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**Report  
on  
MIDWIFERY  
of the  
Department of  
Human Resources  
to the  
North Carolina  
General Assembly**

**March, 1983**

## INTRODUCTION

As directed by Chapter 676 of the 1981 Session Laws of the North Carolina General Assembly, regarding midwifery, this report is submitted to present the findings of a study of the safety and efficacy of out-of-hospital births and the State's role in licensing or otherwise permitting the activities of birth attendants in the nonhospital setting.

It contains the following sections:

- I. A review of the scientific literature pertaining to the health of mothers and infants who delivered in alternative birth settings.
- II. A review of the experiences of women delivered by midwives permitted or allowed to practice under Chapter 676 of the 1981 Session Laws.
- III. A summary of two alternative models for the administration of midwifery regulations, which were most preferred by the Midwifery Study Committee.
- IV. A summary of the main features of the legislation the Department is proposing and a copy of that bill.

## Section I

### LITERATURE REVIEW

This section details a thorough review of literature as conducted by members of the Midwifery Study Committee and staff of the Department of Human Resources. It reveals that lack of rigor in research methods found in all the articles reviewed are very significant. For this reason, the question of comparative safety of hospital and home births cannot be scientifically answered now.

**HOME AND OUT-OF-HOSPITAL BIRTHS:  
STATUS OF EVALUATION EFFORTS**

Prepared By Ann R. Woodward, M.P.H.

A review of the literature shows that little scientific data available in North America supports the strongly held opinions of both advocates and opponents of home births (Adamson). A description of evaluation of the medical outcomes of home and out-of-hospital births since 1970 is complicated by several factors.

**I. Definition of setting**

- A. State birth statistics traditionally are classified as occurring in-hospital and out-of-hospital (Burnett). In 1979, only 12 of 48 state health departments were able to link newborn mortality with place of birth (Pearse).
- B. The government statistics, published by the National Center for Health Statistics, summarize hospital, clinic or institutions as "hospital births", while office, residence, street address, enroute or born on arrival are "out-of-hospital". Thus figures for free-standing birth centers are tabulated in national reports as "in hospital" (Stewart).

**II. Definition of planned and unplanned**

- A. Inclusion of unintended home births with the home birth statistics is a frequent source of error. Unintended home births are not professionally attended, and are more likely to be premature. Thus, the apparent risk of home delivery may be artificially high (Shy, Select Panel).
- B. Home birth statistics have not included a category for planned births. It could be assumed that planning would ensure prenatal screening, preparation and identification of attendant. Planning status has impact on the outcome of a birth. The relative risk of unplanned home deliveries was 20 times more than that of planned home deliveries (Burnett).

**III. Vital statistics**

To date, out-of-hospital birth data has been obtained from birth certificates (Burnett, Shy, McCartha). In some studies, birth certificates were cross-tabulated with records of neonatal deaths (Burnett, Shy). There are confounding factors that may be a potential source of bias.

- A. Underreporting of home births has been estimated to be as much as 5% in some areas and higher in other areas. And, while home births may be registered with the Health Department, specific records are not kept on the outcome of births (Stewart).
- B. Underreporting of neonatal deaths. A Georgia study attempted to identify the maternal and infant characteristics associated with highest risk of death. The researchers found procedural errors in the processing of birth and death certificates and failure to register some infant deaths at all (McCarthy). The effect of underreporting of neonatal deaths on attempts to evaluate safety of hospital and out-of-hospital births is important to note.

- C. Reported home births with undesirable outcomes. Home births with problems are often reported since these are the ones that come into contact with the medical system. If a significant number of home births are unreported, a disproportionate number with unfavorable outcome will be registered (Stewart).
- D. Risk screening. There is no source of information in the birth statistics that indicates whether an out-of-hospital birth was high or low risk on the basis of prenatal screening. Women who are screened and defined as high-risk usually deliver in the hospital.

#### IV. Characteristics of the population

The highly selected nature of the population being studied makes the data scientifically unreliable (Adamson).

- A. Self-selection (positive) A home birth population that is self-selected is usually middle-class, adequately nourished, receives prenatal care, screening and preparation, chooses an attendant, values breastfeeding and is a relative low risk (Hazell).
- B. Selection (negative). There is another part of the home birth population that do not have other alternatives available, receive little or no prenatal care or screening, are undernourished and at high risk (Adamson). Some may reject medical care and refuse to go to the hospital for religious reasons (Pearse).

#### V. Attendants

- A. Professionals or other persons may attend a birth. These include physicians, nurse-midwives, nurses, lay-midwives, and such others as fathers and naturopaths. It is apparent that training varies and that care given the clients would vary substantially (Institute of Medicine).

#### VI. Other factors

- A. Two important considerations to women, as consumers of maternity care, are not evaluated in the studies and statistics on out-of-hospital births. First, the women's perceptions of medical risk sometimes do not conform to mainstream obstetric doctrine. Second, women's birth strategies are based on evaluations of social risks and benefits associated with maternity care alternatives in addition to perceptions of safety (McClain).

The following pages are brief outlines of the major statistical studies on the medical outcomes of out-of-hospital births in the United States published since 1975.

**"Health Department Data Shows Dangers of Home Births"**

**ACOG News Release, ACOG Headquarters,**

**Chicago, Illinois, January 4, 1978**

**objectives:** information on stillbirths

**strategy:** survey

**definitions:** none

**population:** unclear, data from 11 state health departments that had available statistics

**controls:** none

**data collection:** The American College of Obstetrics and Gynecology asked for information from every state health department. Eleven provided statistics relating fetal and newborn mortality with place of delivery

**analysis:** not stated

**results/  
conclusions:** "Babies born at home have a risk of dying two to five times greater than those born in hospital"

**remarks:** There are no definitions for "place of birth", "fetal and newborn mortality", the population represented by these statistics, the type of attendants at these out-of-hospital births, whether the births were attended or the planning status.

Burnett, Claude A., James A. Jones, Judith Rooks, Chong Hwa Chen, Carl W. Tyler, C. Arden Miller: "Home Delivery and Neonatal Mortality in North Carolina," JAMA, 224:24, p. 2741-2745 December 1980.

**objectives:** analysis of neonatal mortality in North Carolina during 1974 through 1976 with attention given to places and circumstances that characterized out-of-hospital deliveries

**strategy:** uncontrolled, observational study with retrospective classification

**definition:** planned home birth: all home deliveries attended by a lay midwife  
unplanned home births: home deliveries of infants weighing 2000 gr. or less and not attended by a lay midwife  
measure of risk: neonatal death rates

**population:** home deliveries as recorded on birth certificates obtained through North Carolina vital statistics 1974-76, N=1296

**sampling:** all births as described in the population above

**control:** none

**data collection:** (1) computer linkage of birth and neonatal death records, coded by place of birth as "home"  
(2) unclassified home deliveries were subsequently defined as (a) precipitate (b) intended (c) failure to plan for health care (d) unknown, by questionnaire sent to health department of mother's place of residence  
(3) field work by health department staff was utilized when no record on circumstances of birth was available.

**analysis:** statistical

**results/  
conclusions:** Home deliveries, without regard to planning status, had a neonatal mortality rate of 30/1000. Analysis of planning status revealed that planned home deliveries had neonatal mortality rate of 6/1000, while that of unplanned deliveries was 120/1000.

Outcome of delivery varied importantly with place and circumstances of delivery. In-hospital and out-of-hospital classification does not adequately group births by risks of neonatal mortality. Deliveries at home ranged from lowest to highest risk of neonatal mortality depending on planning, prenatal screening, and attendant.

**remarks:** Home delivery practices in North Carolina are not necessarily representative of other states; there might be possible errors in classification in the true place and circumstances of birth; underreporting of home births and neonatal deaths may have occurred.

**"Home Birth in Salt Lake County, Utah"**

**Cameron, Joyce, Eileen Sharon Chase, and Sallie O'Neal, American Journal of Public Health, 69:7, July, 1979, p. 716-717.**

**objectives:** need for information about people who choose to give birth at home

**strategy:** retrospective

**definition:** home deliveries were judged planned or unplanned by attendant and place of delivery

**population:** 62 women in 1972 and 105 women in 1975 who had a planned home delivery

**sampling:** of the 167 who had planned home delivery, 29 were eliminated from the sample "because the attendant was a paramedic or an obstetrician known not to participate in the births", or because the delivery was enroute to the hospital

**controls:** none

**data collection:** birth certificate data of home births was compared with Utah vital statistics for 1973 and 1970 records from census tracts in which the women resided  
-three indices of prenatal care were obtained from the birth certificates: month prenatal care began, number of prenatal visits, blood and serology tests

an attempt was made to interview the entire home birth population  
57 (34%) could not be located, 16 (10%) were known to have moved, 83 of 94 remaining agreed to be interviewed

**results/  
conclusions:** Women were similar to 1973 Utah childbirth population in age, race, marital and socioeconomic status, years of education. Homebirth was not restricted to the poor of Salt Lake County.



Cameron, (cont.)

**TABLE 1—Comparison of Age, Race, Marital Status and Education in the Home Birth Group and the State of Utah**

	Salt Lake County Home Birth Group		State of Utah <sup>1</sup>	
	1972 N=82	1975 N=108	1973	1975
Median Maternal Age (Years)	28	25	25	25
Race (Per cent White)	100	98	97	97
Marital Status (Per cent Out-of-Wedlock)	1.6	3.8	4.3	4.2
Education (Per cent with high school or above)	83 <sup>2</sup>	85 <sup>3</sup>	83	85.4

- 1) 1973, 1975 Utah Vital Statistics Report
- 2) N=81
- 3) N=108 †

remarks:

This study did not group out-of-hospital deliveries by planning status. A large percentage of the home birth population was not interviewed.

Dingley, Erma F.: "Birthplace and Attendants: Oregon's Alternative Experience, 1977," Women & Health, Vol. 4(3) Fall 1979.

**objectives:** analysis of birth certificates in Oregon during 1977 to compare hospital vs. out-of-hospital births on variables of attendant, parental education levels, age of mother, birth weight, number of prenatal visits, and neonatal/infant deaths

**strategy:** uncontrolled, observational study

**definition:** measure of risk: neonatal and infant death rates

**population:** deliveries as recorded on birth certificates in Oregon for the year 1977, N=38,448

**sampling:** all births in population above

**control:** none

**data collection:** Oregon birth certificates contain information about place of birth (home, other residential address, clinic, hospital); classification of attendant (licensed: MD, ND, DC, DO, CNM, RN; unlicensed: lay midwife, father, mother, other relative, friend, helper, etc.); mother's and father's highest educational level achieved; age of mother and live birth order; birth weight; number of prenatal visits. Neonatal and infant death rates were obtained by matching infant/full-term fetal death reports with birth certificates.

**analysis:** various crosstabulations of the above variables

**results:** Out-of-hospital births in Oregon in 1977 increased 56% over 1976, with a large increase in the number of births taking place in clinics. Non-licensed attendants predominated, at more than a 3-to-1 ratio. Out-of-hospital delivery parents show a higher educational level, and out-of-hospital births are less likely to be first births. For out-of-hospital births attended by a licensed attendant, the number of prenatal visits was the same as that for hospital births; it was less for those attended by unlicensed attendants. Neonatal death rates were 3.4 per 1000 live births for the out-of-hospital births and 7.8 for all live births; infant death rates were 10.1 for out-of-hospital births and 12.1 for all births. (U.S. estimates for 1977: 9.8 for neonatal deaths, 14.0 for infant deaths)

**remarks:** This study did not group out-of-hospital deliveries by planning status. The author notes that it is legal for anyone to attend a delivery in the State of Oregon insofar as medications are not administered and an episiotomy is not performed by a lay midwife; she also states that the quality of birth certificate data is high in Oregon, due to an established training and follow-up system. For these two reasons, it could be assumed that Oregon reporting of out-of-hospital births is more complete than in states where the legal issues are cloudy.

**"Outcomes of Elective Home Births: A Series of 1,146 Cases"**

Mehl, Lewis E., Gail H. Peterson, Michael Whitt and Warren E. Hawes: Journal of Reproductive Medicine, 19:5, November, 1977, p. 281-290

**objectives:** provide data on medical outcomes of a series of elective home births

**strategy:** retrospective

**definitions:** home birth: those deliveries attended by personnel from five home delivery services

**population:** home births from five delivery services in northern California

**sampling:** Point Reyes physician group represented 40.4% of sample, Mill Valley physician group 11.2%; Berkeley physician group 7.6%; Santa Cruz County midwives 30.8%; Sonoma County midwife 10.0%

**controls:** none

**data collection:** medical record review to find rate of complications

**analysis:** statistical

**conclusions:** perinatal mortality rate is significantly lower (95% confidence interval) than the 20.3% for the state of California in 1973. Complication rates are lower than expected. Evidence suggests that home delivery is a safe alternative for medically screened healthy women.

**remarks:** This is a self-selected healthy group of women, screened for obvious problems and complications occurring pregnancy, so the data is not comparable to state statistics. The study suffers from not having a hospital comparison population.

Mehl, Lewis E., "Research on Alternatives in Childbirth: What Can It Tell Us about Hospital Practice?" in 21st Century Obstetrics Now, Vol. I. NAPSAC: Chapel Hill, NC., 1977., p. 186-195.

**objectives:** to answer questions regarding safety of home environment compared to hospital environment

**strategy:** retrospective

**definitions:** home delivery: those women planning to deliver at home immediately prior to labor, rupture of membranes, or emergent complication. All cases transferred to hospital during or after labor meeting these criteria were included.

**population:** unclear as to home delivery population except for definition above  
hospital population was from two hospitals in Madison, Wisconsin

**sampling:** 1,046 women planning a home delivery were randomly matched with

**controls:** 1,046 planned hospital deliveries, for mother's age, risk factors, gestational length, parity, education, and socioeconomic factors. Most couples in both groups had taken childbirth classes

**analysis:** statistical

**conclusions:** A complicating variable differentiated between the two groups -- the difference in obstetrical philosophy and practice between the home birth practitioners and the hospital practitioners. Home attendants were non-interventionist in contradistinction to hospital practice. Other differences between groups might include nutritional status (although same SES) and motivation to learn material in childbirth classes.

**other findings:**

- mean birth weight not significantly different between two groups
- greater incidence of fetal distress in hospital group (may be an artifact of EFM)
- mortality statistics, rate of neurologically abnormal infants, and fetal hypoxia not significantly different between two groups
- Apgar scores higher in home group
- incidence of birth injury higher in hospital group as was use of oxytocin to stimulate or induce labor and the use of forceps
- incidence of maternal infection was the same in both groups
- neonatal infection was higher in hospital

The author concluded that "it was not clear that the additional medical and obstetrical procedures rendered in the hospital resulted in improved outcome over the home delivered group"

**remarks:** This is the only study with a matched population

Shy, Kirkwood K., Floyd Frost, Jean Ullom, "Out-of-Hospital Delivery in Washington State, 1975 to 1977," American Journal of Obstetrics and Gynecology, Vol. 137, No. 5 July 1, 1980, p. 547-552.

**objectives:** to investigate the association between selected demographic variables and alternative out-of-hospital deliveries, which had increased to 2.4% of births in 1977

**strategy:** descriptive study

**definitions:** home birth: a delivery occurring in mother's residence as stated on birth certificate  
non-residence home: personal residence, not that of mother  
birth center: place of delivery not affiliated with a hospital that was site of five or more births  
other: out-of-hospital births that did not occur in home or birth center, including births enroute  
attendant: naturopath and midwife, only if licensed as such by State of Washington

**population:** deliveries in Washington State, 1975-77

**sampling:** all births, 1975-77

**controls:** none

**data collection:** out-of-hospital: birth certificates coded for place of birth (note that this study does not differentiate between planned and unplanned out-of-hospital births)  
hospital: Washington State birth certificate computer tapes  
variables: maternal age and race, parity, birth attendant, month of pregnancy at onset of prenatal care, number of prenatal visits, birth weight  
infant deaths: from a linked file of birth and death certificates  
maternal transfers: a review of hospital log book for main referral hospital. This would be a crude count of intended out-of-hospital births that took place in a referral hospital.  
infant transfers: a review of NICU log books at two hospitals

**analysis:** crosstabulations on variables; chi-square statistic used for comparison of proportions and trends; mortality rates were compared by calculating relative risks, standardized for birth weight

**results/  
conclusions:** The authors note some sources of bias:  
-High-risk pregnancies may be selectively excluded from birth centers and intended home births. This selection acts strongly to increase the apparent risk of a hospital delivery as compared to an out-of-hospital delivery.

-Infant deaths have been underreported in certain settings and the data intimate that this also may have occurred in the home delivery population.

-Mothers who select an out-of-hospital delivery may be similar to other users of natural childbirth, who are of high socio-economic and educational status. The standard comparison group of hospital patients is not appropriate and this comparison group would result in a relative risk that underestimates the true infant mortality risk for out-of-hospital delivery.

-Since unattended home births are not professionally attended and since they are more likely to be premature, inclusion of these unintended home births in a general home delivery group increases the apparent risk of home delivery.

The authors concluded by saying, "A superior approach would be to prospectively classify pregnancies by the intended rather than the actual site of delivery. Birth center deliveries and intended home deliveries must be analyzed separately. A comparable low-risk hospital control group should be sought and the pregnancy risk status for all study groups should be ascertained antepartum and prior to labor. Lastly, objective outcome measures in addition to infant mortality are necessary. Mortality does not measure more subtle adverse outcomes. Thus we believe that behavioral measures of infant health should also be used. Indices of maternal health and pregnancy complications are also necessary."

## RECOMMENDATIONS FOR FUTURE STUDIES

The Institute of Medicine of the National Academy of Sciences has published the "Proposal for Assessing Alternative Birth Settings", (Institute of Medicine). Having reviewed related research, the investigators listed the following topics for future research:

- What data are available from experience in the United States and abroad that can be used to assess different settings, with respect to health and disease, measures of personal and emotional satisfaction and relative costs?

- What kinds of additional data are needed to help make the personal and societal decisions involved?

- How can these data be used to develop an algorithm to help make the most rational decisions in each individual case?

- What indexes of health status for mother and child should be studied to make comparisons?

- What are the criteria and standards of care appropriate to each alternative birth setting, e.g., for personnel, training, referral?

- What are the areas in which reporting requirements should be developed to enable the relative merits and quality of settings and particular centers to be evaluated?

- If it appears that a variety of settings should be provided, how can a proper proportion among them be maintained, within anticipated limits of personnel and resources?

- What modifications, if any, should be undertaken in existing professional and allied educational programs to make maintenance of such settings possible?

- What effects may be anticipated on capital-investment institutions of various kinds?

- What measures, in the various categories cited, might best be used to evaluate future studies?

- How can these measures be refined to apply to the physical and mental health of both mother and child to cost-benefit ratios, and to relative costs to those paying for the care?

- How can prospective studies be designed to provide secure answers to the questions posed?

- How may randomized trials be organized?

- What other alternatives might yield truly comparable groups?

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Section II

CLINICAL REVIEW

This section details a review of the clinical experiences of women giving birth and attended by midwives permitted or allowed to practice under Chapter 676 of the 1981 Session Laws.

The study was intended only to describe the experiences of women delivered by midwives under this legislation. Comparisons between hospital and home settings cannot be made because the numbers are too small, the population of women exhibits self selection bias, and underreporting of clinical experiences may have occurred. However, the information suggests a need to continue to study the safety and efficacy of home birth.

## I. General Introduction to this Study

As the clinical information was assembled, it became clear that the nonhospital births occurring from December 1, 1981 to November 30th, 1982 under House Bill 695 occurred to two different groups of women, those who were attended by Certified Nurse Midwives and those who were attended by traditional lay midwives. This discussion will present the experiences of these groups separately.

## II. Data on Nonhospital Births Attended by Certified Nurse Midwives Permitted under House Bill 695

### A. Introduction

Before reviewing this data it is important to discuss the role of the Certified Nurse Midwife in North Carolina. A Certified Nurse Midwife (CNM) is formally educated in the two disciplines of nursing and midwifery, and is certified according to the requirements of the American College of Nurse Midwives. CNM's are graduates of standardized and reviewed educational experiences in nursing and midwifery. Certified Nurse Midwives practice in the context of responsible relationships with physicians, usually obstetrician-gynecologists. A CNM is qualified to provide:

1. Comprehensive prenatal care including surveillance for medical complications, and conduct of education and counseling;
2. Management of labor and delivery including episiotomy, repair, and routine use of Oxytocins or Methergine; and
3. Postpartum care including routine postpartum examination and initiation of contraceptive methods or other routine gynecologic care.

In all phases of the maternity cycle the CNM is qualified to initiate emergency management of complications in conjunction with her physician supervisor or other physician backup. She may work continuously and collaboratively with physicians in the management of medically complicated patients.

### B. Description of women entering into CNM home birth programs during study period

Between December 1, 1981 and November 30, 1982, forty-three (43) women entered into a planned home birth program to be attended by Certified Nurse Midwives permitted under House Bill 695. All of these women were white. Table I presents the demographic characteristics of this group of 43 women compared to those of all white live births in North Carolina for calendar 1981.

TABLE I

Characteristics of Women entering Homebirth  
Program of Certified Nurse Midwives Permitted  
under House Bill 695 and Comparison to all N.C.  
White Births, 1981

<u>Characteristic</u>	<u>Study CNM Births</u>		<u>N.C. White Livebirths, 1981</u>
	<u>Number</u>	<u>Percent</u>	<u>Percent</u>
Age 17 or under	0	0.0	4.9
Age 30 or older	14	32.6	19.7
Unmarried	5	11.6	6.5
Education under 9 yrs.	0	0.0	3.9
Education 9 - 12 yrs.	11	25.6	74.8
Education 16 yrs. or over	18	41.9	13.5
Parity 5 or over	1	2.3	3.5

Table I indicates the small numbers of women in the study group. This group appears to differ from all N. C. white births. Larger proportions of study women were older, were unmarried, and had a college education or better. None were teenagers.

C. Clinical experiences of Women in Certified Nurse Midwife home birth programs

1. Risk status and prenatal continuation for planned home birth

Of the 43 women who entered home birth programs, 8 or 18.6% discontinued their participating prenatally. One had a miscarriage at 14 weeks, one preferred an unattended home birth, and 6 had complications which resulted in their becoming ineligible for home birth. Of the six, one was anemic, two experienced rupture of the amniotic membrane with no labor, two were clients for whom proper medical backup and supervision could not be obtained for the home setting, and one fetus had a structural abnormality identified by ultrasound. The latter mother was referred to a medical center and experienced a fetal death in labor. All women becoming ineligible subsequently delivered in the hospital. Conditions which resulted in ineligibility for home births were identified between 28 and 40 weeks, half of those prior to 38 weeks.

2. Prenatal experiences of Women who initiated labor at home as planned

Thirty five (35) women were able to initiate labor at home as planned. Tables II, III, IV, and V characterize the prenatal courses of these women. Table II suggests that overall, mothers completing the home birth program do not differ greatly from all white North Carolina mothers in earliness of first prenatal visit. Table III suggests that study mothers were less often able to obtain more than 12 prenatal visits and more often obtained 6 to 12 visits; however, these numbers are small. Prenatal visits to other providers may not have been counted in this data. Since comparative statewide data on weight gain and hematocrit are not available, the information on Tables IV and V is included for readers who have such information on other populations.

TABLE II

Number and Percent of Women Delivered at Home by CNM's by Weeks Gestation at Initial Visit and a Comparison to All White N.C. Livebirths 1981

<u>Weeks Gestation Initial Visit</u>	<u>Study CNM Births</u>		<u>N.C. White Livebirths, 1981</u>
	<u>Number</u>	<u>Percent</u>	<u>Percent</u>
Less than 12	19	54.3	63.0
13 - 20	9	25.7	24.0
21 - 28	3	8.6	9.0
Over 28	1	2.8	4.0
Unknown	3	8.6	0.1
	<u>35</u>	<u>100.0</u>	<u>100.1</u>

TABLE III

Number and Percent of Women Delivered at Home by CNM's by Number of Prenatal Visits and a Comparison to All N.C. White Births 1981

<u>Visits</u>	<u>Study CNM Births</u>		<u>N.C. White Livebirths, 1981</u>
	<u>Number</u>	<u>Percent</u>	<u>Percent</u>
5 or less	2	5.7	3.7
6 - 12	31	88.6	55.6
More than 12	2	5.7	39.9
Unknown	0	0.0	0.8
	<u>35</u>	<u>100.0</u>	<u>100.0</u>

TABLE IV

Number and Percent of Women Delivered at Home by CNM's by Weight Gain during Pregnancy

<u>Weight Gain</u>	<u>Number</u>	<u>Percent</u>
Less than 20 lbs.	3	8.6
20 - 24	2	5.7
25 - 30	11	31.4
Over 30	<u>19</u>	<u>54.3</u>
	<u>35</u>	<u>100.0</u>

TABLE V

Number and Percent of Women Delivered at Home by CNM's by Last Hematocrit

<u>Hematocrit</u>	<u>Number</u>	<u>Percent</u>
< 30%	0	0.0
30 - 34	4	11.4
35 or more	21	60.0
Unknown	<u>10</u>	<u>28.6</u>
	<u>35</u>	<u>100.0</u>

3. Labor and delivery experiences of women who initiated labor at home as planned

All 35 women initiated their labors between 38 and 40 weeks. Their lengths of first stage varied from 2 hours and 20 minutes to 30 hours and 45 minutes. Timing of the initiation of labor was by maternal history. Their lengths of second stage varied from 3 minutes (maternal history) to 3 hours and 20 minutes. Their lengths of third stage varied from 2 minutes to one hour. Only one episiotomy was made. Fourteen (14) women experienced lacerations requiring repair but none were reported as greater than second degree. Fetal bradycardia during contractions occurred to one mother in late second stage and was relieved by oxygen administration to that mother.

Of all 35 women, three were transferred to the hospital in labor. One had dystocia of the first stage of labor, one had meconium staining of the amniotic fluid, and one had intermittent fetal bradycardia during contractions. The fetal bradycardia was associated with umbilical cord wrapped twice around the neck.

Of the 32 who delivered at home, 31 were attended by the Certified Nurse Midwife. The other delivered precipitously and was attended by her husband while the Certified Nurse Midwife was traveling to the home.

4. Postpartum experiences of women who initiated labor at home as planned

While no women were hospitalized during the postpartum period, two hemorrhages of over 1000 cc's occurred which were managed with IV Dextrose and Ringer's Lactate solution, IM Methergine and uterine massage. One of these women experienced a 10-minute episode of hypotension which responded well to the infusion. Her hematocrit 24 hours after delivery was measured at 26 percent.

5. Clinical experiences of infants whose mothers initiated labor at home as planned

Of all 35 infants, none had a reported birthweight of under 5 pounds 8 ounces. At five minutes after birth, thirty one (31) infants had Apgar scores of 8 to 10 while two had scores of 7 and two scores were unknown to the reporting CNM. One of the unknown scores occurred to the infant who was delivered precipitously at home, and the other score was unknown to the CNM because that mother was referred for in-hospital delivery. At one minute after birth the scores bearing comment were nine (9) in the range of 5 to 7 and one with a score of 2. Among those infants with one minute scores of 5 to 7 stimulation was adequate for most, one responded to DeLee suction and one responded to DeLee suction and oxygen. The infant who was depressed to a one minute Apgar score of 2 responded to mouth-to-mouth resuscitation.

There were no reported complications requiring hospitalization during the first week in this group. One infant was described as having "wet lungs," was referred to a physician as an outpatient, and was not hospitalized. One infant had bilateral congenital hip dislocations and was referred for further outpatient care. One infant was hospitalized at 6 weeks for a chlamydial infection.

III. Data on Nonhospital Births Attended by Midwives with Traditional Practices in North Carolina who were Allowed to Continue under House Bill 695.

A. Introduction:

The roll of the "traditional" lay midwife in North Carolina is important to understand. These practitioners continue in only a very small number of North Carolina counties where a serious concern exists among health professionals that their retirement would result in more births in the home with no attendant present at all.

Pregnant women are selected and approved for traditional midwife delivery only after good basic prenatal care has been given, medical complications have been ruled out and the fundal height has reached 30 cms above the symphysis. This care is given by the local health department. Midwives are present primarily in the interests of the baby - to grasp it upon delivery, to suction the mouth, to dry and warm it and to put drops in the eyes. The midwife also serves the interests of the mother by taking her temperature if necessary and being present to assist the mother to the hospital should any obvious problem arise. Midwives do not perform vaginal exams, take the vital signs, listen to fetal heart tones or conduct other assessments of the progress of labor and delivery. They document the experience only to the extent that they complete the birth record worksheet.

B. Description of the study births attended by traditional midwives

During the study period, twenty-three (23) women were delivered by traditional lay midwives who were allowed to continue practice under House Bill 695. Among the women 21 were black, one was indian and one was white. In Table VI the demographic characteristics of this group is compared to all nonwhite North Carolina births for calendar 1981.

TABLE VI

Characteristics of Women Delivering At Home Attended by Traditional Midwives Continued under House Bill 695 and a Comparison to All nonwhite North Carolina Births, 1981

<u>Characteristic</u>	<u>Traditional Midwife Births</u>		<u>N.C. Nonwhite Births, 1981</u>
	<u>Number</u>	<u>Percent</u>	<u>Percent</u>
Age 17 or less	2	8.7	11.9
Age 30 or more	6	26.1	14.2
Unmarried	7	30.4	46.4
Education under 9 yrs	2	8.7	4.3
Education 9 - 12 yrs	20	86.9	74.8
Parity 5 or more	5	21.7	8.1

Table VI indicates the small numbers of the study population but suggests that there may be differences between the traditional midwife birth group and all nonwhite North Carolina births. It appears that women seeking traditional midwife deliveries are less likely to be teenagers and unwed mothers than their North Carolina counterparts; but that they are more likely to have age over 30, education under 9 years and high parity.

C. Prenatal risk status for women delivered by traditional midwives

Medically at-risk mothers have been largely screened out prior to assignment to a traditional midwife for home delivery; however, some prenatal risk factors can be noted among those approved. Several mothers had pregnancies that occurred in less than 12 months from a previous delivery. Several mothers had parities over 6. One mother had a history of a prior low birth weight baby. One mother had a urinary tract infection for which an antibiotic was prescribed but which was not purchased by the patient. Two mothers had notes on their charts which raised a question of fetal growth retardation but both progressed to a fundal height of 30 cms and both bore infants weighing well over 7 lbs.

D. Description of infant outcomes

There were no perinatal deaths, no low birth weight infants, and no clearly defined preterm births occurring in this small group. Medical complications included one case of maternal "fever", one case of "infection", one "urinary tract infection" and one mother who had fever, purulent vaginal discharge, and a positive culture for gonorrhea. Only one infant is known to have had a medical complication. That infant was admitted to the hospital for "seizures of the eyes."

E. Further comment on traditional midwife deliveries

Lack of detailed training, lack of documentation of progress of labor and delivery, and lack of supervision in the home setting contribute to our inability to know the specific events encountered by these mothers and their infants. The health department professionals who have shared this information with us foresee a time in the future when these traditional midwives may retire.

IV. General Comments on Data from this Nonhospital Birth Study Conducted under House Bill 695

This study suffers from the fact that very small numbers of mothers and their infants are involved. The occurrence of only one perinatal death renders a mortality criterion useless as a measure of safety in the study. The one death that occurred was anticipated in the sense that a fetal anomaly was found during the prenatal period and the patient was admitted to the hospital prior to the death. While one could anticipate approximately 5 premature/low birth weight deliveries among this group of 66, using a statewide prematurity rate of 7.9%, none occurred. This suggests that screening of these women were carried out to prevent premature deliveries in the home setting.

The home birth group delivered by certified nurse midwives provides some clinically relevant information which should guide any further inquiry into the safety and efficacy of home births. While the group contains an extremely high proportion of highly educated women, all of whom are white; and, while the group experienced high rates of good prenatal care, certain medical complications did arise and management was begun or completed in the nonhospital setting. Labor dystocia, fetal bradycardia, newborn depression and postpartum hemorrhage all occurred and were managed. The numbers of patients with these complications are much too small to support conclusions. This suggests a need to accumulate further experience to clinically evaluate the safety of the home birth setting.



Section III

SUMMARY OF PREFERRED  
ADMINISTRATIVE MODELS  
FOR MIDWIFERY REGULATION

The Midwifery Study Committee discussed and developed several models for administration of the midwifery regulation. In the alternative of first preference, the law would assign the authority to regulate midwifery to a newly appointed Midwifery Board with defined representation including obstetricians, midwives and consumers. This model carefully defined "midwifery" in terms of health care activities performed to assist pregnant or delivering women and newborn infants. It also carefully defined the relationship between the midwife and her backup physician as "collaborative and interdependent" practice. Also, it provided that candidates for approval to practice midwifery must have satisfied an education and experience standard established by the American College of Nurse Midwives, "or an equivalent standard for midwives who are not nurses." It offered some language to prevent "undue restriction" of the right to practice midwifery by qualified midwives in North Carolina, and provided for ongoing evaluation of the safety of childbirth in the hospital and nonhospital settings. Finally, it expressed the view that none of the above provisions should abridge the right of parents to choose the site of delivery or birth attendant.

In the alternative of second preference, all the same features appeared except that the authority to regulate midwifery would be assigned to the existing Joint Subcommittee of the Boards of Medicine and Nursing with a defined subcommittee of that group given authority to develop midwifery regulation.

Section IV

MIDWIFERY BILL

The bill which follows represents the recommendations of the Department of Human Resources for new midwifery legislation. The definition of "midwifery" in this bill includes the scope of professional activities set forth by the Midwifery Study Committee. The bill limits the practice, except in emergencies, to licensed nurses who are certified by the American College of Nurse Midwives. It allows those approved, to practice midwifery in hospital and nonhospital settings. It assigns the authority to administer the midwifery article to the Joint Subcommittee of the Board of Medical Examiners and the Board of Nursing. The authority given to the Board of Medical Examiners and the Board of Nursing is limited to setting fees and establishing application procedures, since the article itself defines the scope of practice, establishes qualifications for approval, and sets forth conditions under which approval may be denied, suspended or revoked.

The bill further provides that unlawful midwifery practice constitutes a misdemeanor. The Board of Medical Examiners and the Board of Nursing are given the authority to seek injunctive relief to restrain violations of the article.

The provision of Chapter 676 of the 1981 Session Laws allowing lay midwives to continue the practice of midwifery is repealed, effective July 1, 1985.

A BILL TO BE ENTITLED  
AN ACT TO REGULATE THE PRACTICE OF MIDWIFERY

The General Assembly of North Carolina enacts:

Section 1. G.S. Chapter 90 is amended by adding a new Article to read as follows:

Article 10A

Practice of Midwifery

G.S. 90-172.1 Title. This Article shall be known and may be cited as the Midwifery Practice Act.

G.S. 90-172.2 Definitions. As used in this Article,

(1) "Intrapartum care" means:

- a. attending women in uncomplicated labor,
- b. assisting with spontaneous delivery of infants in vertex presentation from 37 to 42 weeks gestation,
- c. performing amniotomy,
- d. administering local anesthesia,
- e. performing episiotomy and repair, and
- f. repairing first and second degree laceration of the perineum associated with childbirth.

(2) "Midwifery" means the act of providing prenatal, intrapartum, postpartum and newborn care. The term does not include the practice of medicine by a physician licensed to practice medicine when engaged in the practice of medicine as defined by law; the performance of medical acts by a physician assistant when performed in accordance with the rules of the Board of Medical Examiners; and the practice of nursing by a registered nurse engaged in the practice of nursing as defined by law.

(3) "Newborn care" means:

- a. routine assistance of the newborn to establish respiration and

(b) The Board of Medical Examiners and the Board of Nursing shall adopt rules developed by the joint subcommittee governing the administration of this Article. The rules shall establish:

- (1) an application fee;
- (2) an annual fee to be paid by persons approved pursuant to this Article;
- (3) the form and contents of the application; and
- (4) procedures for processing applications.

G.S. 90-172.5 Qualifications for approval.

In order to be approved by the joint subcommittee pursuant to this Article, a person shall:

- (1) complete an application on a form furnished by the joint subcommittee;
- (2) submit evidence of certification as a certified nurse midwife by the American College of Nurse-Midwives;
- (3) submit evidence of licensure as a registered nurse in this State;
- (4) submit evidence of arrangements for physician supervision; and
- (5) pay an application fee.

G.S. 90-172.6 Denial, revocation or suspension of approval. In accordance with the provisions of Chapter 150A, the joint subcommittee may deny, revoke or suspend approval when a person:

- (1) failed to satisfy the qualifications for approval;
- (2) failed to pay the annual fee;
- (3) gave false information or withheld material information in applying for approval;
- (4) has demonstrated incompetence in the practice of midwifery;
- (5) has violated any of the provisions of this Article;
- (6) has engaged in conduct which would constitute grounds for revocation or suspension of a license to practice as a registered nurse, or

maintain thermal stability,

- b. Routine physical assessment including APGAR scoring,
- c. vitamin K administration, and
- d. eye prophylaxis for ophthalmia neonatorum.

(4) "Postpartum care" means:

- a. management of the normal third stage of labor.
- b. administration of pitocin and methergine after delivery of the infant when indicated, and
- c. six weeks postpartum evaluation exam and initiation of family planning.

(5) "Prenatal care" means:

- a. historical and physical assessment,
- b. obtaining and assessing the results of routine laboratory tests,
- c. supervising the use of prenatal vitamins, folic acid, iron, and nonprescription medicines, and
- d. giving client education.

G.S. 90-172.3 Regulation of Midwifery.

(a) No person shall practice or offer to practice or hold oneself out to practice midwifery unless approved pursuant to this Article.

(b) A person approved pursuant to this Article may practice midwifery in a hospital or non-hospital setting and shall practice under the supervision of a physician licensed to practice medicine who is actively engaged in the practice of obstetrics.

(c) A person not approved pursuant to this Article may assist at childbirth in an emergency.

G.S. 90-172.4 Administration.

(a) The joint subcommittee of the Board of Medical Examiners and the Board of Nursing created pursuant to G.S. 90-18.2 shall administer the provisions of this Article and the rules adopted pursuant to this Article.

(7) has been convicted of or pleaded guilty or nolo contendere to any felony indicating professional unfitness.

G.S. 90-172.7 Enforcement.

(a) The Board of Medical Examiners and the Board of Nursing may jointly apply to the Superior Court of Wake County to restrain any violation or threatened violation of this Article.

(b) Any person who violates G.S. 90-172.3(a) shall be guilty of a misdemeanor.

Sec. 2. G.S. 90-172, 130-287 and 130- 112 are repealed.

G.S. 90-18(7) is rewritten as "(7) The practice of midwifery by a person approved under Article 10A of Chapter 90."

Sec. 3. Section 5 of Chapter 676 of the 1981 Session Laws is repealed.

Sec. 4 This act, except for Section 3, shall be effective October 1, 1983. Section 3 shall be effective July 1, 1985. A person authorized to practice midwifery on September 30, 1983, may continue to practice midwifery as described in G.S. 90-172.4(b) without approval under this Article until April 1, 1984. No annual fee shall be collected for 1983.



STATE OF NORTH CAROLINA

DEPARTMENT OF HUMAN RESOURCES

325 NORTH SALISBURY STREET

RALEIGH 27611

February 28, 1983

JAMES B. HUNT, JR.  
GOVERNOR

SARAH T. MORROW, M.D., M.P.H.  
SECRETARY

TELEPHONE  
919/733-4534

MEMORANDUM

TO: The Honorable Liston B. Ramsey  
Speaker of the House  
North Carolina General Assembly

FROM: Sarah T. Morrow, M. D., M.P.H. *STMorrow*  
Secretary  
Department of Human Resources

SUBJECT: Report to the 1983 General Assembly Regarding Midwifery

Chapter 676 of the 1981 Session Laws of the General Assembly directs the Department of Human Resources to study the safety and efficacy of out-of-hospital delivery, and to examine the State's role in licensing or otherwise permitting the activities of birth attendants functioning in the nonhospital setting.

Having consulted with a committee of representatives of the relevant professional boards, experts from involved professions, and interested citizens, the Department has developed the attached report. It is submitted as the report of the findings of the study to the 1983 Session of the General Assembly.

STM:RRN/pw

Attachment