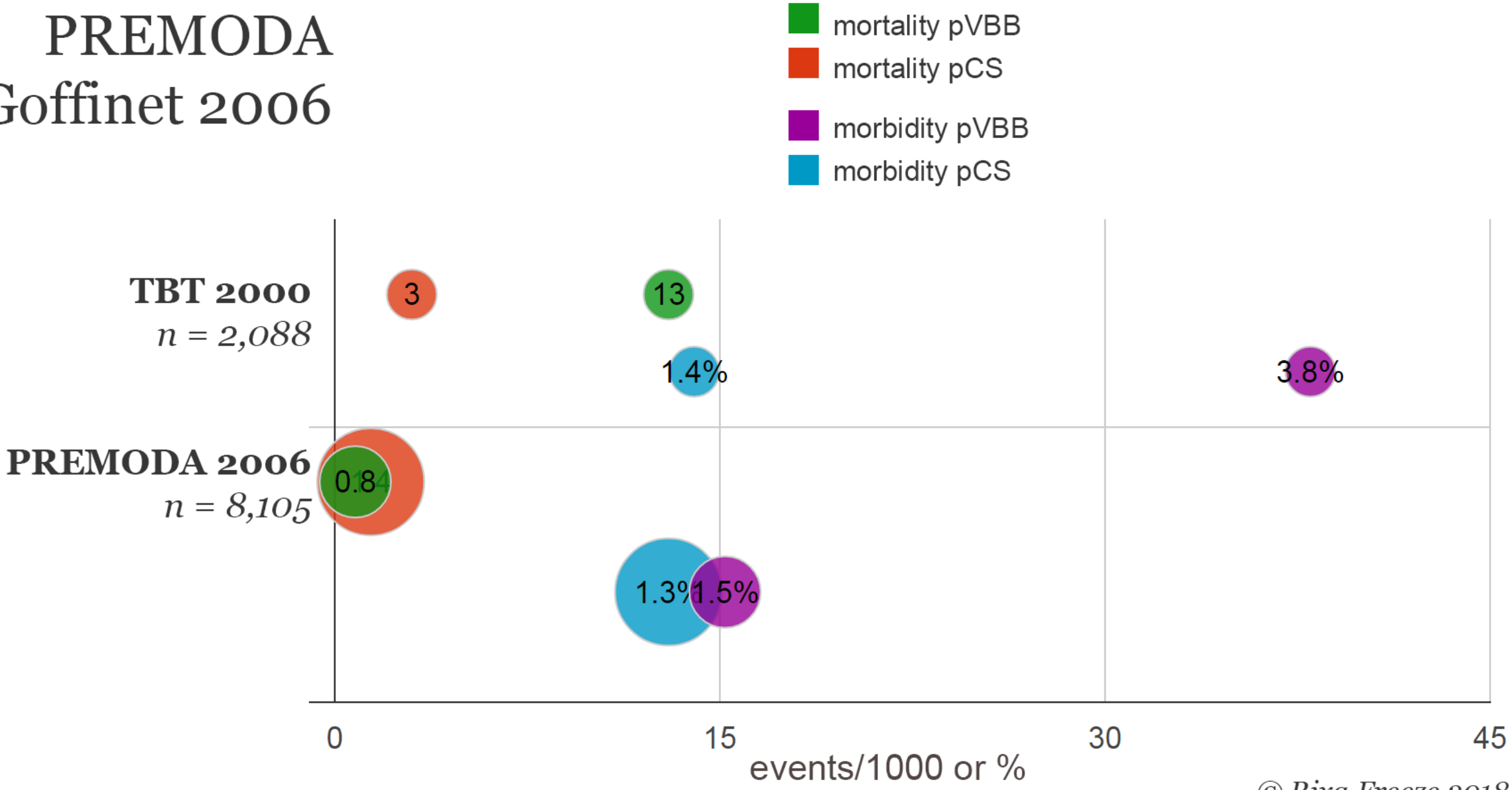
Breech birth at home

Rixa Freeze, PhD

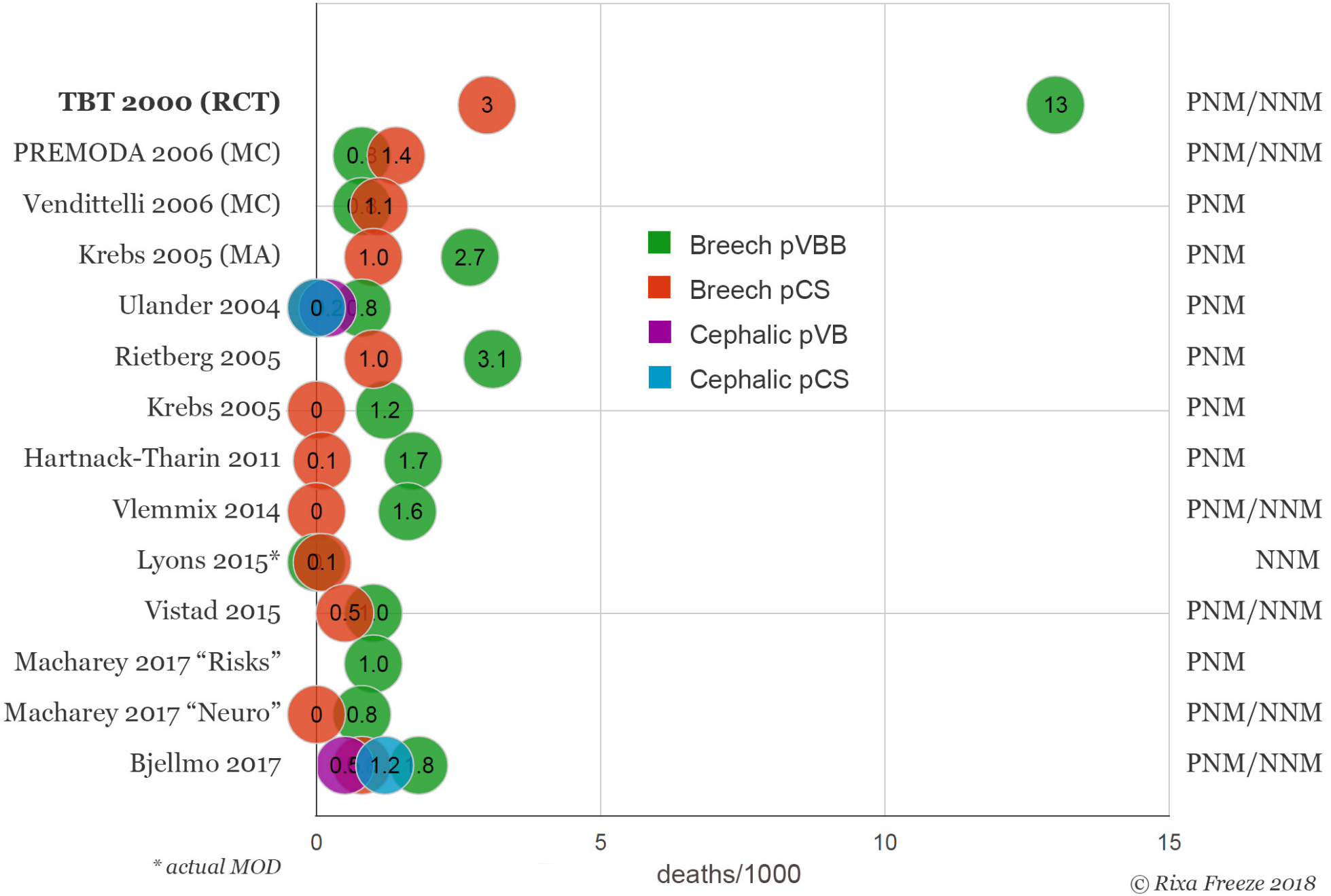
August 2018



PREMODA
Goffinet 2006

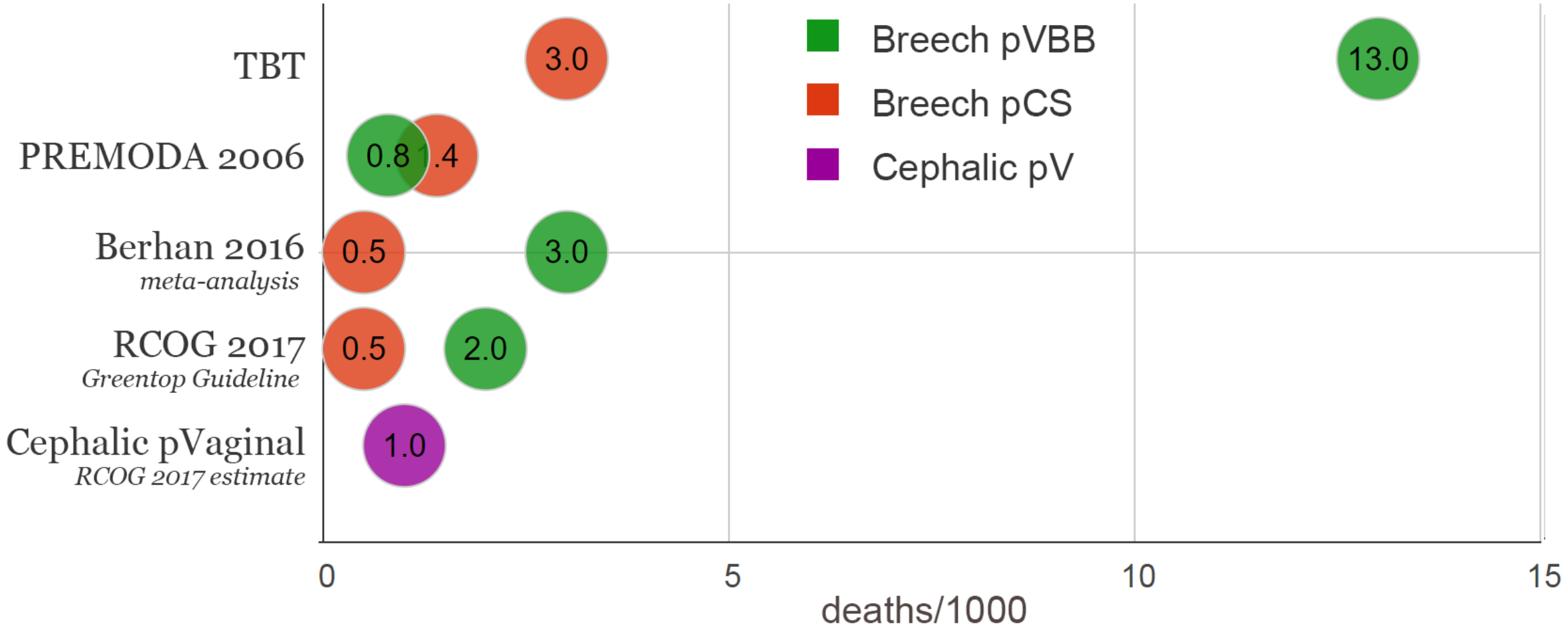


PNM/NNM for term breech & cephalic births



** actual MOD*

Risk of pVBB: TBT vs recent estimates



Mehl-Madrona 1997: Home births w/ MDs & MWs

Bastian 1998: Australia consumer database (85-90)

Johnson 2005: CPM 2000 study

Deline 2012: Amish birth center

Cox 2015: Home VBACs in MANA Stats 2.0

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

Grunebaum 2017: CDC data 2009-13

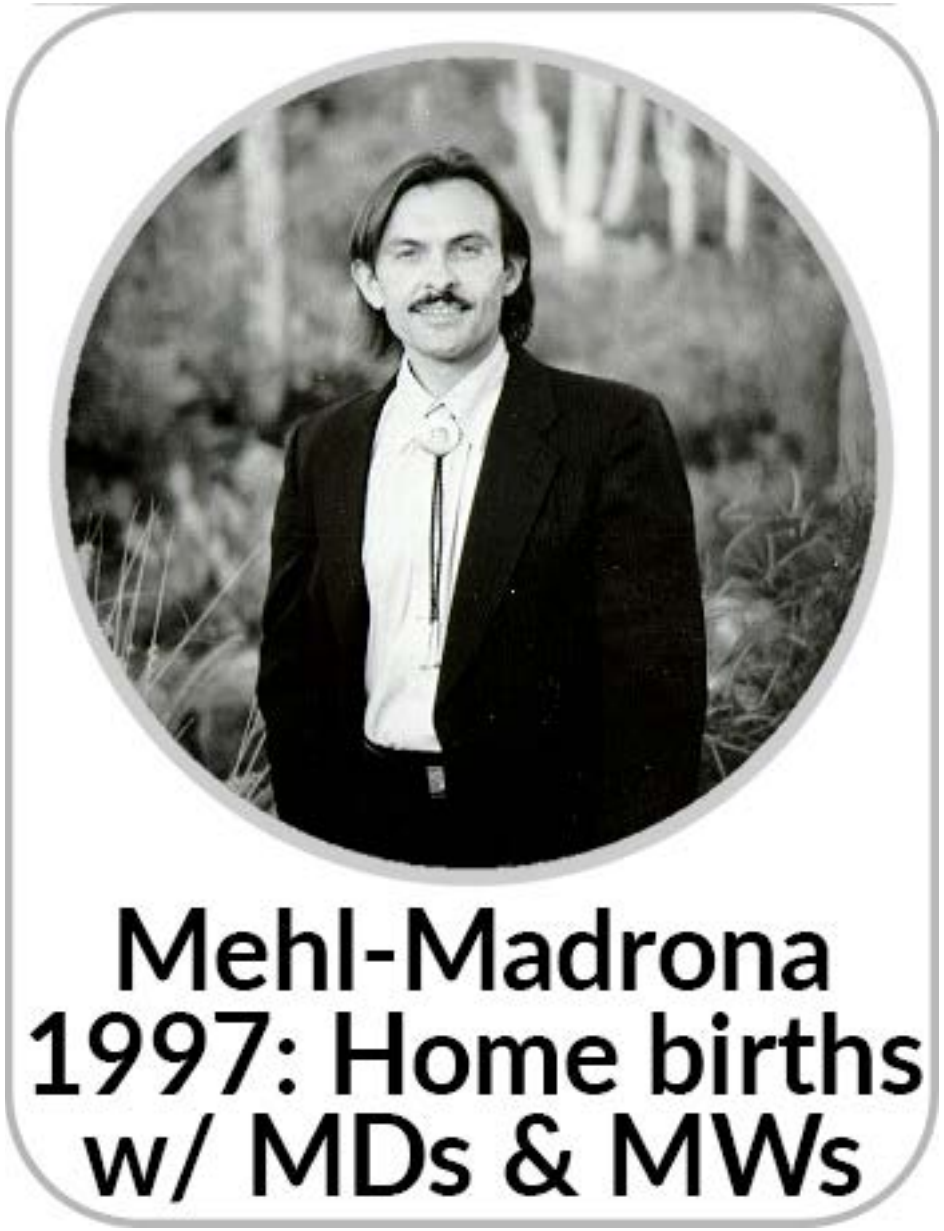
Midwives Alliance NORTH AMERICA

Cheyney 2014: MANA Stats 2.0 (2004-09)

Midwives Alliance NORTH AMERICA

Bovbjerg 2017: MANA Stats 2.0 & 4.0


Fischbein 2015 &
2018: OOH breech
birth w/ OB



PHYSICIAN- AND MIDWIFE-ATTENDED HOME BIRTHS
Effects of Breech, Twin, and Post-Dates Outcome Data on Mortality Rates

Lewis Mehl-Madrona, MD, PhD, and Morgaine Mehl Madrona

ABSTRACT

The effect of attending breech, twin, and post-date pregnancies on home birth outcomes was assessed. The same form was used to collect data on a convenience sample of 4,361 home births attended by apprentice-trained midwives from 1970 to 1985 and 4,107 home births attended by family physicians from 1969 to 1981. Data sets were compared to find 1,000 pairs of pregnant women, one from each group, who were matched for age, sex, socioeconomic status, race, and medical risk. The perinatal mortality rate for the midwife-attended births was 14 per 1,000 (three fetal deaths before labor, six intrapartum fetal deaths, and five neonatal deaths). The perinatal mortality rate for births attended by family physicians was five per 1,000 (one fetal death before labor, two intrapartum fetal deaths, and two neonatal deaths). The difference was statistically significant; however, the differences disappeared when cases involving post-dates, twin, or breech deliveries were eliminated from the sample. Although the data are more than a decade old, they support the premise that outcomes for low-risk home births are comparably good whether attended by physicians or midwives. However, the findings do raise questions about the safety of attending high-risk births at home.

provider to attend breech deliveries, twin deliveries, and post-dates pregnancies at home. Although standard textbooks of obstetrics do not support home birth for anyone, their authors especially object to home birth for breech, twin, and post-dates pregnancies. *Williams Obstetrics* states, "The provider who might naively champion any childbirth outside of a hospital setting is either not aware of the hazards of breech delivery in such a setting or is totally insensitive to the welfare of the fetus and the mother" (27).

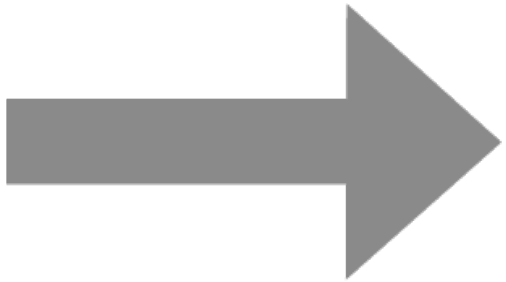
One of the authors (LM) has frequently been asked to testify in court proceedings involving bad outcomes of home births, 84% of which have involved one of these three types of deliveries occurring at home. At a Midwifery Today conference held in New York City in 1995, several presenters argued for the acceptability and desirability of midwives' attending breech and twin deliveries at home. Review of recent publications in the midwifery literature shows a continued effort to attain authority to deliver breeches, twins, and post-dates women at home. Recent published articles include one suggesting that post-dates or post-maturity is a myth (28), that twins may be safely delivered at home (29), and that breeches may

4,361

Home births with apprentice-trained midwives, 1970 - 1985

4,107

Home births with family physicians, 1969 - 1981



1,000

Matched for age, sex, socioeconomic status, race, and medical risk

1,000

Mehl-Madrona 1997

TABLE 2
Occurrence of Congenital Anomalies, Twins, Breeches, and Post-Dates Pregnancies in the Matched Sample and the Entire Sample*

	Entire Sample			*Matched Sample*		
Type of Complication	*FPs*	*DEMs*	*Signif.*	*FPs*	*DEMs*	*Signif.*
Lethal congenital anomalies	2.86	1.69	.05	3	2	NS
Twins	0.32	8.94		1	8	<.05
Breeches	2.92	32.10		2	29	<.0001
Post-dates pregnancies	7.79	24.08		6	26	<.001

FPs = family physicians; DEMs = direct-entry midwives; NS = not significant.

* Results expressed as cases per 1,000.

Matched pairs

Midwife-attended PNM = 14/1,000

- 3 AP
- 6 IP
- 5 NN

Difference is statistically significant

Physician-attended PNM = 5/1,000

- 1 AP
- 2 IP
- 2 NN

935

Matched pairs

988

WITHOUT:

- breeches
- twins
- post-dates
- lethal anomalies

MW PNM = 3/1,000

0 AP

1 IP

2 NN

Difference is NOT statistically significant

MD PNM = 2/1,000

0 AP

1 IP

1 NN

TABLE 3
Outcomes of Matched Sets of Births for Apprentice-Trained Midwives and Family Physicians

Births Included in This Analysis	*Midwife Births*	*Family Physician Births*	*Probability Level (P)*
Entire matched set			
Number	1,000	1,000	
Fetal deaths before labor	3	1	NS
Fetal deaths during labor	6	2	NS
Neonatal resuscitations	22	6	<.05
Neonatal deaths	5	2	NS
Total mortality	14	5	<.05
Babies with lethal congenital anomalies	2	3	NS
Women carrying twins	8	1	<.05
Women with babies in the breech position	29	2	<.0001
Women entering labor after 42 weeks' gestation	26	6	<.001
Outcomes minus post-dates, breeches, twins, and lethal anomalies			
Number	935	988	
Fetal deaths before labor	C	0	NS
Fetal deaths during labor	1	1	NS
Neonatal resuscitations	4	4	NS
Neonatal deaths	2	1	NS
Total mortality	3	2	NS

NS = not significant at $P < .05$.

Mehl-Madrona 1997

“When breeches, twins, and post-dates pregnancies were eliminated from the analysis, no effect on type of practitioner was observed.”

“Although the data are more than a decade old [in 1997], they support the premise that outcomes for low-risk home births are comparably good whether attended by physicians or midwives. However, the findings do raise questions about the safety of attending high-risk births at home.”

Perinatal death
Australia: popul
Hilda Bastian, Marc J N C K
stract

Bastian 1998: Australia consumer database (85-90)

Perinatal death associated with planned home birth in Australia: population based study

Hilda Bastian, Marc J N C Keirse, Paul A L Lancaster

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Marc J N C Keirse, *professor*
Australian Institute of Health and Welfare, National Perinatal Statistics Unit, University of New South Wales, NSW 2052, Australia
Paul A L Lancaster, *associate professor*
Correspondence to: Ms Bastian hilda.bastian@flinders.edu.au

BMJ 1998;317:384–8

Abstract

Objective: To assess the risk of perinatal death in planned home births in Australia.
Design: Comparison of data on planned home births during 1985-90, notified to Homebirth Australia, with national data on perinatal deaths and outcomes of home births internationally.
Results: 50 perinatal deaths occurred in 7002 planned home births in Australia during 1985-90: 7.1 per 1000 (95% confidence interval 5.2 to 9.1) according to Australian definitions and 6.4 per 1000 (4.6 to 8.3) according to World Health Organisation definitions. The perinatal death rate in infants weighing more than 2500 g was higher than the national average (5.7 versus 3.6 per 1000: relative risk 1.6; 1.1 to 2.4) as were intrapartum deaths not due to malformations or immaturity (2.7 versus 0.9 per 1000: 3.0; 1.9 to 4.8). More than half (52%) of the deaths were associated with intrapartum asphyxia.
Conclusions: Australian home births carried a high death rate compared with both all Australian births and home births elsewhere. The two largest contributors to the excess mortality were underestimation of the risks associated with post-term birth, twin pregnancy and breech presentation, and a lack of response to fetal distress.

Introduction

Despite decades of political and academic debate the relative merits of home versus hospital birth remain unproved. This is likely to remain so. Comparisons that are sufficiently unbiased and large enough to address crucial safety issues are unlikely to be forthcoming.[1,2] Although home and hospital offer different risks and benefits for births, neither has standard care characteristics. In fact the range from safe to unsafe practice may be wider within each location than it is between them. Addressing what constitutes safe birth practice at home may be a more pivotal concern than attempting to quantify the theoretical differences attributable to place of birth.

In the Netherlands, where 30% of births are planned to be at home, there is a widely accepted list of criteria for home birth.[3] When home birth is uncommon, opinions and practice can vary more widely. Thus leaflets on informed choice of place of birth in the United Kingdom do not specify any contraindications to home birth.[4,5] Others have advocated home birth for women at high risk of obstetric complications,[6,7] and trends to abandon risk assessment for home birth are apparent in both Australia[8] and the United States.[9]

Australia Homebirth (consumer database)

- 7,002 planned home births from 1985-1990
- Piecemeal collection
  - 5,052 births reported from individual notification forms
  - 1,372 births reported from summaries
  - 576 births reported from home birth newsletters
  - 2 additional births leading to death reported from other sources; verified by state perinatal associations

Australia Homebirth (consumer database)

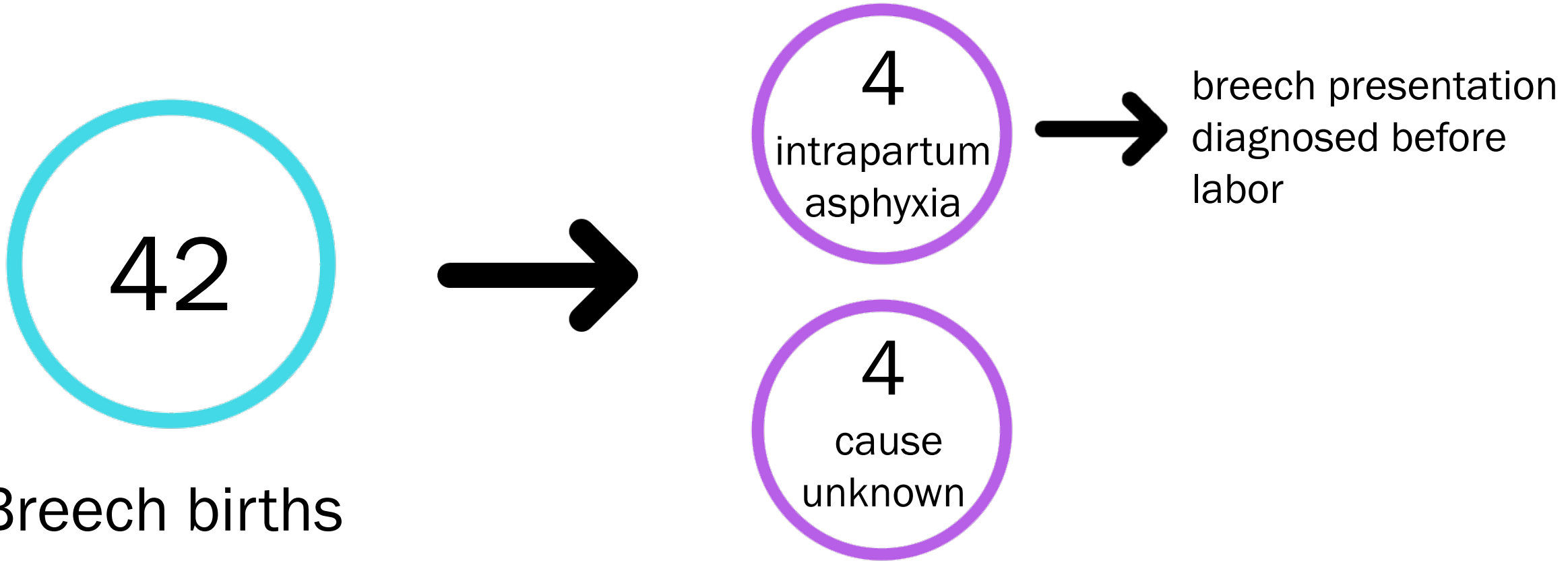
- 50 deaths in 7,002 planned home births
  - 31 fetal
  - 19 neonatal (early + late)
- Combined PNM of 7.1/1000
- 8 pre-term (<37 weeks), 7 post-term (>= 42 weeks)
- Includes deaths due to malformations
- Cause of death unknown in 16% due to lack of data

Australia Homebirth (consumer database)

Planned home births

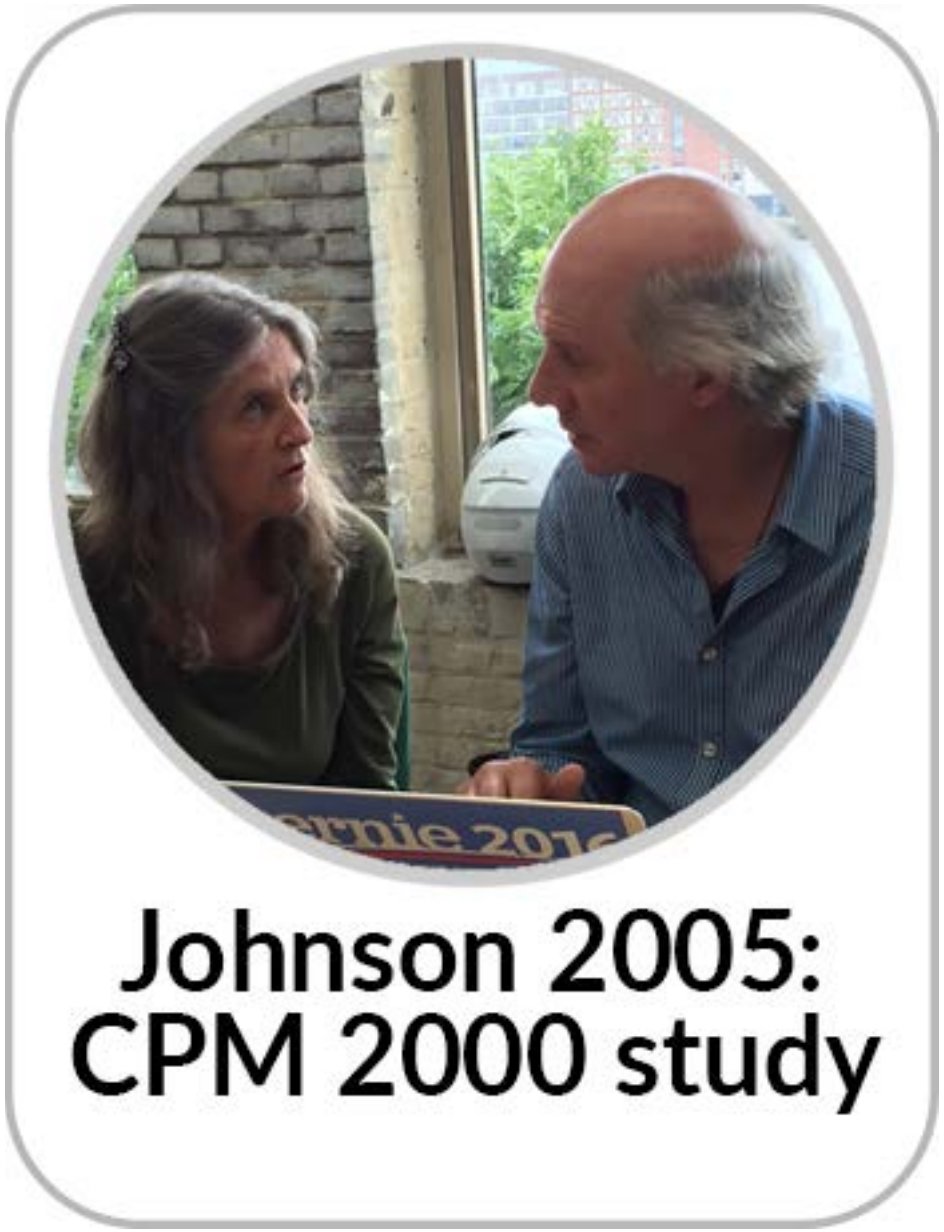
Breech births

Australia Homebirth (consumer database)



Australia Homebirth (consumer database)

“Overintervention and lack of choice for women with high risk pregnancies, however, could well encourage some to choose home rather than hospital birth. In many Australian hospitals, women with breech presentation or twins, for example, would only be offered caesarean section.”



Outcomes of planned home births with certified professional midwives: large prospective study in North America

Kenneth C Johnson, Betty-Anne Daviss

Abstract

Objective To evaluate the safety of home births in North America involving direct entry midwives, in jurisdictions where the practice is not well integrated into the healthcare system.
Design Prospective cohort study.
Setting All home births involving certified professional midwives across the United States (98% of cohort) and Canada, 2000.
Participants All 5418 women expecting to deliver in 2000 supported by midwives with a common certification and who planned to deliver at home when labour began.
Main outcome measures Intrapartum and neonatal mortality, perinatal transfer to hospital care, medical intervention during labour, breast feeding, and maternal satisfaction.
Results 655 (12.1%) women who intended to deliver at home when labour began were transferred to hospital. Medical intervention rates included epidural (4.7%), episiotomy (2.1%), forceps (1.0%), vacuum extraction (0.6%), and caesarean section (3.7%); these rates were substantially lower than for low risk US women having hospital births. The intrapartum and neonatal mortality among women considered at low risk at start of labour, excluding deaths concerning life threatening congenital anomalies, was 1.7 deaths per 1000 planned home births, similar to risks in other studies of low risk home and hospital births in North America. No mothers died. No discrepancies were found for perinatal outcomes independently validated.
Conclusions Planned home birth for low risk women in North America using certified professional midwives was associated with lower rates of medical intervention but similar intrapartum and neonatal mortality to that of low risk hospital births in the United States.

Introduction

Despite a wealth of evidence supporting planned home birth as a safe option for women with low risk pregnancies,[1–4] the setting accurately, or retrospective with the potential of bias from selective reporting. To tackle these issues we carried out a large prospective study of planned home births. The North American Registry of Midwives provided a rare opportunity to study the practice of a defined population of direct entry midwives involved with home birth across the continent. We compared perinatal outcomes with those of studies of low risk hospital births in the United States.

Methods

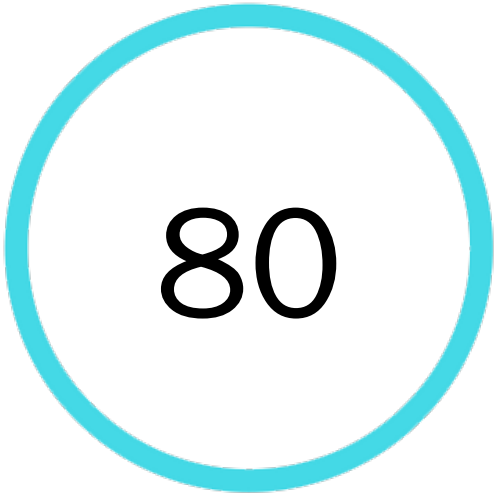
The competency based process of the North American Registry of Midwives provides a certified professional midwife credential, primarily for direct entry midwives who attend home births, including those educated through apprenticeship. Our target population was all women who engaged the services of a certified professional midwife in Canada or the United States as their primary caregiver for a birth with an expected date of delivery in 2000. In autumn 1999, the North American Registry of Midwives made participation in the study mandatory for recertification and provided an electronic database of the 534 certified professional midwives whose credentials were current. We contacted 502 of the midwives (94.0%); 32 (6.0%) could not be located through email, telephone, post, or local associations, 82 (15.4%) had stopped independent practice, and 11 (2.1%) had retired. We sent a binder with forms and instructions for the study to the 409 practising midwives who agreed to participate.

Data collection

For each new client, the midwife listed identifying information on the registration log form at the start of care; obtained informed consent, including permission for the client to be contacted for verification of information after care was complete; and filled out a detailed data form on the course of care. Every three months the midwife was required to send a copy of the updated registration log, consent forms for new clients, and completed data forms for women at least six weeks post partum.

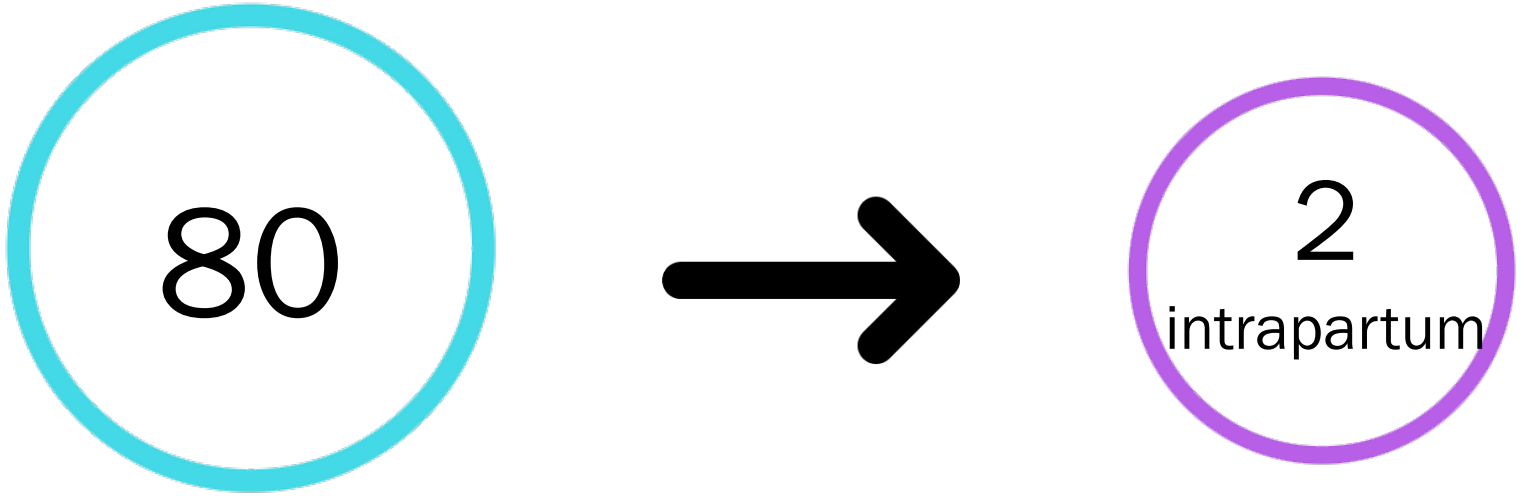
Johnson 2005 (CPM 2000)

All planned home births with CPMs in 2000 at onset of labor



Breech births

Perinatal mortality: Johnson 2005:



Breech births

PNM rate
1:40 or 5.0%

Details of breech IP/NN mortalities

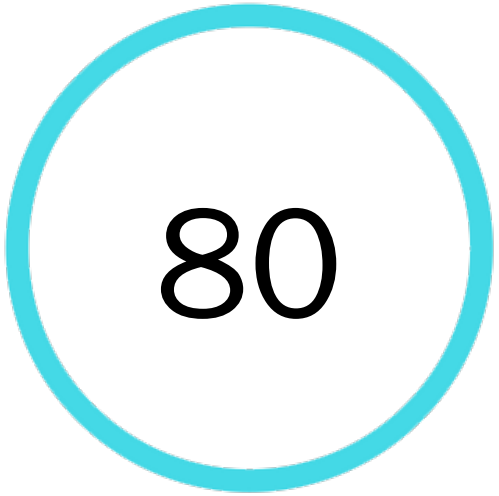
Overall cohort (5,418) had 11 PN deaths (2.0/1,000)

2 IP breech deaths (of 5 total IP)

1. Term pregnancy, breech transported in second stage because of decelerations, delivered during transport
2. Term pregnancy, breech, transport after birth at home

0 NN breech deaths (of 6 total NN)

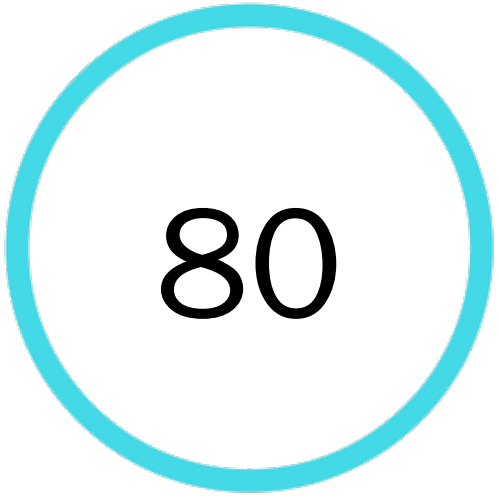
Perinatal mortality



- Overall PN mortality: 2.0/1,000
- PN mortality of low risk births: 1.7/1,000 (breeches & twins excluded)

Breech births

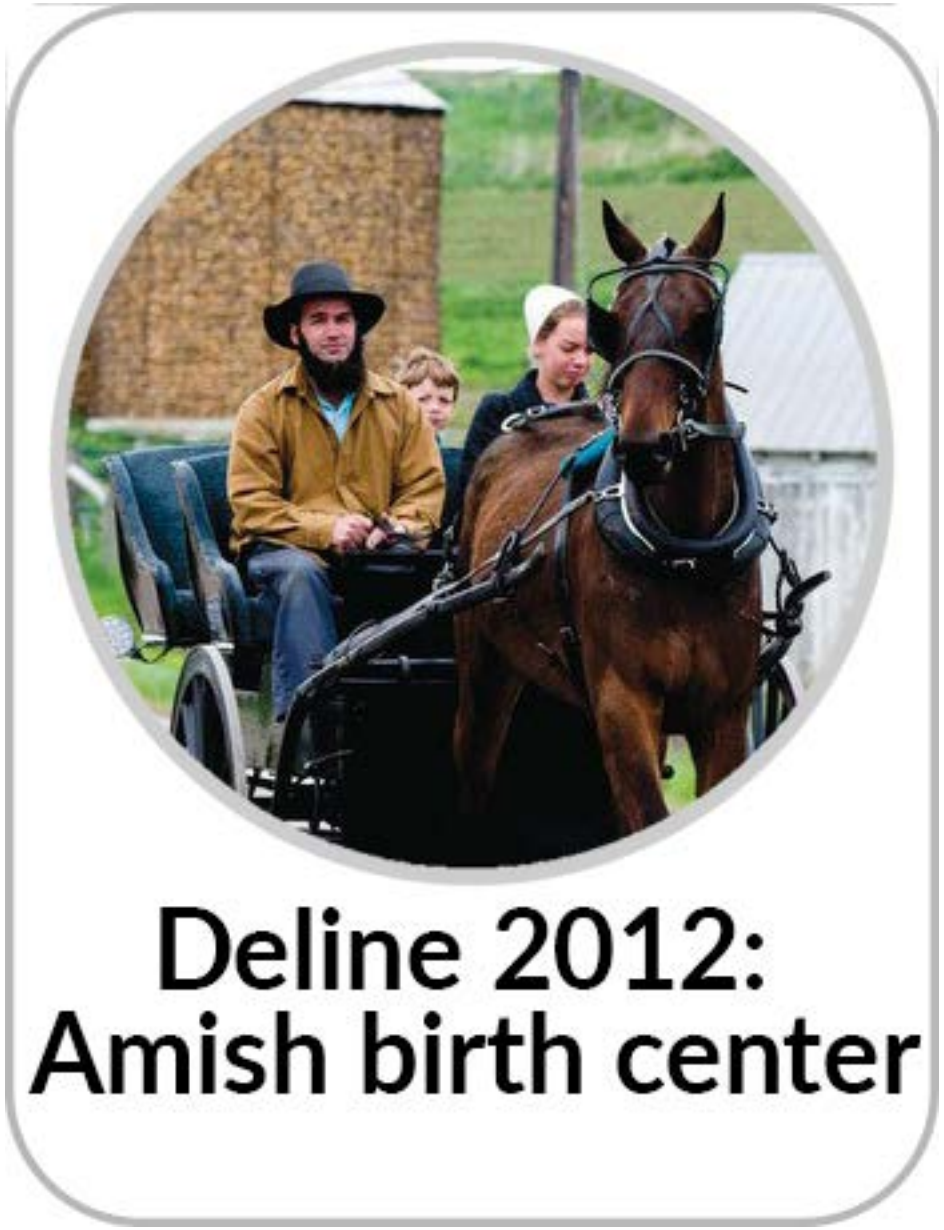
Breech transfers



Breech births

- 3 transfers among breech cohort, of which 1 was urgent (baby stillborn during transport)
- 2/3 transfers were vaginal births

- 79/80 were vaginal births (98.8%)?



Deline 2012: Amish birth center

Low Primary Cesarean Rate and High VBAC Rate With Good Outcomes in an Amish Birthing Center

James Deline, MD[1]
Lisa Varnes-Epstein, MHS, PA-C, CPM[1]
Lee T. Dresang, MD[2]
Mark Gideonsen, MD[2]
Laura Lynch[2]
John J. Frey III, MD[2]

[1]Amish Birthing Center, La Farge, Wisconsin

[2]University of Wisconsin School of Medicine and Public Health, Madison, Wisconsin

ABSTRACT

PURPOSE Recent national guidelines encourage a trial of labor after cesarean (TOLAC) as a means of increasing vaginal births after cesarean (VBACs) and decreasing the high US cesarean birth rate and its consequences (2010 National Institute of Health Consensus Statement and American College of Obstetricians and Gynecologists revised guideline). A birthing center serving Amish women in Southwestern Wisconsin offered an opportunity to look at the effects of local culture and practices that support vaginal birth and TOLAC. This study describes childbirth and perinatal outcomes during a 17-year period in LaFarge, Wisconsin.

METHODS We undertook a retrospective analysis of the records of all women admitted to the birth center in labor. Main outcome measures include rates of cesarean deliveries, TOLAC and VBAC deliveries, and perinatal outcomes for 927 deliveries between 1993 and 2010.

ANNALS OF FAMILY MEDICINE • WWW.ANNFAMMED.ORG • VOL. 10, NO. 6 • NOVEMBER/DECEMBER 2012

Deline 2012: Amish birth center

- Freestanding birth center for Amish in LaFarge, SW Wisconsin, USA
- Staffed by a family physician and CPM
- Registered nurses, midwifery interns, or trained laypeople with clinical skills also attended the births

Inclusions: Amish birth center

- Term & pre-viable fetuses
- Accepted “high risk” births: twins, breeches, & post-dates
- Accepted women in labor and/or no prenatal care

Exclusions: Amish birth center

- known placenta previa
- brisk 3rd trimester bleeding
- severe pre-eclampisa
- nonfrank breech not amenable to ECV
- breech first twins
- 35-37 weeks (transferred to local community hospital)
- <35 weeks (transferred to tertiary hospital)

4% CS rate (35/927)

95% VBAC rate (88/92)

Overall PNMR: 5.4/1000 (n=5)

(excl. pre-viable & multiple anomalies)

3 stillbirths

- 2 postdates/cord accidents
- 1 Rh- isoimmunization w/out prenatal care

2 NNDs

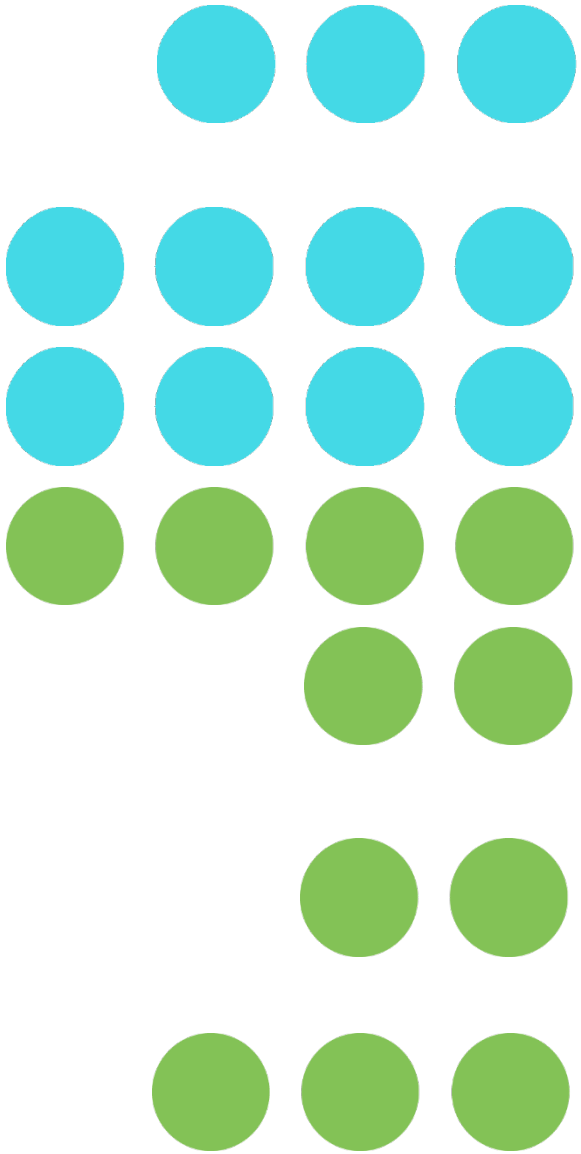
- 1 genetic syndrome shared with 2 siblings
- 1 macrosomia w/out dystocia, encephalopathy, seizures

4% CS rate
(35/927)

50% CS rate
(11/22)

22 breech

50% CS rate
(11/22)
No bad outcomes



3 IP ECVs (V)

14 TOLs

8 V (7 multips)

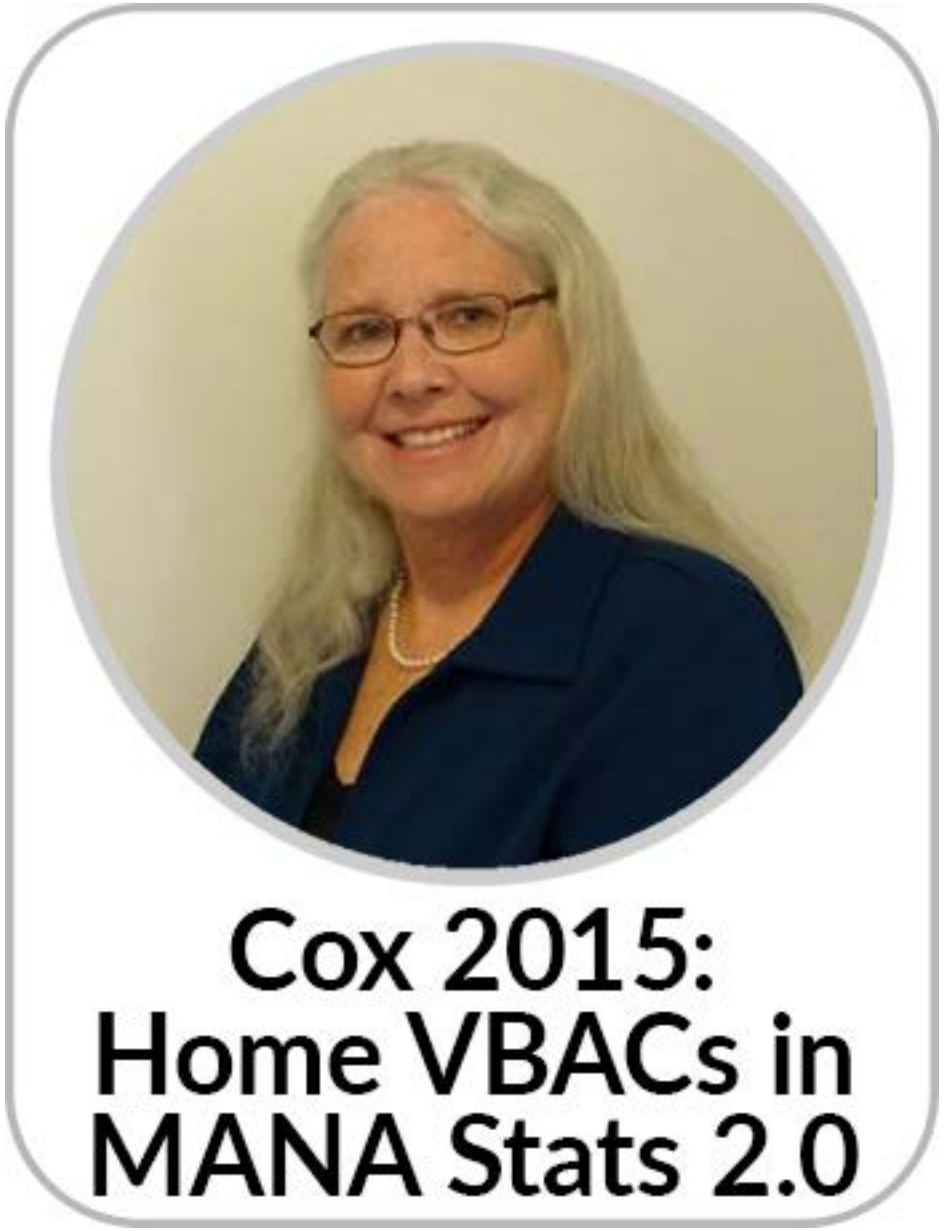
6 CS

2 frank (eCS)

3 nonfrank (CS)

Amish cultural values: Deline 2012

“Most Amish do not believe in litigation and trust clinicians willing to work with their beliefs about childbirth and work in an uninsured, cash economy. Finally, and importantly, cultural beliefs and history are important factors in what women expect in the birthing process. Amish often prefer out-of-hospital and low-technology births for reasons including ‘reduced cost, increased comfort and privacy and a chance for a “more natural birth.”’ These beliefs make it easier for clinicians caring for Amish women to follow evidence-based guidelines and avoid unnecessary surgery.”



BIRTH ISSUES IN PERINATAL CARE

BIRTH 42:4 December 2015

Planned Home VBAC in the United States, 2004–2009: Outcomes, Maternity Care Practices, and Implications for Shared Decision Making

Kim J. Cox, PhD, CNM, Marit L. Bovbjerg, PhD, Melissa Cheyney, PhD, CPM, LDM, and Lawrence M. Leeman, MD, MPH

1,052

VBACs

Some breech VBACs
(number not specified)

12,141

non-VBACs

(incl. 49 sets of twins)

1,052 VBACs

5 deaths = PNMR 4.75/1,000

- 3 IP
- 1 early NN
- 1 late NN

1/5 was undiagnosed breech with entrapped head

12,141 non-VBACs

PNM in planned home VBAC

Home VBAC PNMR = 4.75/1,000

Low-risk home VBAC PNMR = 3.02/1,000

- Twins, breeches, gestational diabetes, and preeclampsia excluded

RESEARCH

OBSTETRICS

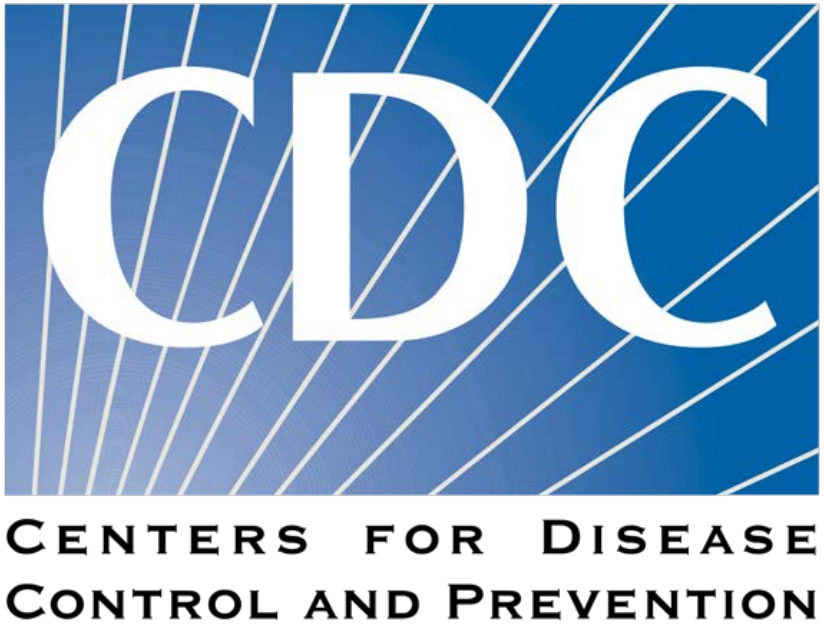
Perinatal risks of planned home births in the United States

Amos Grünebaum, MD; Laurence B. McCullough, PhD; Robert L. Brent, MD, PhD, DSc (Hon); Birgit Arabin, MD; Malcolm I. Levene, MD, FRCP, FRCPH; Frank A. Chervenak, MD

350.e1 American Journal of Obstetrics & Gynecology MARCH 2015

Grunebaum 2017

- All term (37+ weeks gestation), normal weight (2500+ g), singleton, nonanomalous births from 2009-2013
- The data included the location of deliveries (home vs hospital), the attendant at the delivery, and whether the home birth was intended or unintended. This analysis included only **intended home births.**
- Home birth transfers counted as hospital births?



Grunebaum 2017

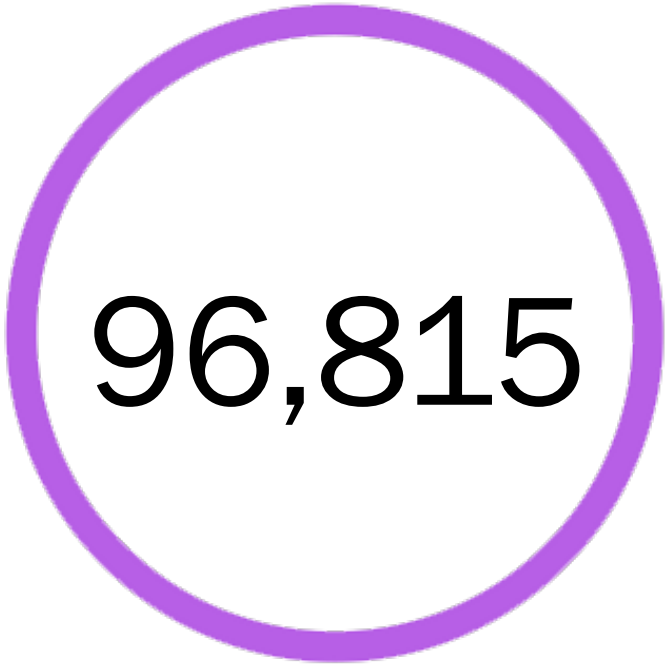
The dataset examined total **neonatal deaths** (death of a liveborn neonate between days 0-27 of life) across 3 groups:

- hospital-attended births by CNMs
- hospital-attended births by physicians
- planned home births

The CDC dataset does **not** include intrapartum deaths

No information on any other outcomes, including CS rate

Grunebaum 2017



Planned home births
2009-13

Breech
home births

Grunebaum 2017

Breech
home births

Approximately 1 in 168 planned home births was a breech

Group	# breech	# NNDs	NND/1,000
Home	553	7	12.65
CNM	1,921	2	1.56
MD	300,204	358	1.19

Risk factors for planned home birth

Highest increased individual risk for neonatal death at planned home births:

1. Breech presentation — 12.65/1,000 or 1 in 78
2. Nulliparity — 2.25/1,000 or 1 in 444
3. Previous cesarean delivery — 1.89/1,000 or 1 in 529
4. Gestational age ≥ 41 weeks — 1.72/1,000 or 1 in 582
5. Women ≥ 35 years old — 1.36/1,000 or 1 in 735

TABLE 1
Maternal, newborn infant, and delivery characteristics associated with nonanomalous singleton births[a] *(continued)*

Variable	Deliveries (n=12,953,671)				Neonatal deaths (n=6467)			
	Hospital midwife (n=1,077,197), n (%)	Hospital physician (n=11,779,659), n (%)	Intended home birth (n=96,815), n (%)	*P* value[b]	Hospital midwife (n=334), n (%)	Hospital physician (n=6015), n (%)	Intended home births (n=118), n (%)	*P* value[b]
Newborn weight, g				<.001				<.001
2500–3999	982,994 (91.3)	10,744,142 (92.2)	76,428 (78.9)		318 (95.2)	5560 (92.4)	98 (83.1)	
≥4000	94,203 (8.7)	1,035,517 (8.8)	20,387 (21.1)		16 (4.8)	455 (7.6)	20 (16.9)	
Gestational age, wk				<.001				<.001
37-38	256,151 (23.8)	3,341,327 (28.4)	14,205 (14.7)		93 (27.8)	2261 (37.6)	18 (15.3)	
39-40	606,165 (56.3)	6,645,173 (56.4)	54,232 (56.0)		164 (49.1)	2824 (46.9)	50 (42.4)	
≥41	214,881 (19.9)	1,793,159 (15.2)	28,378 (29.3)		78 (23.4)	930 (15.5)	49 (41.5)	
Presentation				<.001				<.01
Cephalic	1,036,683 (96.2)	10,977,624 (93.2)	93,462 (96.5)		321 (96.1)	5325 (88.5)	105 (89.0)	
Breech	1,921 (0.2)	300,204 (2.5)	553 (0.6)		3 (0.9)	358 (6.0)	7 (5.9)	
Other	11,189 (1.0)	259,162 (2.2)	470 (0.5)		2 (0.6)	170 (2.8)	1 (0.8)	
Unknown	27,404 (2.5)	242,669 (2.1)	2,330 (2.4)		8 (2.4)	162 (2.7)	5 (4.2)	
Risk composite[d]				<.001				.21
No risk present	414,744 (38.5)	3,464,701 (29.4)	37,286 (38.5)		108 (32.3)	1689 (28.1)	28 (23.7)	
Any risk present	637,530 (59.2)	8,124,803 (69.0)	57,831 (59.7)		218 (65.3)	4185 (69.6)	87 (73.7)	
Unknown	24,923 (2.3)	190,155 (1.6)	1,698 (1.8)		8 (2.4)	141 (2.3)	3 (2.5)	

Percent totals may not add up to 100% because of rounding; data were weighted to reflect neonatal deaths that could not be linked to birth certificate, rounded to nearest whole number for presentation in the Table.

[a] At ≥37 weeks gestation and ≥2500 g by place of delivery and attendant; US national data (among states using the 2003 revised birth certificate), 2009–2013, total births: n=12,953,671; neonatal deaths: n=6494; [b] Probability values were calculated with the use of the Chi square test for deliveries and Fisher's exact test for neonatal deaths, which compared planned home births/deaths with hospital midwife-attended births/deaths; [c] Not reported in 2009–2010; [d] Risk composite (age ≥35 years and/or nulliparous and/or postterm, previous cesarean delivery or breech) vs no risk composite (age <35 years, parous, term, no previous cesarean delivery, and cephalic).

Grünebaum et al. Contraindications for planned home births. Am J Obstet Gynecol 2017.

Midwives Alliance NORTH AMERICA

MANA Stats
2.0 (2004-09)
4.0 (2012-14)

Journal of Midwifery & Women's Health www.jmw

Original Research

Outcomes of Care for 16,924 Planned Home Births in the United States: The Midwives Alliance of North America Statistics Project, 2004 to 2009

Melissa Cheyney, PhD, CPM, LDM, Marit Bovbjerg, PhD, MS, Courtney Everson, MA, Wendy Gordon, MPH, CPM, LM, Darcy Hannibal, PhD, Saraswathi Vedam, CNM, MSN, RM

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DOI: 10.1111/birt.12288

ORIGINAL ARTICLE

WILEY BIRTH ISSUES IN PERINATAL CARE

Perspectives on risk: Assessment of risk profiles and outcomes among women planning community birth in the United States

Marit L. Bovbjerg PhD MS[1] | Melissa Cheyney PhD, CPM, LDM[2] | Jennifer Brown LM[3] | Kim J. Cox PhD, CNM[4] | Lawrence Leeman MD, MPH[5]

Cheyney 2014
n=16,924

n=222

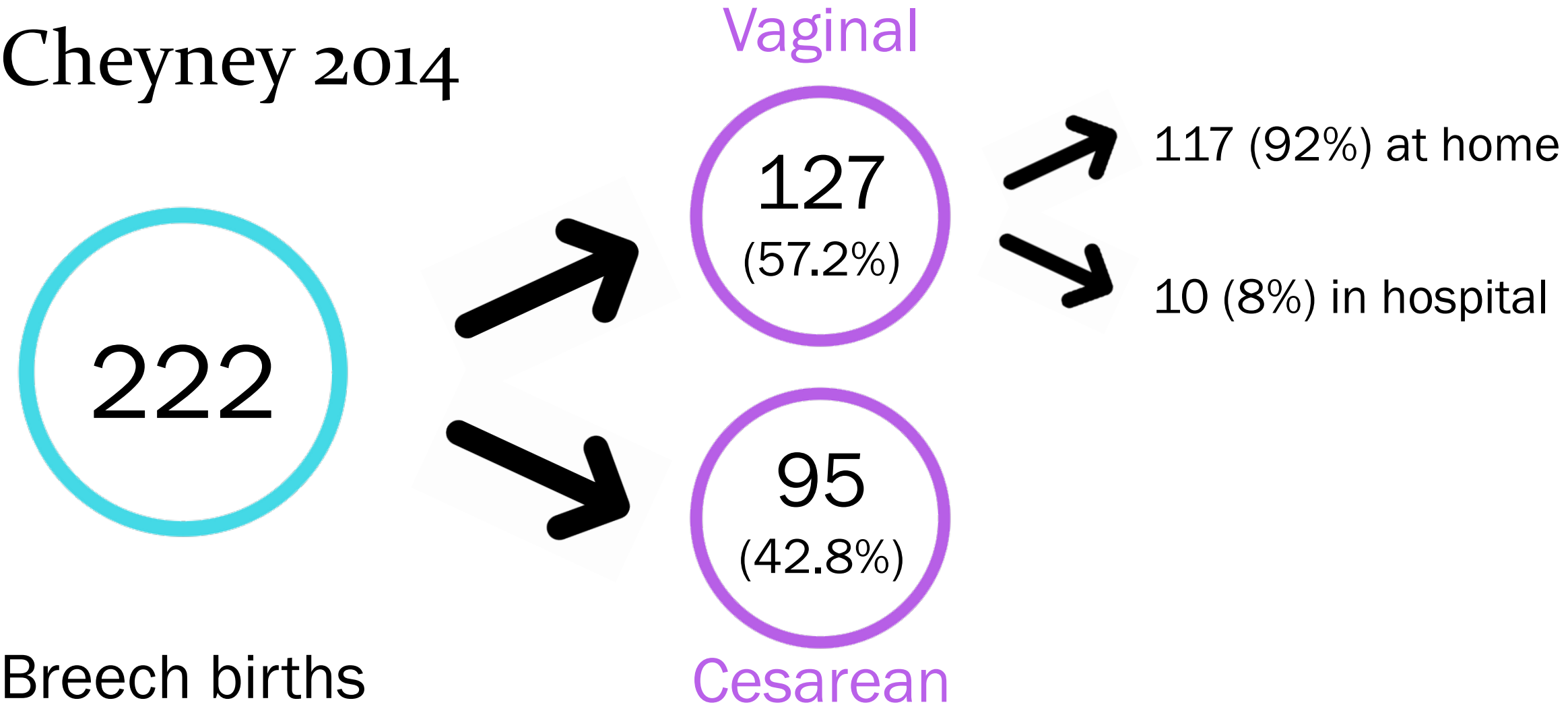
MANA Stats 2.0
(2004-09)

MANA Stats 4.0
(2012-14)

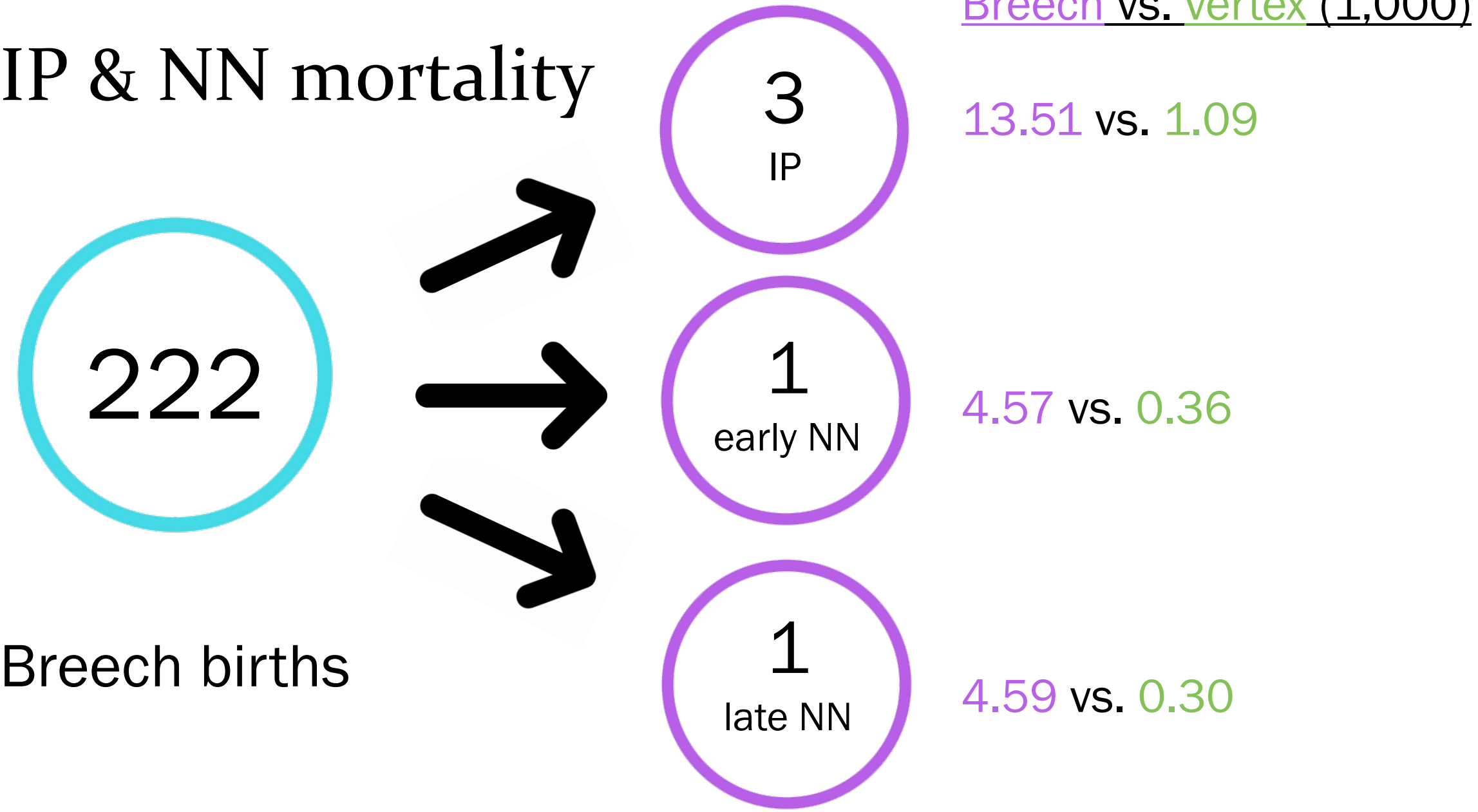
Bovbjerg 2017
n=47,394

n=539

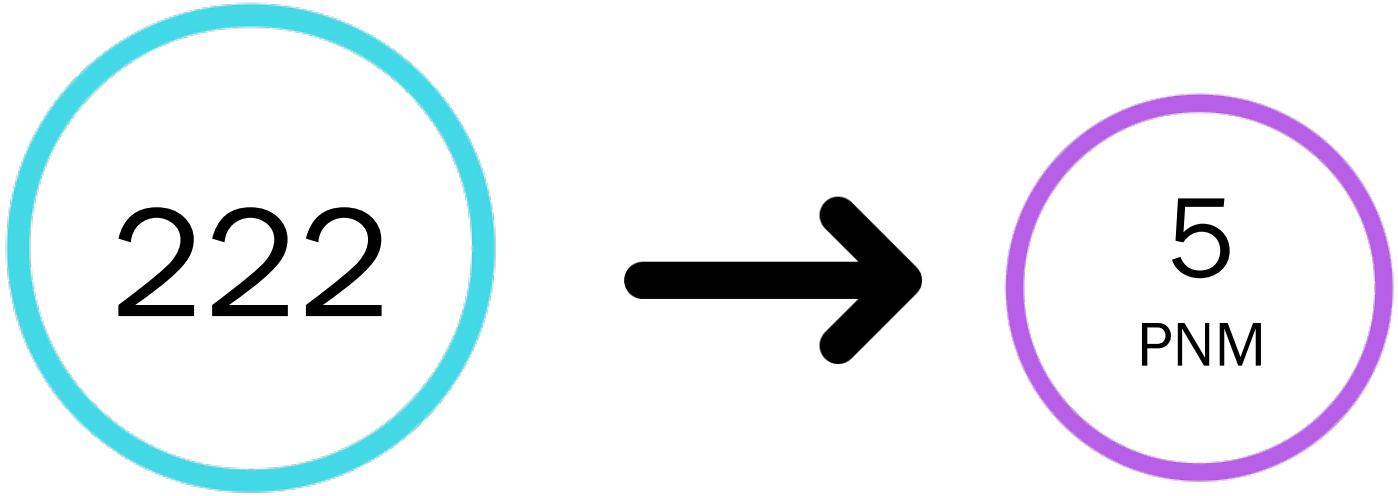
Cheyney 2014



IP & NN mortality



Perinatal mortality: breech vs vertex



Breech vs. vertex (/1,000)

22.67 vs. 1.75

Breech births

Cheyney 2014: Mortality rates/1,000

	Entire cohort	Breech	Vertex	Low-risk births*
IP death	1.30	13.51	1.09	0.85
Early NN death	0.41	4.57	0.36	
Late NN death	0.35	4.59	0.30	
Total PNM	**2.06**	**22.67**	**1.75**	

* Excluding twins, breech, VBAC, GDM, pre-eclampsia

Higher risk profile

“While the absolute risk is still quite low, the relatively elevated intrapartum mortality rate in our sample [1.3/1000] may be partially a function of the higher risk profile of the MANA Stats sample relative to de Jonge et al, Hutton et al, and Stapleton et al whose samples contain primarily low-risk, singleton, vertex births.”

Other reasons for elevated IPM

"It is also possible that the unique health care system found in the United States—and particularly the lack of integration across birth settings, combined with elevated rates of obstetric intervention—contributes to intrapartum mortality due to delays in timely transfer related to fear of reprisal and/or because some women with higher-risk pregnancies still choose home birth because there are fewer options that support normal physiologic birth available in their local hospitals."

Undiagnosed congenital anomalies?

“[S]ome of the intrapartum fetal deaths, as well as some additional neonatal deaths, reported in MANA Stats may have been congenital anomaly-related. There were several incidences when the midwife or receiving physician suspected congenital defect based on visual assessment, but an autopsy or other testing was declined and no official cause of death was assigned. The number of unknown causes of death in our sample is also at least partially attributable to parents declining autopsies (49); of the 35 intrapartum and neonatal deaths not attributed to congenital anomaly, only 6 received an autopsy.”

ORIGINAL ARTICLE

WILEY BIRTH ISSUES IN PERINATAL CARE

Perspectives on risk: Assessment of risk profiles and outcomes among women planning community birth in the United States

Marit L. Bovbjerg PhD MS[1] | Melissa Cheyney PhD, CPM, LDM[2] | Jennifer Brown LM[3] | Kim J. Cox PhD, CNM[4] | Lawrence Leeman MD, MPH[5]

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Abstract

Background: There is little agreement on who is a good candidate for community (home or birth center) birth in the United States.

Methods: Data on n=47 394 midwife-attended, planned community births come from the Midwives Alliance of North America Statistics Project. Logistic regression quantified the independent contribution of 10 risk factors to maternal and neonatal outcomes. Risk factors included: primiparity, advanced maternal age, obesity, gestational diabetes, preeclampsia, postterm pregnancy, twins, breech presentation, history of cesarean and vaginal birth, and history of cesarean without history of vaginal birth. Models controlled additionally for Medicaid, race/ethnicity, and education.

Results: The independent contributions of maternal age and obesity were quite modest, with adjusted odds ratios (AOR) less than 2.0 for all outcomes: hospital transfer, cesarean, perineal trauma, postpartum hemorrhage, low/very-low Apgar, maternal or neonatal hospitalization, NICU admission, and fetal/neonatal death. Breech was strongly associated with morbidity and fetal/neonatal mortality (AOR 8.2, 95% CI, 3.7-18.4). Women with a history of both cesarean and vaginal birth fared better than primiparas across all outcomes; however, women with a history of cesarean but no prior vaginal births had poor outcomes, most notably fetal/neonatal demise (AOR 10.4, 95% CI, 4.8-22.6). Cesarean births were most common in the breech (44.7%), preeclampsia (30.6%), history of cesarean without vaginal birth (22.1%), and primipara (11.0%) groups.

Bovbjerg 2017

Planned home births
(# pregnancies)

Breech
home births

Bovbjerg 2017

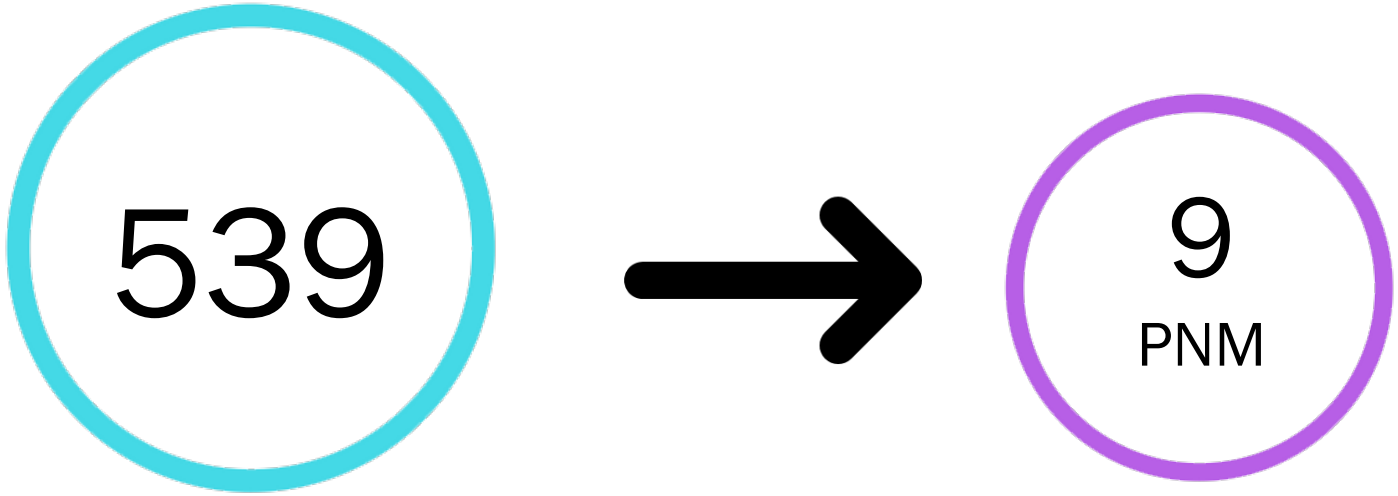
- All breech presentations—footling, complete, frank, and unknown—were combined and compared with vertex presentations.

Breech outcomes

Outcome	n	%
IP transfer	270	50.1%
PP transfer	14	5.3%
Cesarean section	**241**	**44.7%**
Any genital tract trauma	132	44.4%
PPH >1000 CC	10	3.5%
Maternal hospitalization	121	22.8%
NN transfer	17	6.4%
Low 5-min Apgar	40	8.6%
Very low 5-min Apgar (<4)	15	3.2%
NICU	33	6.3%
PNM	**9**	**16.8/1000**

Bold = most significant absolute differences from vertex

Overall perinatal mortality (1.99/1,000)



Breech vs. cephalic singleton (/1,000)

16.8 vs. 1.78

Breech births

Bobvjerg 2017

“[W]e currently lack sufficient statistical power to explore subcategories of breech (eg, frank vs footling), and MANA Stats does not collect data on estimated fetal weight, nor on provider experience level. As such, we cannot definitively conclude that all breeches are best managed in hospitals; however, our results certainly strongly suggest that breech presentations confer levels of risk better managed with immediate access to hospital staff and facilities.”

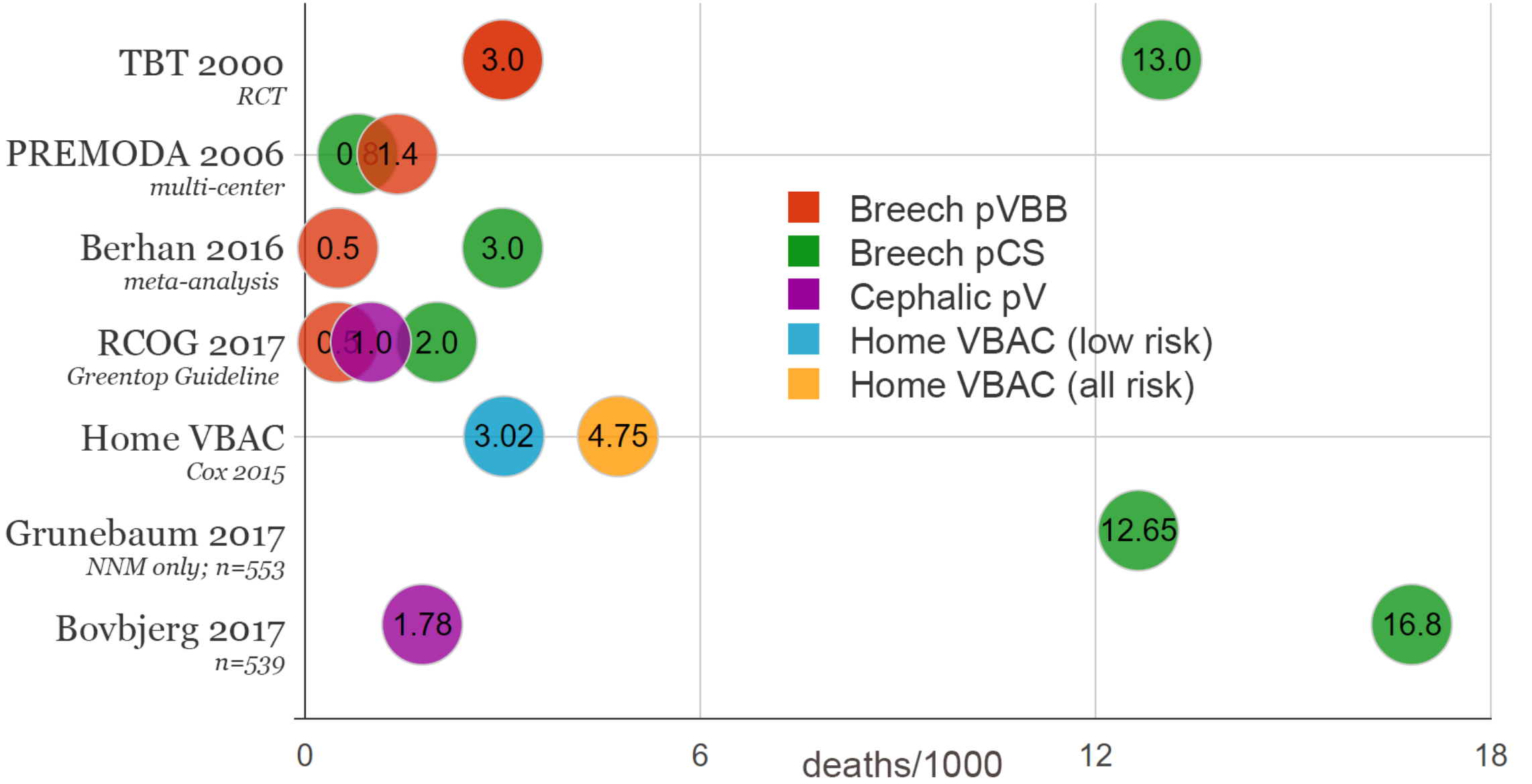
Bobvjerg 2017

“Some women with higher-risk pregnancies will, even with full understanding of the evidence and current recommendations against, seek a community birth (midwife-attended or unassisted) when they do not have access to vaginal delivery in the hospital, because they do not see cesarean as risk-free….However, the limited availability of planned vaginal birth for twins, breeches, or even LAC in hospitals may increase the likelihood that some women will seek community births against medical advice.”

Bobvjerg 2017

“An important line of future research is, therefore, to explore how restrictive hospital policies, previous psychological trauma (birth-related or otherwise), and the shared decision-making process as it unfolds in the United States influence maternal decision making around place of birth for medically complex pregnancies.”

Home breech, home VBAC, & hospital breech PNM



Limitations of existing home breech data

? Provider skill/experience levels

? Selection criteria & protocols

? Whether breech was known or undiagnosed before labor

? Prenatal ultrasound (to rule out anomalies, head deflexion)

? Maternal motivations for choosing home birth

? Local hospital breech options

? Type of breech presentation or maternal positioning

MedCrave
Step into the World of Research

Obstetrics & Gynecology International Journal

"Home Birth" with an Obstetrician: A Series of 135 Out of Hospital Births

Abstract

Objective: To evaluate the outcomes of properly selected women in an out-of-hospital birth setting with an obstetrician's unique skills using a midwifery model of care.

Design: This is a retrospective review of 135 consecutive out of hospital deliveries over a 56 month period from 2010-2015.

Setting: All births took place either in the client's home or a midwife owned free-standing birth center.

Population or Sample: Women were considered candidates if they had no major medical issues, remained healthy and compliant during the prenatal period, went to term and maintained an appropriate maternal positive mindset.

Methods: The births include singleton, VBAC, breech and twin deliveries.

Main outcome measures: The outcomes of the 135 births are presented in a straight statistical format for comparative analysis with current trends in the hospital birth model.

Results: There were 135 women who gave birth to 147 live born infants. 89.6% of the mothers gave birth at home/birth center. The cesarean section rate was 5.9%. There were 96 singleton cephalic births, 27 singleton breech births and 12 sets of twins. There were 32 trials of labor after cesarean (TOLAC) of which 30 were successful vaginal births after cesarean (VBAC) (93.8%). 22 of 27 (81.5%) of the singleton breech babies delivered vaginally. While 11 of 12 (91.7%) of the twin pregnancies delivered at home.

Conclusion: Birth at home for properly selected women with a skilled practitioner is a reasonable and ethical option.

Keywords: Homebirth; Breech; VBAC; Informed consent; Twins

Review Article

Volume 2 Issue 4 - 2015

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Birthing Instincts, USA

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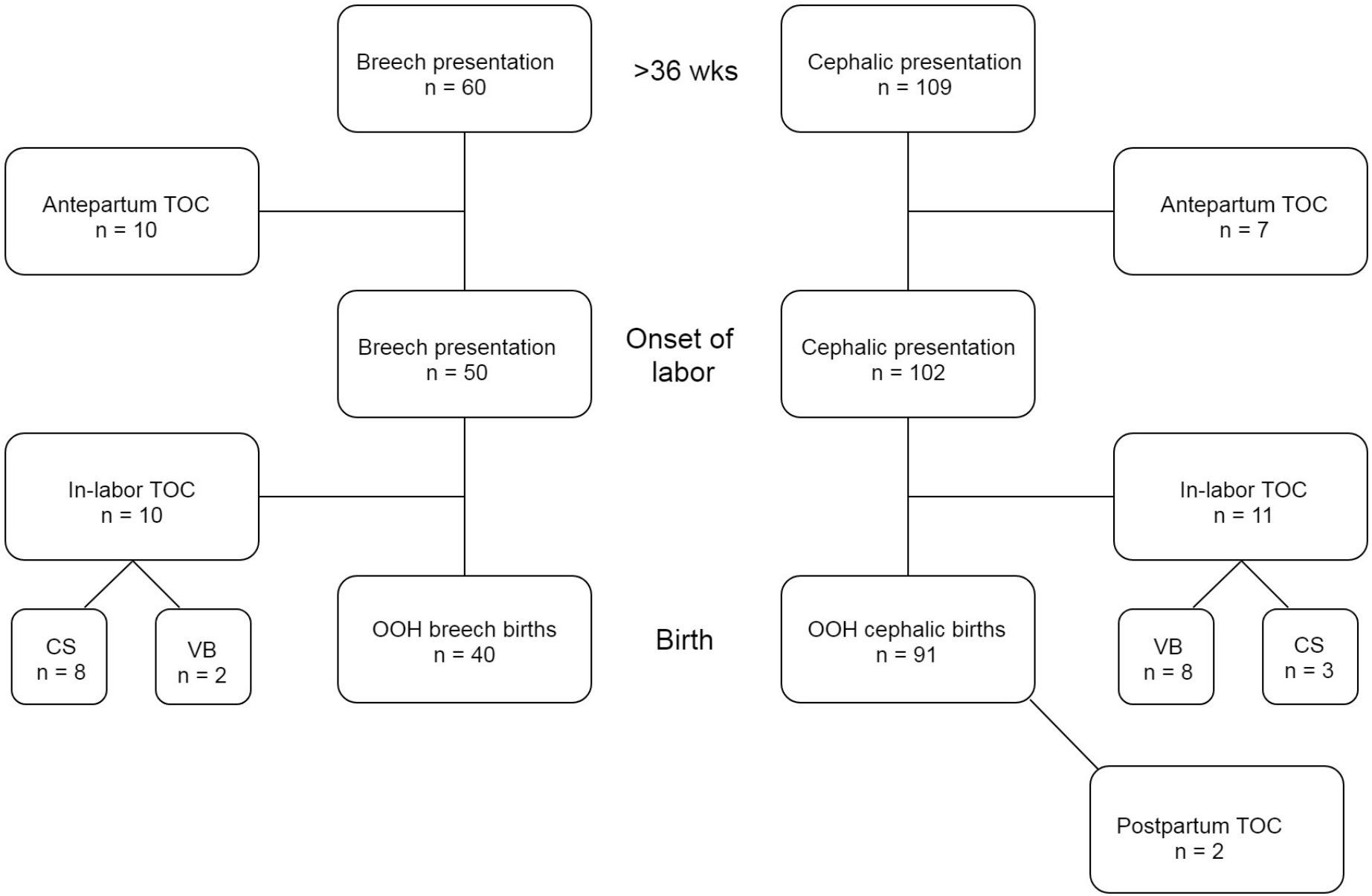
Fischbein & Freeze, 2018 (in press)

- Compares 109 vertex & 60 breech out-of-hospital births (most at home; some at a birth center)
- All births attended by Dr. Fischbein, often alongside a licensed midwife
- Largest study to date of planned OOH breech with a skilled provider

169 term singleton planned out-of-hospital births, no prior CS



Selection criteria

- Frank or complete breech presentation
- Flexed or neutral head (confirmed by ultrasound)
- EFW between 5-9.5lbs (~2250-4300 grams)
- Clinically adequate maternal pelvis by history and/or exam
- No gross anomalies*
- Spontaneous labor; no induction or augmentation*
- Fetal and maternal tolerance of labor*
- Well-informed and motivated parents*

** Shared among breech & vertex clients*

Labor protocols

- Breech and cephalic labors were managed identically with two minor exceptions: for breech, water birth was discouraged and an initial vaginal exam was offered upon Dr. Fischbein's arrival.
- Midwifery model of care
  - freedom of movement & positioning
  - private, safe environment
  - intermittent monitoring
  - spontaneous labor & pushing
  - cord intact after birth
  - immediate & uninterrupted skin-to-skin

Main findings, Fischbein & Freeze 2018

- High vaginal birth rate (84%) among planned breech births, especially multiparas. 80% of pVBB took place OOH.
- Good maternal outcomes (PPH, perineal trauma)
- Higher rates of low 1-minute Apgars; 5-minute Apgars weren't SS
- Upright positioning seems to protect maternal genital tract

Main findings, Fischbein & Freeze 2018

- One case of short-term NN morbidity in a completed home breech birth (fractured humerus)
- One case of long-term NN morbidity in a completed home breech birth (brachial plexus at 6 months after birth)
- Other NN morbidity & mortality related to events occurring after hospital transfer
  - 2 augmentations & vacuum extractions (NICU, cooling; no long-term morbidity)
  - 1 urgent CS upon placement of IUPC (NICU; mild developmental delay)
  - 1 delayed CS → NND

Fischbein & Freeze, 2018

Vaginal birth rate (84%) significantly higher than most other home breech datasets

- Johnson 2005 (n=80): 98.8%?
- Deline 2012 (n=14): 57.1%
- **Cheyney 2014 (n=222): 57.2%**
- **Bovbjerg 2017 (n=539): 55.3%**

Implications for home birth practice

- Limited data on outcomes of planned home breech birth
- Existing data suggest elevated rates of PNM compared to vertex
  - Experience/skill level?
  - Maternal autonomy & motivations?
  - Selection criteria & protocols?
- What is the rate of PNM for planned home breech birth with an experienced attendant?

We need more data!

- Collect your own data
- Pool your data with other providers with similar skill levels & protocols
- Collaborate with researchers to analyze & publish
- Ask me for a sample Excel sheet for data collection

Implications for regulators & legislators

Autonomy (tool)	vs	Paternalism (weapon)
Information		Coercion
Range of choices		Limited or no choice
Liberal legislation		Restrictive legislation

Thank you for listening!

Any questions?