



## **HANDBOOK FOR RESEARCHERS INTERESTED IN OBTAINING ACCESS TO THE MANASTATS DATABASE**

Specific procedures for requesting access to data for research purposes have been created by the MANA Division of Research Coordinating Committee. These documents are contained in this Handbook and the related forms are available on the MANA website: [www.mana.org](http://www.mana.org).

Midwives Alliance of North America (MANA) Division of Research  
October 2009

## **Information for Researchers Requesting Access to the MANAStats Database**

The following information is intended as a guide for researchers interested in access to the MANAStats Database.

1. Characteristics of Datasets	3
2. Data Access Policy Synopsis	7
3. Composition of Midwives Alliance Division of Research Review Committee	7
4. Process for Evaluation of Requests for Data Access	7
5. Community-Based Participatory Research Requirements	8
6. Submission Requirements	9
7. Midwives Model of Care Summary (Appendix A)	11
8. Community-Based Participatory Research Summary (Appendix B)	20

## **Characteristics of Datasets**

Any midwife providing care in North America may become a contributor. There is no restriction based on education, credential, or legal status.

Midwives enroll as contributors and pledge to enter data on all clients who consent to participate. Pregnant clients must be logged before the expected date of birth and the final data must be entered within four weeks of the final postpartum visit.

Data is collected on the demographic characteristics of participating women and families, current health status, pregnancy and general health history, and components of prenatal, labor, birth, neonatal, and postpartum care by midwives, and maternal and newborn outcomes. Data is also collected about situations involving consultations or transfer of care to other providers in pregnancy, as well as intended and actual place of delivery.

The dataform was extensively revised in 2009, although the general nature of the data collected has not been altered.

Years available:

Dataset form 2.0 Nov 2004 – Dec 2007 - 12,930 records available

Dataset form 2.0 Jan 2007 – approximately Dec 2009 - additional 10,000+ records available in spring 2010

Dataset form 3.0 May 2009 – ongoing (no completed forms available at this time – prospective study design requests only)

The dataset will be a SPSS data file (.sav), but can also be saved out as a dBASE, SAS, or Stata file, as well as .csv or .dat format. Other formats may be possible, but researchers should inquire if they need some other format.

## **Elements of 2.0 Dataset**

List of data categories:

Data can be sorted by midwife credential: CPM, CNM, other

Demographic: mother's age, state or province of residence, mother's education, occupation, race/ethnic origin, special group status (e.g. Amish), partner status, partner demographics, family socio-economic level; primary and secondary sources of payment

History: pre-existing health history; psycho-social history, previous pregnancy histories, height, weight

Pregnancy care and problems

Planning Status: planned site of birth in last trimester, at onset of labor, and after first assessment in labor

Labor and Birth: type of labor onset, length of labor, place of birth, mode of birth, complications, procedures and processes of care; complications, transports

Postpartum visits, procedures, postpartum complications, newborn gender, weight, Apgars, procedures, breastfeeding, postnatal health status for mother and infant at final visit; outcomes for mother and fetus/newborn

Extra set of questions for multiple births

(paper form as a pdf available upon request)

### **Elements of 3.0 Dataset**

List of data categories:

Data can be sorted by midwife credential: CPM, LM, CNM, CM, other

Demographic: mother's age (calculated from date of birth), state or province of residence, county of residence, mother's education, occupation, and race/ethnic origin according to US Live Birth Certificate, special community (e.g., Amish), self-identified sexual orientation, partner status. Partner demographics, age, primary source of payment

History: pre-existing health history: psycho-social history, previous pregnancies with histories, height, weight (BMI calculated)

Drug/alcohol/cigarette exposure in pregnancy, nutrition, screenings & tests performed in pregnancy, pregnancy care and complications (and resulting actions), fetal loss

Birth planning status: planned site of birth at start of care, at term, at onset of labor, and after first assessment in labor

Labor and birth: type of labor onset, length of labor, place of birth, mode of birth, complications, procedures and processes of care; complications and resulting actions

Postpartum: postpartum visits, procedures, postpartum complications,; newborn gender, weight, Apgars, procedures, complications and resulting actions; breastfeeding; postnatal health status for mother and infant at final visit; outcomes for mother and fetus/newborn

Resulting actions from antepartum, intrapartum and postpartum above: none, treat, transfer care, transport (choose all that apply)

Transfer of care and transport: antepartum, intrapartum, and postpartum transfer of care, reason for transfer, subsequent care provider, return to care; labor stage at transport, transport reason, mode & timing of transport, subsequent care providers

Extra set of questions for multiple births

Format of variables: Y/N (some simple dichotomous, in others Y triggers follow-up questions), some multiple options (some select all that apply, some select one), few text boxes (e.g. mother's occupation), some selection from drop-down box (e.g., state of mother's residence), some fill-in dates, times, weights.

Smart form features: 7-8 major descriptors (miscarriage, AP transfer, stillbirth, multiple birth, IP transport or transfer, PP transfer, c/section, maternal death) lead to significant branching of form – either adding numerous fields or eliminating numerous fields, or making them not required.

Other smart form features:

- Once a complication is identified, the form asks for the: “Actions you took”: usually either none, treat, consult, collaborate, transfer care, transport
- Some variables calculated by system (BMI, gravida/para)
- Choice of metric or US/Imperial measurements
- Some multiple options nested in other multiple options (e.g., choice of actions taken after complication selected)
- Sometimes web system enforces choice if answers are mutually exclusive, or identifies inconsistencies in separate parts of form
- Definitions and examples provided on-screen via pop-ups

The form doesn't present questions that can't be answered (e.g. if cesarean in first stage, doesn't ask how long second stage was)

Fetal (after 20 wks), newborn and maternal deaths reviewed per protocol — additional questions based on FIMR appear to reviewers and are entered into database after interview with midwife

A paper version of 3.0 MANAStats data form is available upon request. To try out a demo version, go to <http://demo.manastats.org> and use 'guest' as Account Name and 'demoguest' as Password. This site operates exactly as the real site operates for midwife contributors, except that records created are not entered into the MANAStats database and are erased periodically.

### **Data Review Procedures**

All records do not automatically go directly into the database. Software selects certain records, based on pre-determined objective characteristics, for data review and quality assurance evaluation. Reviewers follow guidelines using specific and uniform protocols. Selected files include all records that contain missing data, so that the midwives' explanations can be reviewed, as well as some data with values outside of expected ranges. All transports to hospital are reviewed, as are all maternal and fetal deaths. Reviews are conducted to verify accuracy of the data and may include email or phone contact with the midwife contributors. Specific review protocols are available upon

request. In addition, DOR researchers are currently preparing a methods article that will provide more details on data collection and review processes used with the 2.0 form. Review protocols will be modified based on the specific needs of the new 3.0 data form and will be available for examination, when completed.

## **Data Access Policy Synopsis**

- The Midwives Alliance of North America owns the MANAstats Database and is responsible for the reliability, integrity, privacy and security of the data within it. This data is derived from information about women, newborns, pregnancy and birth experiences, their health care, and practices of the midwife contributors. It is made available to MANA through enrollment, data collection and entry by midwives and by written consent of their clients.
- The Midwives Alliance of North America Board of Directors designates the Coordinating Committee of the MANA Division of Research as the Data Stewards and charges them to maintain and administer the Database for the research and statistical purposes of the MANA Division of Research.
- All requests for data must be received and approved through the application process detailed below and shall at no time constitute direct access to the database itself. A copy of the files required for specific approved research agendas will be sent to researchers as password protected files.
- The MANA Division of Research has chosen to operate in accordance with the principles of Community-Based Participatory Research whenever possible and appropriate.

### **Composition of Midwives Alliance Division of Research Review Committee (RRC)**

At least half of its six members should be qualified researchers. At least one member of this Committee shall be both a MANA member and a Division of Research member. At least one member will be a consumer. One member shall be the MANA Board Liaison. Members are nominated by the Research Director and approved by the DOR Coordinating Committee. The Research Design and Review Director serves as the Chair. Qualified researchers shall be defined as individuals who have demonstrated preparation and experience in the conduct of research. Consumer shall be defined as an individual who is not a midwife, but has utilized the services of a midwife.

### **Process for Evaluation of Requests for Data Access**

Completed applications will be sent to a two-stage Research Review. For each proposal, the Research Section Director will assign a blinded review to two independent reviewers based on the study design and content of the proposed research. The full unblinded application will be sent to the chair of the Research Review Committee (RRC) who will forward it to the RRC members for their own review. These reviews will occur twice a year at times set by the Research Review Committee.

After the Research Director has received the blinded reviews, the RRC will meet in phone conference to review the proposals. It may recommend a proposal be accepted, rejected or accepted pending specified changes. The recommendation will also include requested follow-up with the researcher consistent with the principles of Community-Based Participatory Research. These recommendations, along with the review scores and

comments and the original application, will be sent to the DOR Coordinating Committee, plus MANA Board Liaison, for a final decision. Criteria will include standard considerations such as appropriateness of the study design to the research question and the ability of the investigators to complete the study. The Confidentiality/Non-Disclosure Agreement and a specific research access contract will be signed by the reviewer and an official representative of the MANA Board of Directors.

### **Community-Based Participatory Research Requirements**

The MANA DOR endorses the principles of Community-Based Participatory Research (CBPR), which is an orientation to research that focuses on relationships between researchers and community partners. CBPR is a collaborative approach in which research takes place in community settings and involves community members in the design and implementation of research projects. Such activities demonstrate respect for the contributions made by community partners and for the principle of ‘doing no harm’ to the communities involved. The MANA DOR is responsible for representing the midwifery community in its relationship with investigators. This community includes not only the midwife providers, but also their clients as equal partners. Therefore the MANA DOR expects all investigators interested in collaboration with this community to consider how they can cooperate with these principles, and to describe how they intend to do so in their request for data access.

Extensive information about this model of research is available in this Handbook.

## Submission Requirements:

Please submit the following information:

- 1) Letter of intent, including:
  - a. Investigator affiliations
  - b. The nature and purpose of the proposed research, including:
    - i. Basic description of the study design and methods of analysis
    - ii. Time frame
    - iii. Specifics of data requested (year, intended site of birth, provider)
- 2) Applicant Information Form – available at <http://www.mana.org>
- 3) Signed statement of familiarity with Community Based Participatory Research (descriptive material contained in this Handbook) - form available at <http://www.mana.org>
- 4) Signed statement of familiarity with the Midwifery Model of Care, scope of practice and out-of-hospital birth protocols or practice guidelines (descriptive material contained in this Handbook) – form available at <http://www.mana.org>
- 5) Copy of Research Protocol, to include the following:
  - a. Description of Project and Research Questions
  - b. Project Background, Review of the relevant literature, and Significance
  - c. Methods and Procedures
  - d. Variables Requested for Analysis, including any time or geographic limits
  - e. Risks/Benefits Assessment
  - f. CBPR Statement: How does the proposed project utilize a CBPR approach?
  - g. Research Dissemination Plan
  - h. Project Timeline
  - i. Funding Summary
  - j. Works Cited
  - k. Relevant Attachments
- 6) Documentation of Institutional Board Review or other mechanism for protection of human subjects
- 7) Supporting Documents:
  - a. Researcher Experience and Qualifications (curriculum vitae)
  - b. Documentation of CITI Course or NIH-approved equivalent for all applicants
- 8) Additionally, if a project requires identified data and/or contact with study contributors (as in reliability and validity checking), a higher level of review will be required. Researchers should also submit:
  - a. Detailed description of the subject identification and recruitment procedures planned
  - b. Statement on compensation for participants
  - c. Description of the informed consent process
  - d. Methods for protecting anonymity and confidentiality

If a researcher foresees that additional data (additional years, geographic regions etc.) might be required during the course of the study, the possibility should be written into the original request. Should the researcher wish to study additional data variables that are not currently collected for a prospective study, the possibility exists that a specific research module could be added to the dataset for a certain period of time. This would need to be approved in advance of submitting a full application, allowing time for the Division of Research to cost out the additional programming labor and give the researcher an estimate of additional charges.

Upon approval of a research application, access will be predicated on the signing of a Data Access Contract, as well as a Confidentiality and Non-Disclosure Agreement. Data Access fees, to cover administrative time, will be charged for the retrieval and sending of data files. Fee for individual researchers is \$250 and for institutions \$1000. Data access fees are waived for MANA members, but application fees still apply.

Send all documents as attachments to:  
Melissa Cheyney, PhD, LM, CPM  
Interim Administrative Director,  
Midwives Alliance Division of Research  
<mailto:research@mana.org>

Receipt will be acknowledged by email.

Send \$50 application fee to:  
Audra Phillips, Treasurer  
Midwives Alliance  
5332 Sharon Avenue  
Columbus, OH 43214

Make check payable to Midwives Alliance, with 'data access application' in the memo. Receipt will be acknowledged by email and Division of Research will be notified.

For questions about this process, contact Dr. Cheyney at the email above.

## APPENDIX A

### Midwives Model of Care™ Summary

*The Midwives Model of Care™ is based on the fact that pregnancy and birth are normal life processes.<sup>1</sup>*

The Midwives Model of Care includes:

- *Monitoring the physical, psychological, and social well-being of the mother throughout the childbearing cycle*
- *Providing the mother with individualized education, counseling, and prenatal care, continuous hands-on assistance during labor and delivery, and postpartum support*
- *Minimizing technological interventions*
- *Identifying conditions when women or babies would benefit from inter-professional collaborative care, or referral to medical care, and initiating the consultation or referral process.*

*The application of this woman-centered model of care has been proven to reduce the incidence of birth injury, trauma, and cesarean section.*

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*The Midwives Model of Care includes prenatal visits and "hands-on" care throughout labor, birth and the postpartum period. It results in fewer interventions, and healthier birth outcomes for mother and baby.*

*Based on a growing body of global research, women are aware of evidence-based options for birth place, including home, birth center, and hospital. Women labor most efficiently in a place where they feel free, safe and private, with attendants whom they know and trust. Many women find that they feel most comfortable at home or in a birth center, with the ongoing attention and nurturing care of a midwife or doctor trained in gentle, natural, and often unmedicated childbirth – a provider who is an expert in normal birth and provides the Midwives Model of Care.*

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<sup>1</sup> This definition is copyrighted by The Midwifery Task Force, Inc. 1996-2008, All Rights Reserved. See <http://cfmidwifery.org/mmoc/define.aspx>

Caregivers who provide the Midwifery Model of Care have committed to offer families:

- *Respectful Communication*
- *Personal Attention*
- *Enough information to facilitate informed decision-making*
- *Appropriate Monitoring throughout the pregnancy, birth , postpartum, and neonatal period*
- *Confidence in the physiologic processes of pregnancy and birth*
- *A variety of non-pharmaceutical or natural measures to promote comfort and progress*
- *A care provider who will be in attendance continuously throughout labor and delivery*

### *Understanding the Midwives Model of Care for Research*

*An understanding of the social context in which births occur is integral to high-quality research on maternal-child health, midwives, and out-of-hospital birth. As such, we ask that all researchers demonstrate a thorough understanding of the Midwives Model of Care before access to research is granted. The Midwives Model of Care and out-of-hospital birth differs substantially in a variety of ways from hospital birth and medical care, and there is considerable social science literature that documents midwifery care as a unique paradigm distinct from the dominant medical model of birthing care (see recommended readings below). While comparisons between hospital and out-of-hospital birth remain possible, these analyses must be developed within a framework that considers how the models differ in practice.*

*Globally, midwifery and obstetric care are both seen as viable, distinct (though sometimes overlapping) models for the provision of care. Further, an understanding of the Midwives Model of Care and out-of-hospital birth will provide the researcher with a more nuanced and ethnographically meaningful context from which to develop research questions and to select and analyze variables. The Division of Research of the Midwives Alliance of North America believes that high-quality, reliable and valid research that aims to contribute to local, national and global maternal-child health evaluation must be developed with an understanding of the conditions that produce the data to be analyzed. Research agendas, therefore, will be enhanced by an understanding of the Midwives Model of Care and variations in midwifery or medical practice that are modulated by birth place. Applications for data access that do not demonstrate an understanding of the Midwives Model of Care and/or a strategy for acquiring this knowledge on the cultural context of the MANA Stats database will not be considered.*

### Recommended Readings (Books)

Davis-Floyd, Robbie, and Carolyn Sargent, eds. 1997. *Childbirth and Authoritative Knowledge: Cross-Cultural Perspectives*. Berkeley: University of California Press.

DeVries, R., C. Benoit, E. van Teijlingen, and S. Wrede, eds. 2001. *Birth by Design: Pregnancy, Maternity Care and Midwifery in North America and Europe*. New York: Routledge.

DeVries, Raymond. 2004. *A Pleasing Birth: Midwives and Maternity Care in the Netherlands*. Philadelphia: Temple University Press.

Klassen, P. 2001. *Blessed Events: Religion and Home Birth in America*. Princeton: Princeton University Press.

MacDonald, Margaret. 2007. *At Work in the Field of Birth: Midwifery narratives of Nature, Tradition and Home*. Nashville: Vanderbilt University Press.

Rooks, J. 1997. *Midwifery and Childbirth in America*. Philadelphia: Temple University Press.

Wagner, Marsden. 2006. *Born in the USA: How a Broken Maternity System Must Be Fixed to Put Women and Children First*. Berkeley: University of California Press.

### Recommended Readings (Articles)

#### High Quality Controlled Trials, Systematic Reviews, Meta-Analysis, and Observational Studies

##### (1) North-American studies

Janssen PA, Saxell L, Page LA, Klein MC, Liston RM, Lee Sk. Outcomes of planned home births with registered midwife versus attended by regulated midwives versus planned hospital birth in British Columbia. *Canadian Medical Association Journal*, 2009 181(6): 377-383. Janssen et al recently published results from their prospective five-year long cohort study comparing outcomes among women in the midwife-attended planned home birth group (N=2802) to women in the physician attended hospital birth group (N=5985) and midwife attended hospital birth group (N=5984). Women in the home birth group who needed intrapartum transfer to the hospital were retained in their original cohort. This study reported similarly low rates of perinatal death in all three cohorts, and similar or reduced rates of adverse outcomes in the planned home birth group with significantly fewer obstetrical interventions. Findings indicate that women who planned a home birth had significantly fewer intrapartum interventions, including narcotic or epidural analgesia, augmentation or induction of labour, and assisted vaginal births or cesarean section. In addition, women in the home birth group were less likely to suffer from postpartum hemorrhage, pyrexia, and 3<sup>rd</sup> or 4<sup>th</sup> degree tears. Babies of women planning a home birth were less likely to have Apgar scores of < 5 at one minute and the babies were less likely to

need drugs for resuscitation. These differences were associated with planned place of birth and persisted regardless of actual place of birth. Women in all three groups of the study met eligibility criteria for home birth, and thus had comparable maternal and fetal risk profiles.

Hutton, E.; Reitsma, A.; Kaufman, K. Outcomes Associated with Planned home and planned hospital births in low-risk women attended by midwives in Ontario, Canada, 2003-2006: A retrospective cohort study. *Birth* 2009 63(3): 180-189. Hutton et al. used the Ontario Ministry of Health Midwifery Program (OMP) database to compare outcomes of all women planning homebirths between 2003-2006 (N=6692) with a matched sample of women planning a hospital birth (N=6692) (women with contraindications for homebirth were excluded). The home birth group had lower rates of CS (RR 0.64), maternal morbidity/mortality (PP 0.77) and neonatal morbidity/mortality (RR 0.80). Results suggest that Ontario midwives provide adequate screening and safe care for women planning a home birth and had lower CS rates compared to hospital births among low risk women.

Leslie, M.S.; Romano, A. Appendix: Birth Can Safely Take Place at Home and in Birthing Centers. *Journal of Perinatal Education*. 2007. 16(1-Supplement), 81S-88S. (Systematic Review). This article is a systematic review of homebirth and birth center safety studies. Drawing on data from numerous well-known studies, the authors compare incidence of interventions and perinatal outcomes between hospital births and homebirths and hospital births and birth center births. The evidence for each claim is graded for quality, quantity and consistency. This review reported that out-of-hospital births had similar perinatal outcomes to hospital births and fewer interventions.

Johnson K, Daviss BA. Outcomes of planned home birth with certified professional midwives: large prospective study in North America. *BMJ* 2005;330;1416. A prospective cohort study of 5418 delivered by certified professional midwives in 2000. Describes a 12% transfer rate 3.7 c-section rate, 1.7/1000 neonatal mortality rate, and lower intervention rates for planned home births.

Janssen PA, Lee SK, Ryan EM, et al. Outcomes of planned home births versus planned hospital births after regulation of midwifery in British Columbia. *CMAJ Canadian Medical Association Journal*. 2002;166(3):315-323. Outcomes of 862 planned home births attended by licensed midwives with hospital births attended by either midwives (571) or physicians (743).<sup>22</sup> Researchers matched women in the home birth group to women in the physician hospital group who met the eligibility criteria set for home birth subjects. Women were matched according to age, partner status, parity, and hospital where study subject's midwife had privileges. Transfers from home to hospital were tracked, and subjects were retained in their original study groups for analysis. The study reports reasons for transfer, methods of transfer, and time spent in transfer. To assess similarity of groups, investigators also collected data on the process of midwifery care, on prenatal and obstetric history, and rates and indications for consultation or referral.

Schlenzka PF. *Safety of alternative approaches to childbirth* [Unpublished Dissertation]. Palo Alto, CA: Department of Sociology, Stanford University; 1999. Using merged birth certificate and hospital discharge data for California for 1989 and 1990, Schlenzka identifies a comprehensive risk profile for a cohort of nearly 816,000 low risk births. Birth setting was tracked intrapartum transfers to the hospital were allocated to the originating birth setting. Perinatal mortality was compared with two statistical approaches: indirect standardization using only birth weight, sex, race, age, education, and insurance as risk adjusters, and logistic regression controlling for all risk factors available in the database. Abstract and table of contents provided.

Murphy PA, Fullerton J. Outcomes of intended home births in nurse-midwifery practice: a prospective descriptive study. *Obstetrics & Gynecology*. 1998;92(3):461-470. Prospective study describing various outcomes of home births attended by CNMs during 1994-1995

(N1404). Of those beginning labor at home, 102 (8.3%) were transferred to the hospital in labor, 10 (0.8%) were postpartum transfers and 14 (1.1%) infants were transferred. For the whole sample of women beginning labor at home, fetal and neonatal mortality was 2.5/1000. For those actually birthing at home this mortality was 1.8/1000. Intrapartum problems were positively associated with transfer to hospital-based care, and overall outcomes were consistent with expected outcomes for low-risk birth.

Cawthon L. *Planned home births: outcomes among Medicaid women in Washington State*. Olympia, WA: Washington Department of Social and Health Services; 1996. This study described perinatal data for 2,054 Medicaid women who were cared for by licensed midwives between 1989-1994. Births were then categorized by birth place type; and maternal characteristics, prenatal care, and birth outcomes were compared between planned home births and births in birth centers or in hospitals. Researchers compared all women receiving some care from licensed midwives, women receiving care from certified nurse-midwives, and all other Medicaid women and found no statistically significant differences in mortality rates. Congenital anomalies and SIDS caused the majority of deaths. The number of stillbirths or neonatal deaths among women who delivered at home was zero (0), and the rate of transfer to hospital delivery for the women who experienced fetal or neonatal death was 100% suggesting appropriate screening and site selection by licensed midwives.

Anderson RE, Murphy PA. Outcomes of 11,788 planned home births attended by certified nurse-midwives. A retrospective descriptive study. *Journal of Nurse-Midwifery*. 1995;40(6):483. Similar findings as more recent prospective study by Murphy and Fullerton.

## (2) International studies

de Jonge A, van der Goes B, Ravelli A, Amelink-Verburg M, Mol B, Nijhuis J, et al. Perinatal mortality and morbidity in a nationwide cohort of 529,688 low-risk planned home and hospital births. *BJOG* 2009; DOI: 10.1111/j.1471-0528.2009.02175.x. Retrospective cohort study with 529,688 low-risk women in the Netherlands who were in primary midwife-led care at labour onset. This study is the largest study on the safety of home birth to date. Study compared perinatal mortality and morbidity between planned home births (321,301; 60.7%), planned hospital births (163,261; 30.8%), and unknown place of birth (45,120; 8.5%), using the national perinatal and neonatal registration data from 2000-2006. Groups were matched using logistic regression analysis according to parity, gestational age, maternal age, ethnic background, and socio-economic status. Inclusion criteria ensured the subjects were strictly low-risk. The main outcomes were intrapartum death, intrapartum and neonatal death within 24 hours and 7 days after birth, and neonatal admission to a NICU. No significant differences were found between planned home and planned hospital births for any of the main outcomes. The authors concluded that planned home birth in a low-risk population is not associated with higher perinatal mortality rates or an increased risk of admission to a NICU compared to planned hospital birth.

Amelink-Verburg, M.P.; Verloove-Vanhorick, S.P.; Hakkenberg, R.M.A.; Veldhuijzen, I.M.E.; Bennebroek Gravenhorst, J.; Buitendijk, S.E. Evaluation of 280 000 cases in Dutch midwifery practices: a descriptive study. *BJOG: An International Journal of Obstetrics and Gynecology*. 2007. 115: 570-278. This study discusses the importance of effective home birth risk selection in the Dutch obstetric system. The authors found that the current selection process results in a small number of urgent referrals and favourable perinatal outcomes for home births.

Olsen O, Jewell MD. Home versus hospital births. *Cochrane Database of Systematic Review*. 4, 2005. Only RCT comparing home birth to hospital birth. While the results were consistent with controlled observational studies, the study sample was 11, too small to draw any conclusions about home birth. Commonly, women have strong opinions about their planned birth place and will not agree to a randomized study by place of birth.

Chamberlain G, Wraight A, Crowley P. *Home births: Report of the 1994 confidential enquiry of the National Birthday Trust Fund*. Cranforth, UK: Parthenon; 1997. *Comprehensive investigation of the characteristics and outcomes across United Kingdom, endorsed by the Royal Colleges of Obstetricians, Midwives, and General Practitioners. A prospective trial of 6044 planned home births in Great Britain, compared mortality and perinatal outcomes with a low risk hospital group and found no significant differences in mortality.<sup>13</sup> The home birth group experienced significantly less medical interventions and perinatal complications. Full study report published as book.*

Olsen O. Meta-analysis of the safety of home birth. *Birth*. 1997;24(1):4-13; discussion 14-16. *Meta-analysis of the most methodologically sound, observational, comparative, original studies that investigated differences in perinatal mortality and morbidity between planned home births and planned hospital births. Multivariate statistical analysis controlled for obstetrical background, perinatal factors, comparable populations, inclusion criteria, transfer criteria, and outcome measures. Analysis revealed no statistical difference in mortality between planned home and planned hospital birth and the confidence interval did not allow for extreme excess risks in any of the groups (OR=0.87, 95% CI=0.54-1.41). Moreover there were significantly fewer medical interventions, fewer severe lacerations, fewer operative births, and fewer low Apgar scores in the home birth groups.*

Ackermann-Liebrich U, Voegeli T, Gunter-Witt K, et al. Home versus hospital deliveries: follow up study of matched pairs for procedures and outcome. Zurich Study Team. *BMJ*. 1996;313(7068):1313-1318. *Prospective matched cohort study of 489 planned home and 385 planned hospital births.<sup>23</sup> The study design carefully attended to issues of planning status, transfer criteria, and actual place of delivery. The groups were matched according to age, parity, gynecologic and obstetric history, medical history, partner situation, social class, and nationality. The main outcome measures were need for medication and/or intrapartum intervention, duration of labor, severity of lacerations, hemorrhage, neonatal condition and perinatal mortality. They found a lower incidence of interventions, medications, lacerations and higher Apgar scores in the home birth group and no differences in birth weight, clinical condition, or gestational age between groups. There were no differences in mortality between groups.*

Davies J, Hey E, Reid W, Young G. Prospective regional study of planned home births. Home Birth Study Steering Group. *BMJ*. 1996;313(7068):1302-1306. *Examines experience and outcome of pregnancy, indications for hospital transfer, and attitudes of mothers and providers in the Northern Region Perinatal Mortality study.*

Northern Region Perinatal Mortality Survey Coordinating Group. Collaborative survey of perinatal loss in planned and unplanned home births. *British Medical Journal*. 1996;313(7068):1306-1309. *The Coordinating Group collected and analyzed data for 558,691 births over the first 14 years (1981-1994), with 2888 booked for home delivery at term. They found perinatal mortality in the planned home birth group was less than half the average for all births even when the cases referred to hospital were included. Mortality for unplanned home births was four times as high as for all registered births. Perinatal mortality for women booked for home delivery was judged mostly unavoidable and not associated with place. Home birth critics often misquote this study as 134 losses in 3466 births, but 97% of those losses occurred in unplanned home births. The remaining losses were due to causes unaffected by birth site. Further analysis, comparing data from the planned home birth group to low risk term hospital births concluded that there were no significant differences in rates of perinatal mortality.*

Wiegers TA, Keirse MJ, van der Zee J, 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(7068):1309-1313. *Prospective cohort trial that studied 1836 women with low risk pregnancies, 1140 home and 696 hospital. The design controlled for provider type, parity, social, medical and obstetric background. Researchers developed a tool that assigns an*

overall perinatal outcome index score based on “maximal result with minimal intervention”. This tool integrates data from 22 items on intrapartum course, nine items on the condition of the newborn, and five items from the postpartal period. It allows researchers to evaluate factors that detract from optimal perinatal health as well as their clinical significance. This study found no relation between planned place of birth and perinatal outcome in primiparas ( $t=1.99, p<.05$ ) when controlled for favorable or less favorable background, and significantly better perinatal outcomes in multiparous women ( $t=5.56, P<0.001$ ) with or without controls.

### Studies often cited when questioning safety of home birth.

Vedam, S. Home versus hospital birth: questioning the quality of the evidence on safety. *Birth* 2003, 30(1), 57-63. Detailed review of Pang study. Proposed framework for evaluating quality of trials on home birth safety.

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## APPENDIX B

### Community-Based Participatory Research (CBPR) Summary

*Community-based participatory research (CBPR) is research committed to equality in partnerships between researchers and members of the community/organization in which the research phenomenon is placed. In CBPR projects, the community/organization participates fully in all aspects of the research process, including the development of research questions, methodologies, literature reviews, data analysis, and publication. CBPR is a ground-up, collaborative approach, where researchers work intimately with the community/organization along each step of the project. The goal of CBPR is to produce research outcomes and projects that are applicable and meaningful to the community/organization being studied, moving beyond research for knowledge's sake and moving towards critical praxis or the practical application of research findings to policy change, program reform or social justice goals such as decreasing health disparities or promoting equality in maternal-child health. CBPR recognizes that health care, outcomes, and behaviors are influenced and inseparable from social, cultural, political and economic systems. CBPR values the importance of mixed methods approaches, often incorporating both qualitative and quantitative data. Creating collaborative, sustainable partnerships requires a sharing of power, resources, knowledge, credit and results.*

The WK Kellogg Foundation Community Health Scholars Program (2008) defines CBPR in health arenas as a: "collaborative approach to research that equitably involves all partners in the research process and recognizes the unique strengths that each brings. CBPR begins with a research topic of importance to the community, has the aim of combining knowledge with action and achieving social change to improve health outcomes and eliminate health disparities."

### Utilizing Community-Based Participatory Research (CBPR)

Community-Based Participatory Research (CBPR) remains integral to high-quality research that is scientifically valid, reliable and applicable to all participants. A CBPR approach helps insure that research is grounded, analyzed and interpreted in the context where the phenomenon under study occurs. Researchers who engage CBPR are able to draw on community/organization experts to more fully understand the research phenomenon, allowing researchers to better choose variables for analysis and relevant research questions. The community/organization, in turn, is able to strengthen and

improve its systems with the valuable knowledge and data produced by the researchers. In sum, CBPR is essential for developing research projects that are ethical, reliable, valid, and applicable to all involved. The Division of Research of the Midwives Alliance of North America (MANA) supports these values, and requests that researchers develop data applications with the goals of CBPR in mind. Applications that do not clearly articulate strategies for community-based research will not be considered.

### Recommended Readings (Books)

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