NORTH CAROLINA OBSTETRICS ACCESS AND PROFESSIONAL LIABILITY STUDY

FINAL REPORT

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PREFACE

The crisis atmosphere of medical malpractice insurance in both the mid-1970s and the mid-1980s has subsided somewhat, yet medical malpractice issues continue to concern health care users and providers. The cyclical nature of professional liability issues triggered legislation as well as an increased awareness among health policymakers and the general public of the wide ramifications of the availability and affordability of malpractice insurance. While the 1970s crisis was primarily one of claims frequency and severity and a decline in the availability of insurance, the 1980s crisis a crisis of affordability. Malpractice insurance premiums rose dramatically in the latter part of the 1980s, and the severity of medical malpractice claims continues to climb. Tort reforms in almost all 50 states have tried to address the situation, with limited success.

The US General Accounting Office reports that the field of obstetrics has been more affected by the medical liability crisis than any other field of medicine; 25% of all claims settled are associated with obstetrics as are the highest median and average payments. (US GAO, 1987) In the latter part of the 1980s the news media focused on reports of obstetricians, family physicians and nurse midwives who were abandoning obstetrical practice and leaving many women without adequate care. Indeed, at the risk of being sued, many physiciains modified their practices by either dropping obstetrics altogether or curtailing services to high-risk and indigent women. This "defensive medicine" has resulted in a decrease in access to and comprehensiveness of health services for a segment of the population most in need of these services.

In view of the malpractice climate over the past decade, and particularly statewide inequities in access to obstetrical health services, the Cecil G. Sheps Center for Health Services Research of the University of North Carolina undertook a major study of the availablity of obstetrical services and the effects of malpractice and other policies on the provision of obstetrical services in North Carolina. Although annual data are available on the numbers of physicians in all specialties and the numbers of certified nurse practitioners practicing across the state, information regarding the provision of obstetrical services by location and provider is limited. The study was divided into several phases, generally categorized into health provider surveys and issue analyses.

This report will describe three surveys which produced the state's first detailed index of the locations of all types of obstetrical providers– obstetrician/gynecologists, (OB/GYNs) general and family physicians (GPs and FPs) and certified nurse midwives (CNMs). Issues analyzed as part of the study include malpractice tort reform and the Rural Obstetrical Care Incentive (ROCI) program and the effects of these policies on the provision of and access to obstetrical services. Chapter 1 provides an overview of the recent literature on medical malpractice and the overall decline in availability of obstetrical services and compares this to the current situation in North Carolina. Chapters 2-4 describe the three provider surveys conducted and present the results of each survey. Chapter 4 also presents

the NC Obstetrical Provider and Birth Characteristics index and analyzes this information geographically to provide a comprehensive picture of where babies are born and the burden of obstetrical providers on a county-by-county basis in the State. Chapter 5 analyzes issues related to tort reform regarding medical malpractice and obstetrical services in the context of the state of North Carolina. Chapter 6 reviews an innovative program designed to attract physicians to practice obstetrics in rural areas, the Rural Obstetrical Care Incentive program. Chapter 7 summarizes the study and suggests policy options to improve access to obstetrical services across the state.

CHAPTER 1

MEDICAL MALPRACTICE AND OBSTETRICAL CARE: NORTH CAROLINA AND THE NATION

Over the last twenty years, much has been written about the financial and legal aspects of medical professional liability, and recently more attention is being paid to analyzing the effects of medical malpractice on the delivery of health care and the practice of medicine. However, there is no consensus on the cause of the rise in malpractice premiums and the subsequent proliferation of "defensive" medicine and the reduction in access to care. Most agree that there is no single causal factor. The increase in claims and payments in the 1970s and the subsequent rise in malpractice premiums in the 1980s has led physicians to think twice about including obstetrics in their practices. Premiums rose an average of 81% for physicians of all specialties between 1982 and 1985 and 113% for OB/GYNs during the same period (IOM, 1989). North Carolina obstetricians witnessed an increase of 514% in premiums during the period 1980-1986 (US GAO, 1986). Liability premiums for family physicians in North Carolina increased 400% between 1986 and 1988, and contributed to the 63% decline in family physicians practicing obstetrics during that period (AAFP, 1988). Although premiums in North Carolina are still lower than in many states, the increased initial outlay for many physicians, especially rural ones, was enough of a deterrent to drop the provision of obstetrical services from their practices altogether. There are huge variations in premiums by region and by experience, and the data strongly indicate that premiums are a greater burden for family physicians and certified nurse midwives than for obstetrician/gynecologists.

The 1990 survey of the American College of Obstetricians and Gynecologists (ACOG, 1991) is the fourth national survey that ACOG has conducted on the impact of professional liability on the practice of obstetrics and gynecology. The survey provides continuing trend data about obstetricians' professional liability experience, changes in practice patterns and the cost of malpractice insurance. Other valuable sources of general information include the American Academy of Family Practice membership survey (Schmittling and Tsou, 1989) on the impact of malpractice issues on the practice of obstetrics by family physicians, and an analysis of literature and data sources on the declining availability of obstetrical providers in rural America conducted by the WAMI Rural Health Research Center (Cullen, et al., 1990 and Rosenblatt, et al., 1990). The Southwest Border Rural Health Research Center conducted a study of the availability of obstetrical and other primary care services in underserved Arizona as well as analyzing the declining availability of rural physician obstetric services and malpractice issues (Gordon & Higgins, 1991 and Dalen, 1990). These studies are useful for assessing trends in the provision of obstetrical services over the past several decades that result from changes in malpractice insurance costs, claims and policies.

The Institute of Medicine Report on Medical Professional Liability and the Delivery of Obstetrical Care (IOM, 1989) makes an extensive appraisal of existing studies on medical professional

liability and its effects on the delivery of health care and the practice of medicine. The report focused on several areas: the effects of medical professional liability issues on the availability of obstetrical providers, on access to obstetrical care for particular segments of the population, and on the practice of obstetrics; the role of the insurance industry in obstetrical professional liability issues and their resolution. It also evaluates the current tort litigation system as a way of resolving medical malpractice claims and presents various alternatives to the current system.

The Availability of Obstetrical Providers

Most obstetrical care is provided by obstetrician/gynecologists who practice primarily in metropolitan areas. Family and general physicians comprise about two-thirds of the obstetrical providers in rural areas, however, only 29% of the total number of active family physicians currently practice obstetrics. (Schmittling and Tsou, 1989) Certified nurse midwives also provide obstetrical care, but it is estimated that only 60% of CNMs are currently practicing obstetrics (IOM, 1989).

The national pattern of decline in obstetrical services seems to be an enduring trend, but with variations across the United States; fewer family practitioners in the Midwest are quitting obstetrics than in other regions (Bredfeldt et al., 1989). One study found that attrition from obstetrics among rural family practitioners was largely absent in Minnesota and Wisconsin (Crouse, 1989). The American Academy of Family Practice (AAFP) reports that 71% of its practicing members have offered obstetrical services at some time during their careers and that only 35% do so currently (AAFP, 1987). Other reports indicate that between 8 and 75% of family physicians stopped doing obstetrics in the last five years (IOM, 1989). For states where data is available, the percentage of obstetricians who have stopped delivering babies ranges from about 6% to 30% (IOM, 1989). Several state studies document trends in the provision of obstetrical care by both family physicians and obstetricians: in Alabama, 68% of FPs stopped practicing obstetrics in 1986; 40% of Washington's FPs stopped providing obstetrical services in 1987; 37% of the FPs in Texas discontinued obstetrical practice in 1987; only 14% of FPs in Mississippi included maternity care in their practices in 1987; 25% of the OB/GYNs in Idaho stopped providing obstetrical care; and over half the obstetricians in West Virginia considered leaving the state (IOM, 1989).

North Carolina's experience is similar, with only 10% of the family physicians and 75% of the obstetricians licensed in the state in 1989 delivering babies. There are no obstetricians willing to deliver babies in 35 of the state's 100 counties, no family physicians providing obstetrical care in 54 counties and there are no obstetrical providers at all in 24 counties. Currently, there are 32 certified nurse midwives actively practicing across the state, most of whom are located in the metropolitan centers (see Maps 1, 2, 3, and 4 in Chapter 4).

Access to medical care has always been more of a problem for rural America, due not only to physical barriers to access, but social and economic factors as well, and has contributed to a higher

incidence of low birthweight and infant mortality in many of these areas. Rural family physicians have been especially hard hit by the malpractice "crisis." They are the only providers of obstetrical care in many areas, and the economic impact of increased premiums has forced many to stop delivering babies. In counties with populations of 10,000 or fewer, less than 1% of the physicians are obstetricans (Kindig & Movassaghi, 1989). North Carolina, with a large rural population of over 2 million in 1989, the second largest rural population in the U.S., does not escape this trend. All but 3 of the 24 counties without any obstetrical providers are rural, and 12 had five-year infant mortality rates (1985-1989) greater than the state average of 12.0 deaths /1000 live births. A recent study conducted by the state's Division of Maternal and Child Health revealed that physicians in 21 counties had withdrawn their services from prenatal clinics (NCDHR, 1988). As a result, four rural counties had to terminate physician care services in their prenatal clinics. Although other factors such as transportation and insurance exert an influence upon measures of access to care, one cannot underestimate the effect of limited availability, especially in the specialty of obstetrics.

Changes in the Practice of Obstetrics

The medical malpractice climate has also had an effect on the way physicians are practicing medicine. To protect themselves against lawsuits, physicians are ordering numerous and varied tests, which not only add additional charges to the patient's bill, but often carry risks and may not be necessary. This "defensive" medicine cost an estimated $12.4 billion in 1984 (Reynolds et al., 1987). Physicians change the way they provide care by risk avoidance or risk reduction. "Risk avoidance" refers to dropping services from practice altogether, such as the case of obstetrics and family physicians. "Risk reduction" refers to practicing medicine in a more defensive manner, such as ordering additional tests and keeping additional medical records. ACOG (1985) reported that 41% of the OB/GYNs had altered the way in which they practice obstetrics as a result of the risk of medical liability. Changes included increased use of testing, increased use of written informed consent, increased frequency of consultations, increased attempts to provide written or taped information to patients, and more frequent explanations of potential risks of a recommended procedure. The delivery of care to high-risk women is also being curtailed. In 1987, ACOG found that 27% of OB/GYNs had reported that professional liability concerns had caused them to reduce or eliminate care to high-risk women and this decreased to 24.2% in the 1990 survey (ACOG 1991).

State reports indicate that between 16% and 49% of physicians have reduced the amount of high-risk obstetrical care they provide. The North Carolina situation is especially critical in rural areas, with twice the percentage of rural physicians (25%) compared to metropolitan ones (13%) indicating in the 1989 Obstetrics Access and Professional Liability Survey that they had either stopped or reduced providing care to medically high-risk patients. The provision of care to uninsured and Medicaid patients is also being dropped or decreased by physicians who are concerned about the

threat of malpractice. However, there are more and more uninsured persons and Medicaid participants presenting at physicians offices and expecting care. In Minnesota, for example, a 1987 report indicated that 46% of physicians surveyed had seen an increase in the number of patients lacking insurance (MMA Task Force, 1987).

Nurse-Midwives and Professional Liability Insurance: A National Perspective

Certified nurse-midwives have responded to the rising liability insurance premiums and decreased coverage in several ways. Some have turned to their employers for assistance in paying the premiums, others have returned to the hospital environment where they can be assured of institutional coverage (Kendellen, 1987). But for those in private practice, the alternatives are limited; they must pay the premium for their coverage or close their practices.

In June of 1985 a questionnaire was mailed to a stratified sample of members of the American College of Nurse-Midwives (ACNM) to assess the effects of the liability insurance crisis on the practice of nurse-midwifery. Malpractice insurance rates increased from $35 to $3500 per year from 1983 to 1987 (Patch & Holaday, 1989). This hundred-fold increase in cost and the associated decrease in coverage of liability insurance policies available are of vital concern to certified nurse-midwives, not only in the context of financial burden, but also in terms of patient costs for service and adequate availability of care. The results of the survey indicated that high and increasing costs of professional liability insurance and decreasing coverage are having a direct negative impact on midwifery practice in terms of financial pressure, increased defensive interventions, increased cost of care, decreased availability of care, restricted practice privileges, and stressed employer/employee relationships (Patch & Holaday, 1989).

The survey showed that the current national average premium is $4000 per year, representing 14% of the average annual CNM income of $29,000. With insurance premiums increasing about 114% per year and an average annual increase of 18% in charges for nurse-midwifery services, many of the respondents claimed they were unable to earn enough money to pay the premiums. In addition, many hospitals reportedly were dropping CNM privileges due the the decreased amount of liability coverage offered by insurance carriers, and the subsequent loss of physician back-up in many areas of the country. It was reported that many physicians were refusing to continue collaboration with nurse-midwives due to a significant surcharge to the physicians' liability policies; threats of cancellation of physicians' policies if they continued to cover or consult with CNMs were also reported. Limited job opportunities contribute to the problem of access, and many nurse-midwives have been forced to stop practicing.

The medically indigent, minorities and the poor may be most affected by the limits to obstetrical care imposed by nurse-midwives' response to the professional liability atmosphere. The costs of increased malpractice liability premiums of all obstetrical providers are being passed on to the

public not only via higher costs for services, but also via increased, perhaps unnecessary services providers are recommending to avoid lawsuits as a part of practicing "defensive medicine." Although nurse-midwives are not alone in this liability issue, the effects seem to be worse, especially since they have limited political power and have fewer assets, both financially and professionally.

The Tort Litigation System

The tort system is a slow and costly method of resolving obstetrical disputes and is contributing to the disruption of the delivery of maternal care in the United States (IOM, 1989). In the ten years between 1974 and 1984, the number of malpractice claims nearly doubled, from 8.5 per 100 doctors to 16.4 (Leak, 1988). About one in 3 family physicians is likely to be sued, compared to approximately 1 in 4 for the entire medical profession (Bredfeldt, et al., 1987). Obstetricians have a greater chance than any other specialty of being sued; ACOG's 1987 survey (ACOG, 1988) reported that 70% of obstetricians had had at least one claim filed against them at some time in their careers, and the 1990 survey revealed that this had increased to 77.6% of ACOG fellows (ACOG, 1991).

The situation in North Carolina is not as grim as in other parts of the country. In 1975, less than one in twenty physicians insured by Medical Mutual could expect a claim in a given year, and that jumped to one of six by 1986, with the figures being even worse for obstetrics (Phillips, 1987). The average settlement was approximately $47,000 in North Carolina, compared to $80,000 nationally (Denton 1988).

Currently, tort reforms have been enacted in all 50 states in response to proliferating malpractice claims. The most prevalent types of reforms include shortening statutes of limitations for filing claims; revising joint and several liability rules so that defendants are liable for only their share of the fault being contested; eliminating double recovery by preventing defendants from collecting damages from several sources; limiting or structuring attorney contingency fees to give injured parties a larger share of the award and to encourage early settlement of large cases; requiring periodic payments over the life of the injured party instead of lump sum payments; and placing reasonable caps on awards for noneconomic damages, such as for pain and suffering (Korcok, 1988). Other legislation includes no-fault compensation funds, arbitration systems and mediation screening panels.

Although tort reforms implemented since the mid-1970s have had some effect on claims frequency and magnitude in some states, such as Indiana, they have not influenced costs of the tort system for resolving obstetrical malpractice claims. Tort reforms do not appear likely to stem the exodus of obstetrical providers from the profession or to solve the problems caused by the current professional liability climate (IOM, 1989).

CHAPTER 2

NORTH CAROLINA OBSTETRICS ACCESS AND PROFESSIONAL LIABILITY STUDY: OBSTETRICIAN/GYNECOLOGISTS

Overview

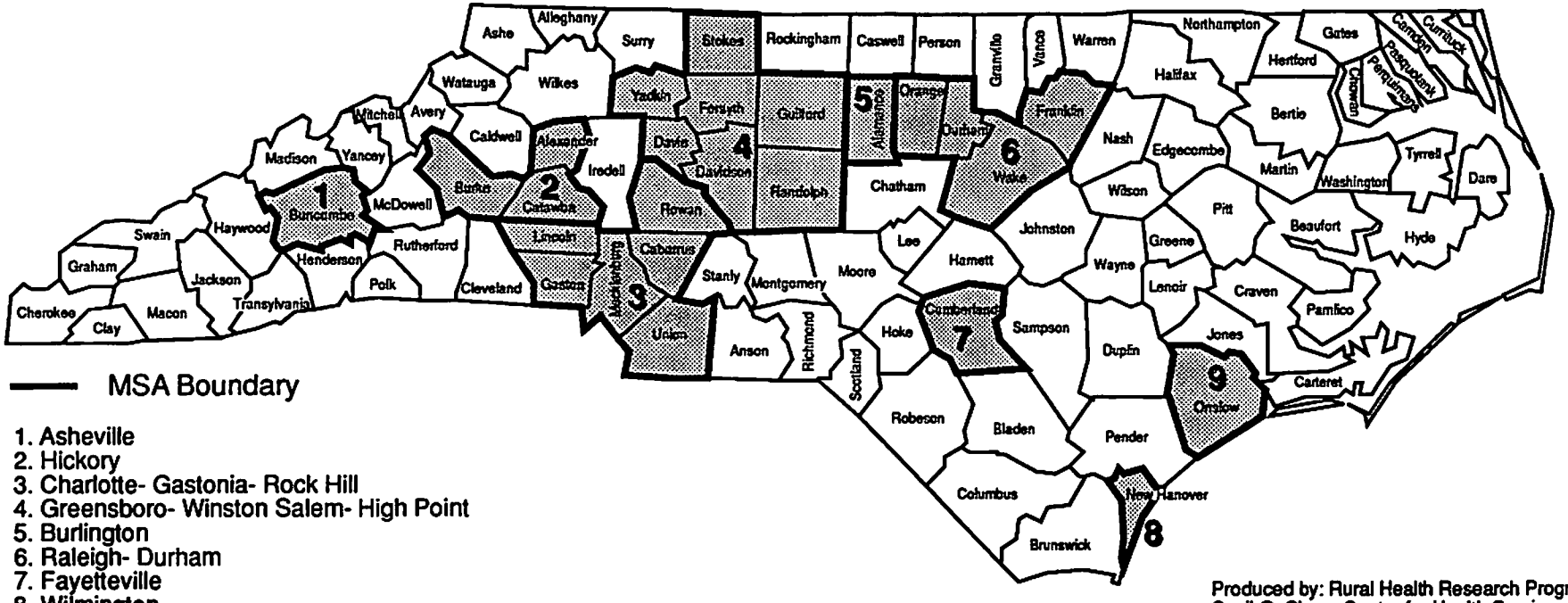
In the 1980s a rapid rise in the costs of malpractice coverage for obstetrical services caused many practitioners to stop delivering babies, especially in rural areas. Other factors were also influencing the decision by physicians to exclude obstetrics from their practices. North Carolina was not unlike other states in recognizing a very severe drop in access to obstetrical services in many communities, but there was no clear picture of the degree to which access to obstetrical service was reduced since there is no comprehensive registry of practitioners of services in the State. The North Carolina Rural Health Research Program at the Cecil G. Sheps Center for Health Services Research of the University of North Carolina at Chapel Hill proposed to conduct a study of the specific reasons why obstetricians chose to either drop obstetrics or maintain an obstetric practice, the conditions of their obstetric practice that might cause them to drop obstetrics, their attitudes toward certain proposed policies related to obstetrics and malpractice, and the degree to which their practices were regionalized. The study was funded by the U.S. Office of Rural Health Policy in the Health Resources and Services Administration and subsequently endorsed by the North Carolina Obstetrics and Gynecology Society. The project was staffed by the N.C. Rural Health Research Program with assistance from the North Carolina Office of Rural Health and Resource Development.

A seven-page questionnaire was mailed to all active, licensed obstetricians and obstetrician/gynecologists practicing in North Carolina to determine the availability of their services on a county-by-county basis and the effects of malpractice claims and policies on obstetrical practice in North Carolina (Appendix A). The survey was initially mailed on June 13, 1989 to the 650 obstetricians and obstetrician/gynecologists, including residents in training, identified in the N.C. Board of Medical Examiner's license files as active in North Carolina. An additional 26 physicians were identified through other methods and were mailed questionnaires on June 23, 1989. A follow-up questionnaire was sent to all non-respondents on July 11, 1989. Follow-up telephone calls were made from August through October, 1989 to non-respondents in rural counties to ascertain their practice status. Of the 676 physicians who were sent the survey, 52 were excluded due to death, retirement, moving out of state, or duplication, leaving a total number of 624 physicians. As of March 1, 1990, the response rate was 407 of 624, or 65.2%.

Since the focus of the study was access to obstetrical services in rural North Carolina, data were analyzed using the Office of Management and Budget's definition of Metropolitan Statistical Area (MSA), whereby an area qualifies as an MSA if there is a city of at least 50,000 population, or an urbanized area of at least 50,000 with a total population of at least 100,000 (see Map 1). Since the 1983

Map 1

Metropolitan Statistical Areas in North Carolina



revision, North Carolina has nine MSAs composed of 25 counties and these counties are referred to interchangeably in this report as either "metropolitan" or "urban" counties. Those counties not included in MSAs are referred to interchangeably in this report as either "nonmetropolitan" or "rural".

Results

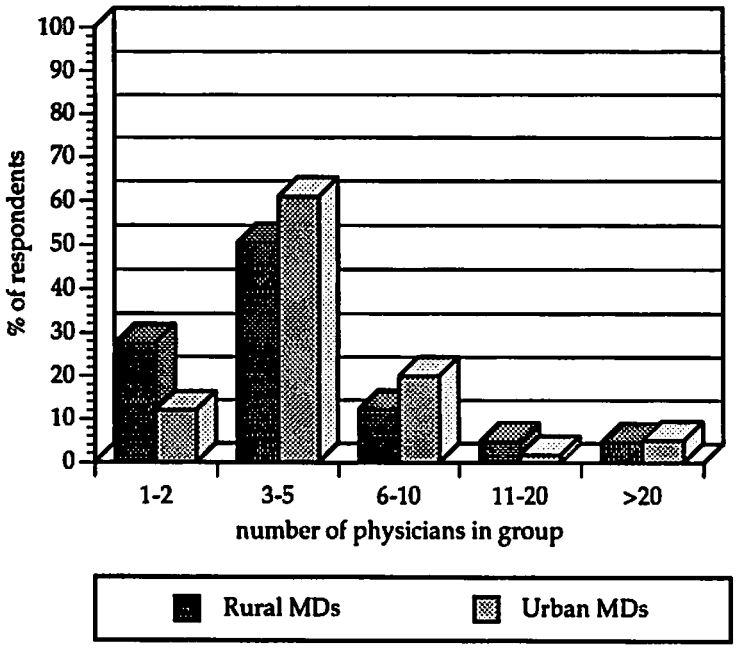
Demographics and Practice Characteristics

Of the 407 physicians responding to the survey, 355 or 87.2% indicated they were practicing obstetrics at the time of the survey. Of the 52 who were not practicing obstetrics, 5 had never practiced obstetrics (all from metropolitan counties) and about half of the remaining 47 physicians had quit in the previous three years (1987-1989). In addition, of the 52 who were not practicing obstetrics, 38 or 73% were from metropolitan counties. Males comprised 91% and females comprised 9% of the respondents, with the mean age being 46.7 years. The rural-urban split among respondents was 40% and 60% respectively. Approximately 75% of the respondents indicated they were in a small group practice of 5 or fewer physicians (Table 1 and Figure 1). Rural physicians tended to have groups with fewer physicians than urban physicians, with more than twice the percentage of rural physicians in solo practice or in two-physician groups.

Table 1
Physician Group Size by Rural-Urban Location

# MDs in practice	State Total (N=279)		Rural Respondents (N=105)		Urban Respondents (N=174)	
	#MDs	% MDs	#MDs	% MDs	#MDs	% MDs
1-2	50	17.9	29	27.6	21	12.1
3-5	159	57	53	50.5	106	60.9
6-10	48	17.2	13	12.4	35	20.1
11-20	8	2.9	5	4.8	3	1.7
>20	14	5	5	4.7	9	5.2

Figure 1
Physician Practice Size by Rural-Urban Location

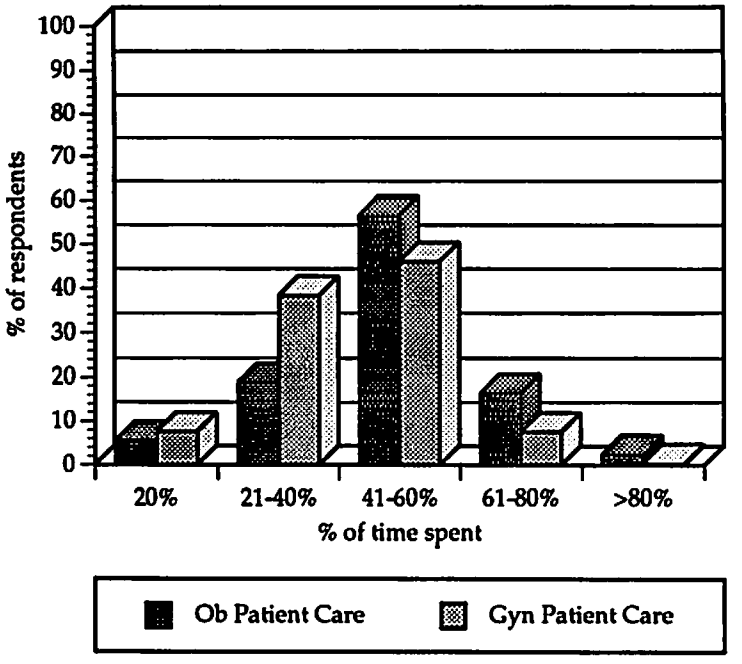


The majority of respondents (56.5%) indicated that they spent 41-60% of their time in obstetrical patient care, with a mean of 51% (Table 2). Gynecology occupied a mean of 44% of physicians' time, and other activities accounted for approximately 5% of their time. There was no appreciable difference between rural and urban physicians in how they reported spending their professional time.

Table 2
Percent Physician Time Spent in Obstetrical vs. Gynecological Patient Care

	Obstetrical Patient Care		Gynecological Patient Care		Other Activities	
% Time	# MDs	% MDs	# MDs	% MDs	# MDs	% MDs
≤20%	18	5.6	24	7.6	295	94.9
21-40%	61	18.9	121	38.4	10	3.2
41-60%	182	56.5	145	46	3	1
61-80%	53	16.5	24	7.6	3	1
>80%	8	2.5	1	0.4	0	0

Figure 2
Percent Physician Time Spent in Obstetrical vs. Gynecological Patient Care

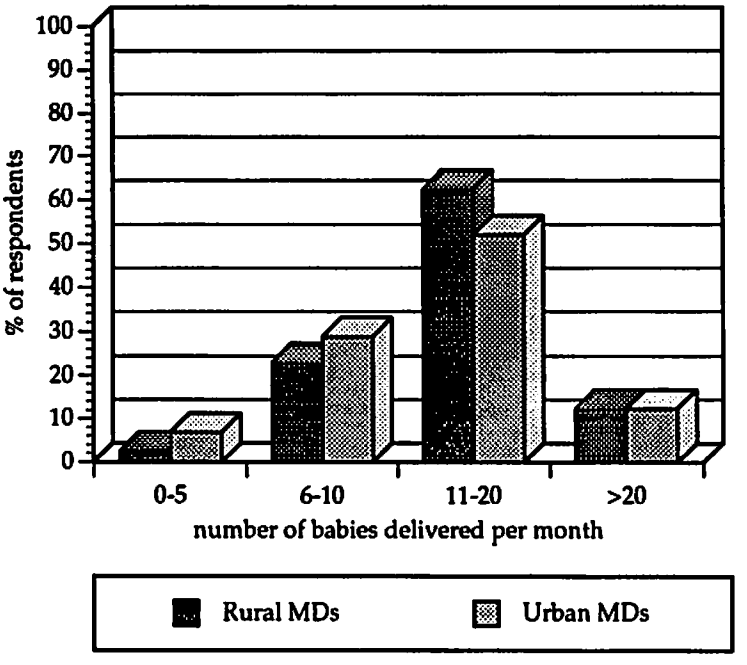


The number of deliveries per month averaged 14.7 per respondent (15.3 for rural MDs; 14.4 for urban MDs), with 7 physicians indicating they delivered over 40 babies per month. Nonmetropolitan physicians seemed to do slightly more deliveries than their metropolitan counterparts; 62% of the nonmetropolitan physicians delivered 11-20 babies per month, while 52% of the metropolitan physicians delivered that many babies per month. Table 3 and Figure 3 show the distribution of physicians delivering babies by location and number of deliveries per month.

Table 3
Number of Deliveries Per Month by Rural-Urban Practice Location

#deliveries per month	State Total (N=324)		Rural Respondents (N=122)		Urban Respondents (N=174)	
	# MDs	% MDs	# MDs	% MDs	# MDs	% MDs
0-5	17	5.2	3	2.5	14	6.9
6-10	86	26.5	28	22.9	58	28.7
11-20	181	55.9	76	62.3	105	52.0
>20	40	12.4	15	12.3	25	12.4

Figure 3
Number of Deliveries Per Month by Rural-Urban Practice Location



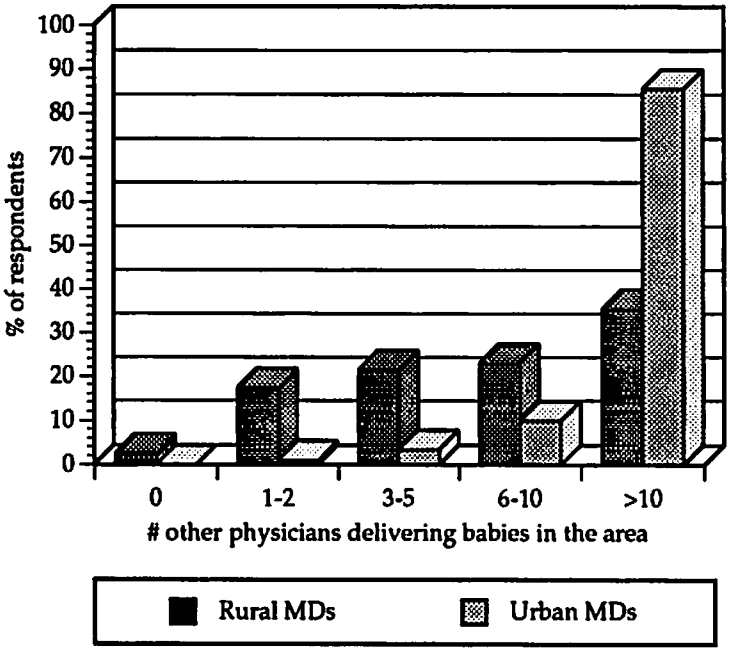
Assistance, Consultation and Coverage in the Community

It is interesting that two-thirds (67%) of the respondents indicated that there are more than 10 other physicians delivering in their self-designated geographic service area; practically all of whom were OB/GYNs. However, a different picture emerges from a metropolitan- nonmetropolitan analysis. Among metropolitan physicians, 86% indicated there were more than 10 other physicians delivering babies in their area, while among nonmetropolitan physicians, only 35% indicated there were more than 10 other physicians delivering babies in the area. Looking at this data from a different perspective, 41.4% of the nonmetropolitan respondents indicated there were 5 or less physicians delivering babies in the area while only 4.5% of their metropolitan counterparts indicated 5 or less physicians delivering in the area. This item may lack reliability due to differences in respondents' interpretation of "area." The data are given in Table 4 and are shown graphically in Figure 4. Regarding providing regular back-up for FPs/GPs doing deliveries, 75% of the respondents indicated that they did not and there was no appreciable difference between metropolitan and nonmetropolitan respondents.

Table 4
Number of Other Physicians Delivering in the Area

# other MDs delivering in the area	State Total (N=323)		Rural Respondents (N=121)		Urban Respondents (N=202)	
	# MDs	% MDs	# MDs	% MDs	# MDs	% MDs
0	3	0.9	3	2.5	0	0.0
1-2	23	7.1	21	17.4	2	1.0
3-5	33	10.2	26	21.5	7	3.5
6-10	48	14.9	28	23.1	20	9.9
>10	216	66.9	43	35.5	173	85.6

Figure 4
Number of Other Physicians Delivering in the Area

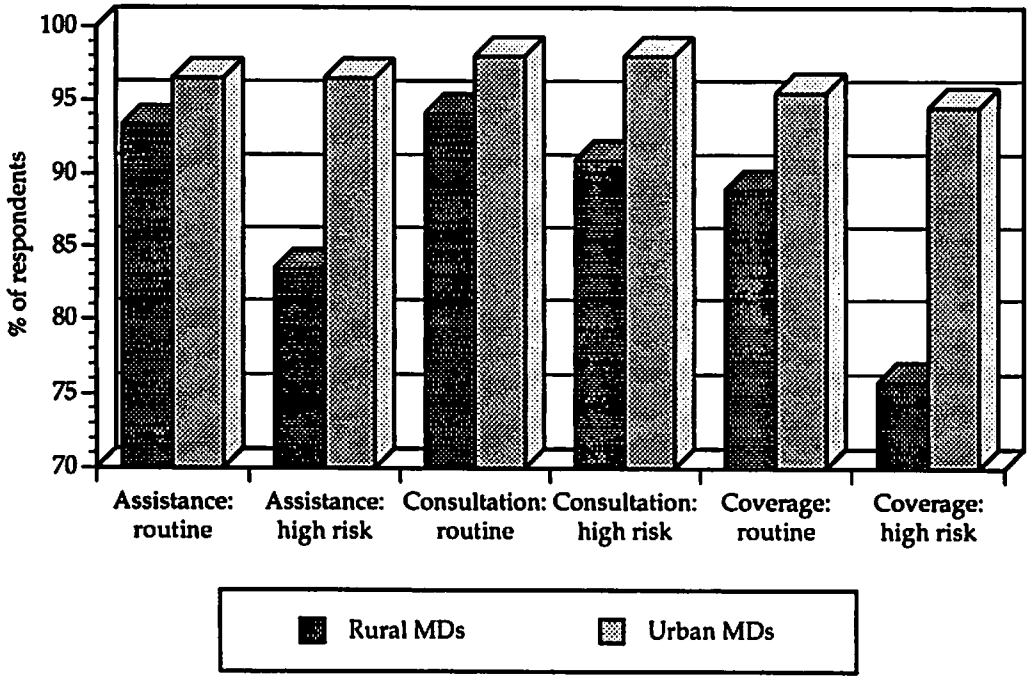


In terms of the adequacy of assistance, consultation and coverage opportunities for both routine and high-risk deliveries in the community, most physicians felt they were "adequate" to very "adequate" (Table 5). Coverage, however, rated lowest for both types of deliveries. Rural-urban differences were greater in responses to the high-risk category of delivery, with 13% of nonmetropolitan and only 1.5% of metropolitan physicians indicating assistance was "inadequate" to "very inadequate." Regarding coverage for high-risk deliveries, 16.7% of rural physicians and only 2.5% of urban physicians indicated coverage was "inadequate" or "very inadequate."

Table 5
Opportunities for Assistance, Consultation and Coverage:
Percent of Physicians Indicating "Adequate/Very Adequate" and "Inadequate/Very Inadequate"

% Physicians indicating:	State Total (N=321)		Rural Respondents (N=120)		Urban Respondents (N=201)	
"adequate/ very adequate"	Routine Deliveries	High-Risk Deliveries	Routine Deliveries	High-Risk Deliveries	Routine Deliveries	High-Risk Deliveries
Assistance	95.3	91.6	93.3	83.5	96.5	96.5
Consultation	96.6	95.3	94.1	90.9	98.0	98.0
Coverage	93.1	87.6	88.9	75.8	95.5	94.5
% physicians indicating "inadequate/very inadequate"						
Assistance	3.1	5.9	6.7	13.2	1.0	1.5
Consultation	2.2	3.4	5.0	7.4	0.5	1.0
Coverage	4.7	7.8	8.6	16.7	2.5	2.5

Figure 5
Opportunities for Assistance, Consultation and Coverage:
Percent of Physicians Indicating "Adequate/Very Adequate"



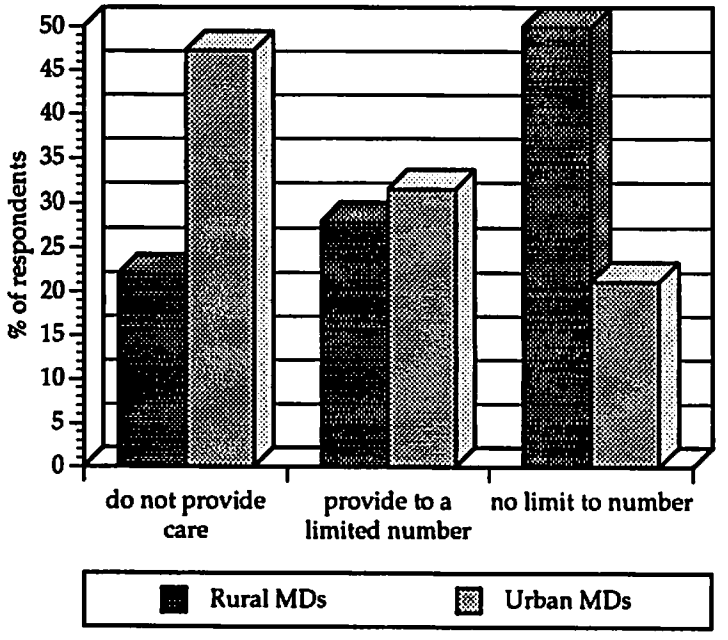
Medicaid Caseload

Approximately 62% of the respondents provided some prenatal and delivery care to Medicaid patients; 38% or 123 physicians indicated that they did not serve this population at all. Results of the metropolitan-nonmetropolitan analysis of physicians providing care to Medicaid patients are shown in Table 6. The biggest difference is seen in the percentage of physicians who provided care to an unlimited number of Medicaid patients: 50% of nonmetropolitan physicians and only 21.2% of metropolitan physicians.

Table 6
Policies on the Provision of Obstetrical Care to Medicaid Patients by Practice Location

policies on the provision of obstetrical care to Medicaid patients	State Total (N=325)		Rural Respondents (N=122)		Urban Respondents (N=203)	
	# MDs	% MDs	# MDs	% MDs	# MDs	% MDs
do not provide care	123	37.8	27	22.1	96	47.3
provide to limited number	98	30.2	34	27.9	64	31.5
no limit to number	104	32	61	50	43	21.2

Figure 6
Policies on the Provision of Obstetrical Care to Medicaid Patients by Practice Location

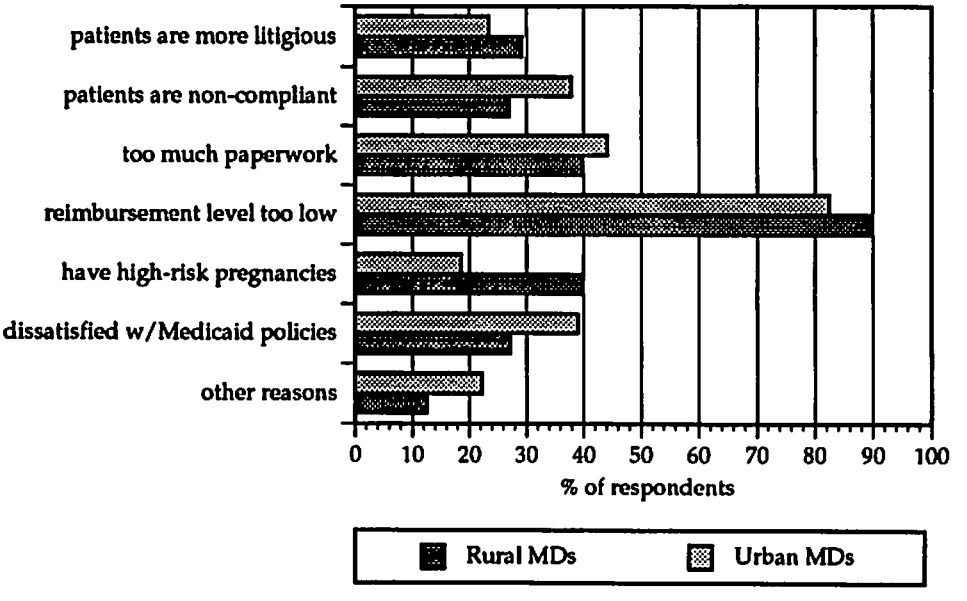


Of the 221 physicians not providing care or providing care to a limited number of Medicaid patients (Table 6), the most important factors influencing their decision were low reimbursement level, excessive paperwork, patient non-compliance and dissatisfaction with Medicaid policies (Table 7). Table 7 shows responses of the 185 physicians who gave reasons for providing limited or no care to Medicaid patients; 27 physicians did not answer this question. Notably, only 21% of respondents' felt that Medicaid patients being more likely to sue influenced their decisions to limit care to these patients.

Table 7
Factors Influencing Decision to Limit Care to Medicaid Obstetrical Patients

factors influencing decision to limit care to Medicaid patients	State Total (N=185)		Rural Respondents (N=48)		Urban Respondents (N=137)	
	# MDs	% MDs	# MDs	% MDs	# MDs	% MDs
patients are more litigious	46	20.8	14	29.2	32	23.4
patients are non-compliant	74	33.5	13	27	51	37.8
too much paperwork	79	35.7	19	39.6	60	44.1
reimbursement level too low	155	70.1	43	89.6	112	82.4
have high-risk pregnancies	44	19.9	19	39.6	25	18.5
dissatisfied w/ Medicaid policies	66	29.9	13	27.1	53	39
other reasons	36	16.3	6	12.5	30	22.2

Figure 7
Factors Influencing Decision to Limit Care to Medicaid Obstetrical Patients

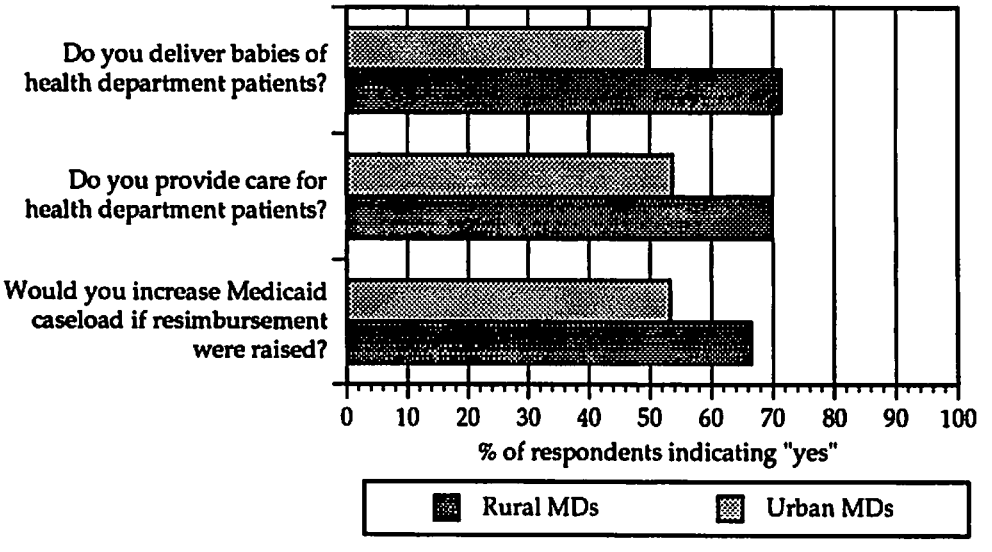


Even though low reimbursement level was the primary reason physicians decided to limit their care of Medicaid patients, only 53% of the urban respondents said they would increase their Medicaid caseload if the reimbursement level for prenatal care and delivery were raised to $1200 from the then current $925. Two-thirds of the rural physicians would increase their Medicaid caseload if the reimbursement level were raised to $1200. On a related issue, about 54% of urban respondents and 70% of rural respondents indicated they provide care or back-up for Health Department patients. About 50% of the urban physicians and 71% of their rural counterparts deliver babies of Health Department patients. Table 8 summarizes this information.

Table 8
Rural-Urban Breakdown: Issues Regarding Medicaid Patients

physicians responding "yes" to these issues:	State Total		Rural Respondents		Urban Respondents	
	# MDs	% MDs	# MDs	% MDs	# MDs	% MDs
Increase Medicaid caseload if reimbursement raised?	177	58.4	79	66.4	98	53.3
Provide care for Health Department patients?	193	59.8	85	69.7	108	53.7
Deliver babies of Health Department patients?	187	57.7	87	71.3	100	49.5

Figure 8
Rural-Urban Breakdown: Issues Regarding Medicaid Patients



Approximately the same percentage of respondents did not provide care to Medicaid patients in 1988 as in 1986 (30.9% compared to 31.7%) and this is substantially less than the 1989 figure of 37.8% of respondents not providing care (see Tables 9 and 6). The Medicaid caseload has changed somewhat over the years, however, with physicians indicating larger caseloads than in 1986 (Table 9). For example, in 1986 24.4% of respondents indicated a Medicaid caseload of greater than 20%, while in 1988 this had risen to 28.4%.

Table 9
Respondents' Medicaid Caseload, 1986-1988

Medicaid Caseload	1986 (N=262) % MDs	1987 (N=267) % MDs	1988 (N=285) %MDs
0%	31.7	31.5	30.9
1-5%	22.9	21.3	21.1
6-10%	9.2	10.1	8.8
11-20%	11.8	10.9	10.9
21-40%	14.5	15.4	15.1
41-60%	5.3	5.2	5.6
>60%	4.6	5.6	7.7

There is a large disparity between rural and urban physicians in the percent of their patients who are covered by Medicaid (Table 10 and Figures 9 and 10). The most striking difference is seen in the physicians who indicated that they did not serve Medicaid patients at all, or whose Medicaid caseload was 5% or less. Almost twice the percentage of urban physicians as their rural counterparts had a Medicaid caseload of 5% or less in 1988 (63.6% vs. 33%). Over the past three years, changes among both rural and urban counties have not been large, however, the percentage of rural physicians indicating a Medicaid caseload of greater than 60% has more than doubled (from 3.9% to 8.3%) and has almost doubled for urban physicians (from 5% to 7.4%).

Table 10
Comparison of Medicaid Caseload by Practice Location, 1986-1988

	1986		1987		1988	
Medicaid Caseload	% Rural MDs	% Urban MDs	% Rural MDs	% Urban MDs	% Rural MDs	% Urban MDs
0%	15.7	41.9%	15.5	41.5	15.6	40.3
1-5%	17.6	26.2	17.5	23.8	17.4	23.3
6-10%	6.9	10.6	6.8	12.2	6.4	10.2
11-20%	17.6	8.1	15.5	7.9	17.4	6.8
21-40%	26.5	6.9	28.2	7.3	22.9	10.2
41-60%	11.8	1.3	11.6	1.2	11.9	1.7
>60%	3.9	5.0	4.9	6.1	8.3	7.4

Figure 9
Medicaid Caseload of Rural Respondents, 1986-1988

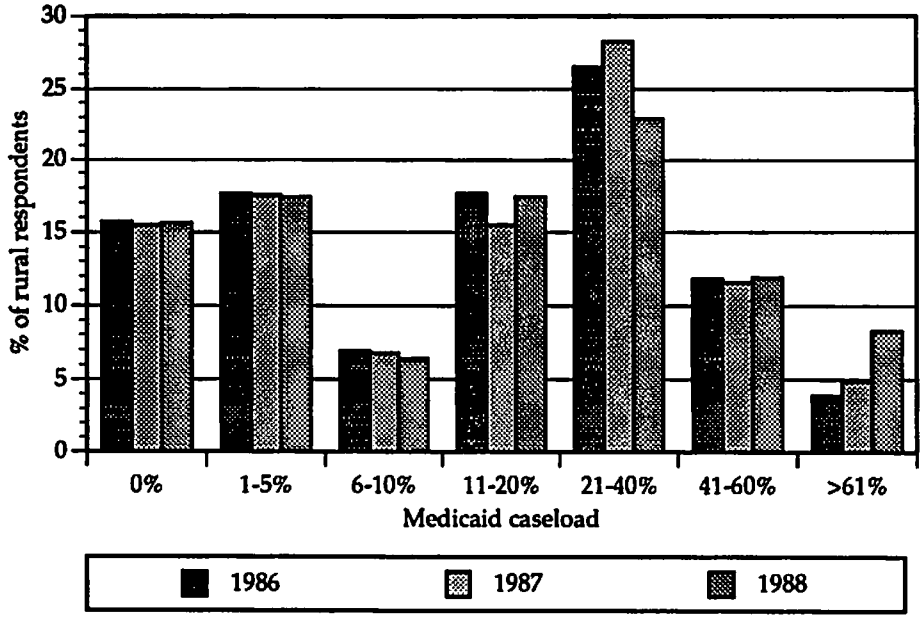
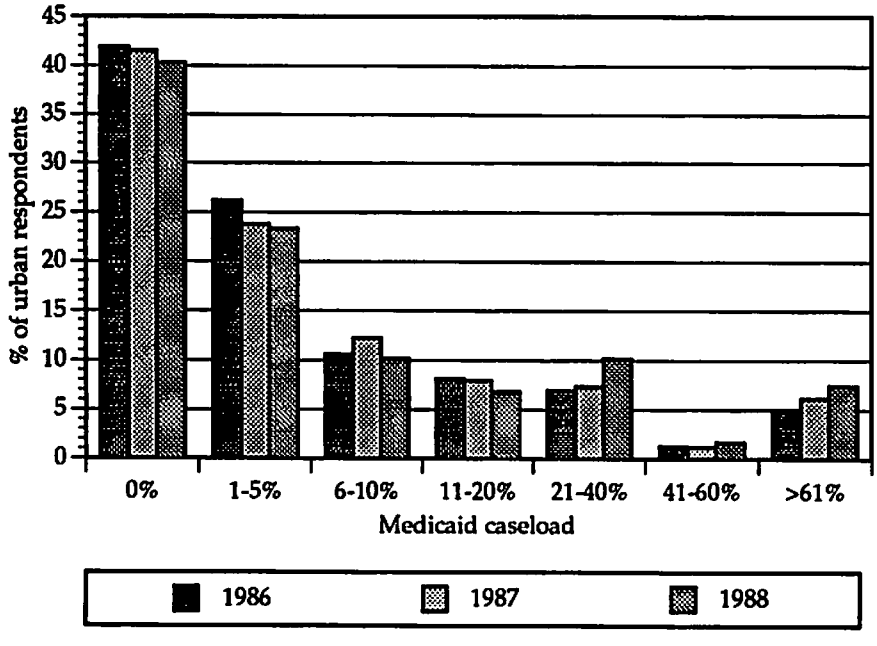


Figure 10
Medicaid Caseload of Urban Respondents, 1986-1988



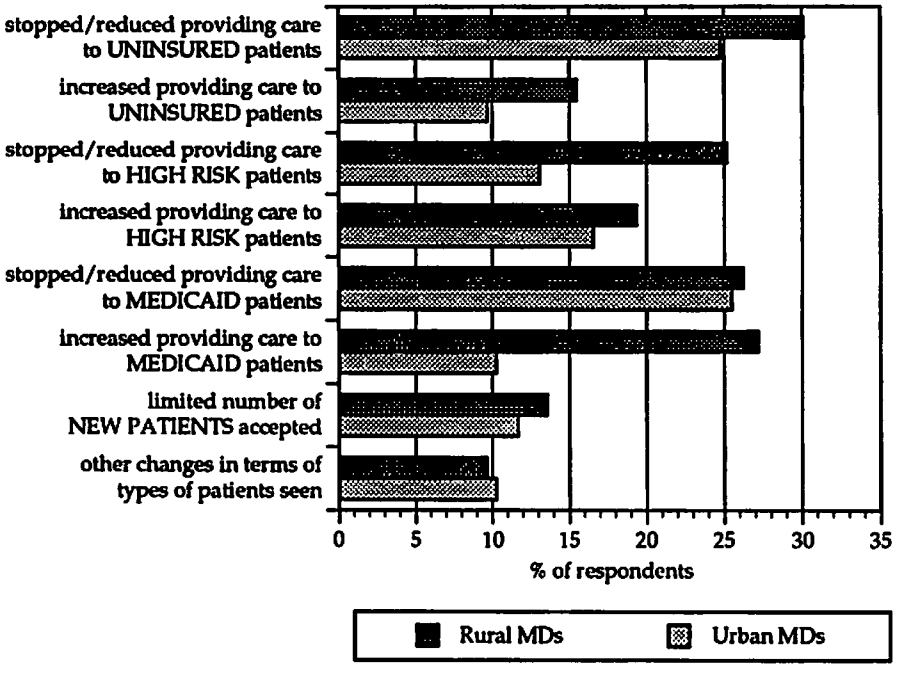
Changes in Obstetrical Practice

The question was asked, "How has your obstetrics practice changed in terms of the types of patients that you see?" Of all the categories of responses, the most frequently cited was "stopped or reduced providing care to uninsured patients," with 27% of physicians indicating this aspect of change. Several interesting differences surfaced when these data were analyzed for metropolitan-nonmetropolitan differences (Table 11 and Figure 11). The most interesting finding was that almost twice the percentage of nonmetropolitan physicians as metropolitan physicians indicated that they had stopped or reduced providing care to medically high-risk patients (25% of nonmetropolitan MDs vs. 13% of metropolitan MDs). However, two and a half times the percentage of nonmetropolitan physicians indicated that they had increased providing care to Medicaid patients (27% vs. 10%).

Table 11
Changes in Obstetrics Practice Regarding Types of Patients Seen

changes in obstetrics practice TYPES OF PATIENTS	State Totals (N=248)		Rural Respondents (N=103)		Urban Respondents (N=145)	
	# MDs	% MDs	# MDs	% MDs	# MDs	% MDs
stopped/reduced providing care to UNINSURED patients	67	27.0	31	30.1	36	24.8
increased providing care to UNINSURED patients	30	12.1	16	15.5	14	9.7
stopped/reduced providing care to medically HIGH-RISK patients	45	18.1	26	25.0	19	13.1
increased providing care to medically HIGH-RISK patients	44	17.7	20	19.4	24	16.6
stopped/reduced providing care to MEDICAID patients	64	25.8	27	26.2	37	25.5
increased providing care to MEDICAID patients	43	17.3	28	27.2	15	10.3
limited number of NEW PATIENTS accepted	31	12.5	14	13.6	17	11.7
other changes in terms of types of patients seen	25	10.1	10	9.7	15	10.3

Figure 11
Changes in Obstetrical Practice Regarding Types of Patients Seen



Regarding changes in the medical aspects of practice, about 75% of respondents indicated that they increased their use of tests and monitoring procedures, and raised patient fees due to higher malpractice insurance premiums. Approximately 70% of the physicians indicated they now provide more information to patients about risks and benefits of procedures. Only 27% provide more preventive services, and only 4% have eliminated certain services from their medical practice. Rural-urban differences in terms of changes in medical aspects of obstetrics practice of the previous 12 months were not substantial (Table 12).

Table 12
Changes Regarding Medical Aspects of Obstetrics Practice

Changes in Obstetrics Practice MEDICAL ASPECTS	State Totals (N=301)		Rural Respondents (N=118)		Urban Respondents (N=183)	
	# MDs	% MDs	# MDs	% MDs	# MDs	% MDs
increased use of tests or monitoring procedures	224	74.4	93	78.8	131	71.6
increased use of consultations with other physicians	134	44.5	56	47.5	78	42.6
provided more information about risks and benefits of procedures	208	69.1	85	72.0	123	67.2
raised patient fees due to higher malpractice insurance premiums	225	74.8	89	75.4	136	74.3
provided more preventive services such as pap smears	80	26.6	35	29.7	45	24.6
increased use of written consent procedures	121	40.2	53	44.9	68	37.2
eliminated specific services	13	4.3	8	6.8	5	2.7
reduced specific services	8	2.7	3	2.5	5	2.7
other changes	17	5.6	9	7.6	8	4.4

It is notable that only 8% of the respondents indicated that their obstetrical patient volume decreased; 40% said it stayed the same and 52% of physicians' practices saw an increase in obstetrical patient volume over the previous 12 months. Rural-urban differences in terms of obstetrical patient volume are shown in Table 13.

Table 13
Changes Over the Last Year in Obstetrical Patient Volume

changes in obstetrical patient volume	State Total (N=321)		Rural Respondents (N=121)		Urban Respondents (N=200)	
	# MDs	% MDs	# MDs	% MDs	# MDs	% MDs
decreased over the year before	26	8.1	13	10.7	13	6.5
stayed the same as the year before	129	40.2	51	42.2	78	39.0
increased over the year before	166	51.7	57	47.1	109	54.5

Of those whose obstetric patient volume decreased, (26 physicians; 13 metropolitan and 13 nonmetropolitan) 30% indicated the important factors were fear of an obstetrics malpractice lawsuit, and the inconvenience of obstetrics practice. Almost three times as many nonmetropolitan as metropolitan physicians listed fear of an obstetrics malpractice lawsuit as an important factor. The majority (almost 60%) listed other reasons influencing their decision to decrease their obstetrical

patient volume. An explanation for this large number of "other reasons" may be that the decision to reduce their obstetrical patient volume was not really a decision, but rather a "natural" decrease that occurred without putting any policies into effect. A rural-urban analysis of the differences in reasons for decreasing obstetric patient volume is shown in Table 14 (1 of the rural physicians did not respond to this question). Due to the small number of cases, caution should be taken in the interpretation of the data in Table 14 and the data should not be generalized to larger populations.

Table 14
Important Factors Influencing Decision to Decrease Obstetrical Patient Volume

factors influencing decision to decrease OB patient volume	State Total (N=26)		Rural Respondents N=13 (1 missing)		Urban Respondents (N=12)	
	# MDs	% MDs	# MDs	% MDs	# MDs	% MDs
fear of an obstetrics malpractice lawsuit	8	32.0	6	46.1	2	16.7
ongoing obstetrics lawsuit	4	16.0	2	15.4	2	16.7
increasing costs of obstetrics malpractice insurance	3	12.	2	15.4	1	8.3
uncertainty of future costs of obstetrics malpractice insurance	2	8.0	1	7.7	1	8.3
occurrence type of insurance contract not available	0	0	0	0	0	0
inconvenience of obstetrics practice	8	32.0	5	38.5	3	25.0
lack of adequate back-up	3	12.0	2	15.4	1	8.3
lack of adequate facilities	1	4.0	0	0	1	8.3
decreased interest in practicing obstetrics	5	20.0	5	38.5	0	0
other reasons	16	64.0	7	53.8	9	75.0

Removal of Cerebral Palsy Births From the Tort System

Regarding the proposal then before the North Carolina General Assembly to remove most cases of cerebral palsy from the Tort system, 70% of physicians indicated they did not think passage of this proposal would change their obstetrics practice. Of those who thought it would (95 MDs), 60% thought it would increase their high-risk deliveries. The following table shows the distribution of responses of those physicians who thought passage of this statute would affect their practice. A separate rural-urban analysis showed that differences among respondents did not appear to be significant, except regarding Medicaid patient load; 56% (22) of the rural physicians thought passage would affect Medicaid patient load, while 28% (14) of the urban physicians felt this way. Preliminary results from this survey were instrumental in modifying the proposal, which is still pending before the N.C. General Assembly.

Table 15
Changes in Obstetrical Practice Expected if Cerebral Palsy Proposal is Passed

aspects of obstetrics practice that passage of proposal would affect:	% of physicians (N=95)		
	increase	stay the same	decrease
number of deliveries	44.3%	52.3%	3.4%
number of high-risk deliveries	59.3%	36.3%	4.4%
uninsured patient load	36.8%	62.1%	1.1%
Medicaid patient load	40.9%	56.8%	2.3%

Almost half of the respondents (45.6%) indicated having delivered a baby with cerebral palsy. Only 13 physicians (10%) had a malpractice claim or lawsuit brought against them as a result of the delivery.

Knowledge of the Rural Obstetrical Care Incentive Program (ROCI)

In 1988, the North Carolina General Assembly passed the Rural Obstetrical Care Incentive Program (ROCI) which compensates physicians in underserved areas for the difference between the cost of malpractice insurance with and without obstetrical practice, or $6500, whichever is less (see Chapter 6). Approximately half of the respondents (54.3%; 47% of rural respondents and 59% of urban respondents) had not heard of the ROCI program and only 12 physicians indicated participation in the program (all from rural counties).

Professional Liability Insurance

All of the respondents who were currently practicing indicated that they were covered by professional liability insurance. Malpractice premium rates varied widely among all respondents, but not between metropolitan and nonmetropolitan respondents; 41% of all respondents indicated paying an annual premium in the range of $20-30,000. The largest rural-urban difference occurred in the $40,000-$50,000 range which included the premiums of only 13% of rural but 20% of urban physicians. Medical Mutual Insurance Company of North Carolina covered 56% of respondents, St. Paul Fire and Marine Insurance Company covered 33%, and 10% indicated they were self-insured or covered by another source. Regarding type of coverage, 68% of the respondents had a "claims made" policy, only 9% had an "occurrence" type of policy and 22% did not know the type of policy they had. Rural-urban differences were not significant for type of coverage or company. Malpractice premiums were paid by practice corporations or employers for 76.7% of the respondents while 19% indicated they paid the premiums personally. There were no significant differences by rural-urban practice location in terms of who paid malpractice premiums.

Table 16 shows the cumulative percentage of respondents indicating the level of annual malpractice premium that would force them to stop practicing obstetrics. Rural-urban differences were slight, however, it can be seen that when premiums reach the $50,000 range, 65% of rural physicians indicated that this would be high enough to force them to stop obstetrics while 54% of urban physicians indicated premiums up to this figure would be too high for them to continue delivering babies. Physicians were also asked if they would continue to practice obstetrics without obstetrics malpractice coverage and only 20 physicians (6.3%) indicated they would do so.

Table 16
Malpractice Premium That Would Force Physicians to Stop Practicing Obstetrics

Premium	cumulative % Rural MDs	cumulative % Urban MDs
$30,000 or less	11.3	13.3
up to $40,000	29.6	24.1
up to $50,000	64.8	54.2
up to $60,000	73.2	66.7
up to $90,999	80.3	78.3
up to $200,000	91.6	95.2
no limit	100.0	100.0

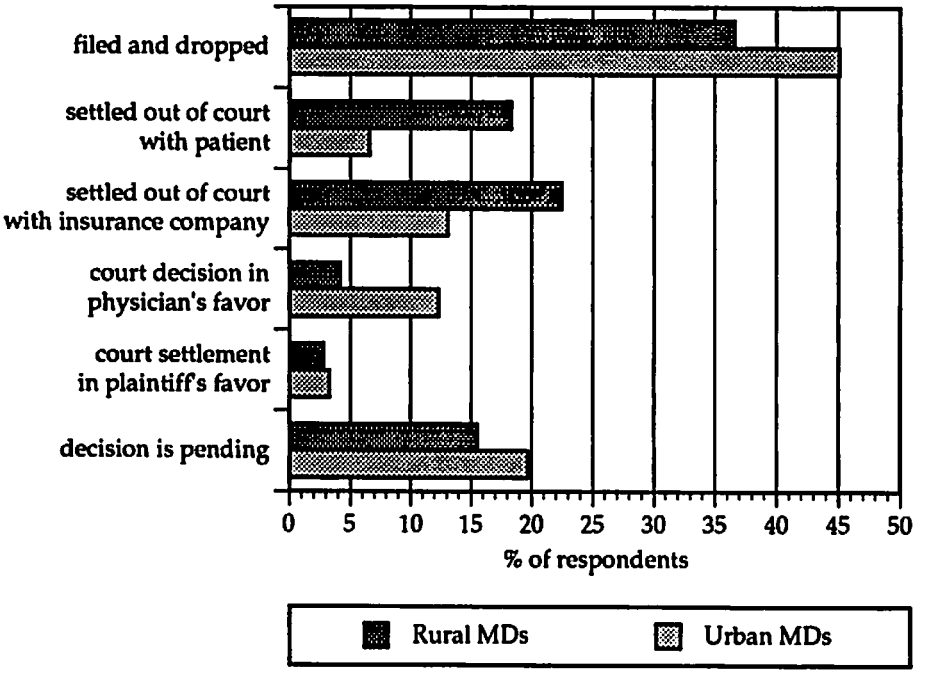
Obstetrics Personal Injury Suits

Regarding obstetrics personal injury suits or malpractice claims, 125 physicians (55 rural and 70 urban) or 39% of the respondents indicated having been named in a lawsuit, for a total of 193 claims. Most physicians (65%) mentioned only one claim filed against them; 24% said 2 claims had been filed against them. Regarding outcomes of these claims, 81 or 42% had been filed and dropped, and 35 or 18% are pending (Table 17).

Table 17
Outcomes of Personal Injury Claims Filed

Outcome	State Totals		Rural Physicians' Claims		Urban Physicians' Claims	
	# Claims	Percent	# Claims	Percent	# Claims	Percent
Filed and dropped	81	42.0	26	36.6	55	45.1
Settled out of court with patient	21	10.9	13	18.3	8	6.6
Settled out of court w/ insurance company	32	16.6	16	22.5	16	13.1
Court decision in physician's favor	18	9.3	3	4.2	15	12.3
Court settlement in plaintiff's favor	6	3.1	2	2.8	4	3.3
Decision is pending	35	18.1	11	15.5	24	19.7
Total number of claims	193		71		122	

Figure 12
Outcomes of Personal Injury Claims Filed



Satisfaction with Relationship between Practice and Back-up

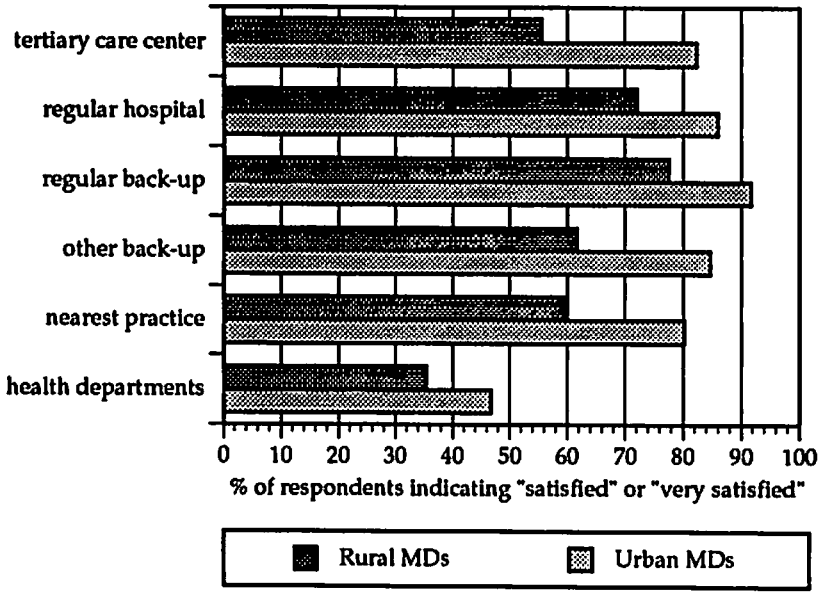
Physicians were asked to rank their satisfaction with the relationship between their practice and several different sources of medical care: tertiary care center, regular hospital, regular back-up or covering practice, nearest practice for which they provide back-up and the health department serving

their area (Table 18). On the whole, respondents were satisfied, with at least 70% of respondents indicating they were either "satisfied" or "very satisfied" and less than 10% of the respondents indicating they were not satisfied. An exception is relationships with health departments, with only 42% of the respondents indicating they were satisfied or very satisfied and 24% indicating they were not satisfied. A metropolitan-nonmetropolitan analysis revealed appreciable differences in physicians' satisfaction with back-up and other sources of care. The largest difference was seen in satisfaction with tertiary care centers, with only 55.6% of nonmetropolitan physicians indicating the relationship between their practice and the tertiary care center was "satisfactory" or "very satisfactory" and 82.3% of metropolitan physicians indicating these levels of satisfaction.

Table 18
Satisfaction with Relationship Between Practice and Other Sources of Medical Care

physicians indicating satisfied/very satisfied with:	State Totals		Rural Physicians		Urban Physicians	
	# MDs	% MDs	# MDs	% MDs	# MDs	% MDs
tertiary care center	223	72.2	65	55.6	158	82.3
regular hospital	248	80.8	83	72.1	165	86.0
regular back-up	223	86.1	79	77.5	144	91.7
other back-up	131	76.6	37	61.7	94	84.7
nearest practice	113	72.4	36	60.0	77	80.2
health departments	115	42.1	39	35.4	76	46.7

Figure 13
Satisfaction with Relationship Between Practice and Other Sources of Medical Care



Non-Respondent Analysis

Non-respondents were compared to respondents using data from the N.C. Board of Medical Examiner's license files. The data collected on initial and renewal physician license forms are maintained by the Sheps Center and permission was given by the Board to use the licensing data for use in this survey. Physicians are required to register every two years and this might cause a lag in the completeness of data. Since residents in training were surveyed but may not be in the license files, the totals for the non-respondent analysis are not the same as the total number of physicians surveyed. In addition, certain items are optional on the license form and these variables will have a higher frequency of missing data. Of the 624 obstetrician/gynecologists to whom a questionnaire was mailed, 217 or 34.8% did not respond.

Demographics. Age seemed to be a minor factor in physicians' tendency to respond to the survey; within the non-respondent group, 44.2% fell in the range of 31-40 years. Comparing ages of respondents to non-respondents, the greatest discrepancy was seen in the 61 or older age group with 81% of these physicians responding and 19% not responding. The age group with the greatest percentage of non-respondents was that of physicians less than 30 years old, with 45% responding and 55% not responding.

Regarding race, 73% of the white physicians responded while only 39% of the Black physicians responded. A little over half (54%) of the Asian physicians responded. Of the non-respondent group, 81% were white, 15% were Black and 4% were Asian. Within the respondent group, 93% were white, 4% were Black and 2% were Asian.

Table 19
Race and Gender by Respondent Status

frequency percent row percent column percent	White	Black	American Indian	Asian	Male	Female
respondent	359	16	1	7	353	30
	65.5	2.9	0.2	1.3	64.4	5.5
	93.7	4.2	0.3	1.8	92.2	7.8
	72.8	39.0	100.0	53.9	72.3	50.0
non-respondent	134	25	0	6	135	30
	24.5	4.6	0.0	1.1	24.6	5.5
	81.2	15.2	0.0	3.6	81.8	18.2
	27.2	61.0	0.0	46.1	27.6	50.0
total	493	41	1	13	488	60
	90.0	7.5	0.2	2.4	89.0	11.0

Female physicians were less likely to respond to the survey than their male counterparts; only 50% of the females responded (30 of 60) while 72% of the males responded. Within the non-respondent

group, 82% were male and 18% were female. The non-response differences among Black and female OB/GYNs may indicate some threat to the representativeness of data for these groups, but overall response should allow for extrapolation of total response to the population of OB/GYNs in North Carolina.

Metropolitan and Nonmetropolitan Status. The location of a physician's practice did seem to be related to responding to the questionnaire; 78% of the rural physicians surveyed and only 60% of the urban physicians surveyed responded. This was due, in part, to the more intensive follow-up for rural physicians; the focus of the study prompted the effort to maximize rural practitioner response. There were almost two and half times as many urban as rural physicians (443 urban and 181 rural) in the survey population, and the urban physicians comprised 65% of the respondents and 82% of the non-respondents.

Table 20
Metropolitan-Nonmetropolitan Practice Location by Respondent Status

frequency percent row percent column percent	nonmetro-politan	metro-politan	total
respondent	141 22.6 34.6 77.9	266 42.6 65.4 60.0	407 65.22
non-respondent	40 6.41 18.4 22.1	177 28.4 81.6 40.0	217 34.8
total	181 29.0	443 71.0	624 100.0

Form of Employment and Principal Practice Setting. The majority (63%) of the physicians surveyed (67% of respondents and 54% of non-respondents) were working in partnership/self-employed settings. However, the form of employment showing the greatest percentage of non-respondents was "post-graduate self-employed", with 63% (19 of 30 physicians) of this group not responding to the survey. Regarding principal setting, 47% of those surveyed practiced in practitioner's offices, with professional associations being the second most frequent setting (26% of physicians). The category with the most non-respondents was "educational institution" with 24 of 55 (44%) of these physicians not responding to the survey.

Workload. Comparisons can be made between respondents and non-respondents regarding their workload, i.e., the percent of time they spent in patient care and the number of hours worked per week.

Within the non-respondent group, those spending more than 80% of their time in patient care comprised the largest group (61 of 94 or 65% of non-respondents for whom we have this information). Comparing the two groups, it was seen that the highest response rate occurred within the group spending 21-40% of their time in patient care, with 82% responding (9 of 11 physicians). Perhaps more representative, however, is the group spending over 80% of their time in patient care, with 77% of those surveyed responding to the questionnaire.

Regarding hours worked per week, almost 50% of all physicians surveyed (for which we have this information) worked more than 60 hours per week. This category included both the largest number of non-respondents, (58 of 190 or 31%) and the largest number of respondents (132 of 284 or 46%). The greatest discrepancy between respondents and non-respondents regarding hours worked per week fell within the 31-40 hours per week category, with 11 or 92% of this group responding and 1 or 8% not responding to the survey. For physicians working more than 60 hours per week, almost 70% were respondents and about 30% did not respond to the survey.

Summary

Several differences were apparent between physicians practicing in metropolitan versus nonmetropolitan areas. Nonmetropolitan physicians tended to have practices with fewer physicians, attended slightly more deliveries per month, indicated fewer physicians delivering babies in their service area, had higher Medicaid caseloads and a greater percentage had stopped or reduced providing care to medically high risk patients.

Regarding changes in obstetrical practice, three-quarters of the physicians had raised fees due to higher malpractice insurance premiums, and only 8% of respondents indicated that their patient volume had decreased over the year before. For those whose patient volume had decreased, the most important factors influencing their decision to decrease obstetrical patient volume were inconvenience of obstetrics practice, fear of an obstetrics malpractice lawsuit and "other reasons" which may be explained by the wording of the question. Almost three times as many rural as urban physicians (46% compared to 16.7%) indicated fear of an obstetrics malpractice lawsuit as an important factor in their decreased obstetrical patient volume.

Regarding malpractice policies and the Tort system, 70% of the respondents did not feel that the proposal before the NC General Assembly removing cerebral palsy births from the Tort system would affect their obstetrics practice. Of those who thought it would change their obstetrics practice, 60% felt it would increase their high-risk deliveries. The Rural Obstetrical Care Incentive Program, then in its first year, was familiar to approximately half of the respondents. This program's goal is to increase access to obstetrical care by compensating physicians in underserved areas for the difference in the cost of malpractice insurance with and without obstetrical practice. Currently, the Sheps Center is

conducting an evaluation of the ROCI program, whose funding and participation has greatly increased since its implementation.

Professional liability insurance rates varied widely among all respondents, but not between rural and urban physicians. Differences did occur, however, regarding the level of annual malpractice premium that would force a physician to discontinue doing deliveries. Premiums of up to $50,000 would force 65% of the rural physicians compared to 54% of the urban physicians to stop doing obstetrics. Obstetrics personal injury suits were filed against 125 of the respondents for a total of 193 claims, of which 42% had been filed and dropped.

CHAPTER 3
NORTH CAROLINA OBSTETRICS ACCESS AND PROFESSIONAL LIABILITY STUDY: CERTIFIED NURSE-MIDWIVES

Overview

A survey of all certified nurse-midwives (CNMs) was conducted by the Sheps Center for Health Services Research, University of North Carolina at Chapel Hill to determine the availability of midwifery services on a county-by-county basis, and the effect malpractice claims and policies have had on their practice in North Carolina (Appendix B). The survey was initially mailed on September 1, 1989 to 30 certified nurse-midwives identified by the North Carolina Chapter of the American College of Nurse-Midwives as active in North Carolina. An additional 3 nurse-midwives were identified by health professionals familiar with nurse-midwife distribution and were mailed questionnaires on on the same date. Follow-up telephone calls were made from January to February 1990 to non-respondents in rural counties to ascertain their practice status. Of the 33 CNMs surveyed, 2 were deleted because they lived and worked outside of North Carolina, and one refused to participate. The final response rate was 30 of 31, or 96.7%.

Activity Status

Of the 30 respondents, 5 were not actively practicing nurse-midwifery and, of these, only 2 were currently in nursing and providing clinical services to patients. Therefore, questionnaire responses are available for 27 of the 30 respondents. The 3 CNMs who were not active and not providing clinical services were requested to answer a limited number of questions, most of which addressed malpractice issues. Of the 27 respondents providing clinical nursing services, four (14.8%) did not include obstetrical services in their patient care. These nurse-midwives stopped providing obstetrical services in the mid to late 1980s. All respondents were female and the average age was 38.4 years.

Practice Characteristics

Obstetrics/gynecology group practice or partnership was the most common practice configuration for nurse-midwives surveyed. Fifteen of the 27 nurse-midwives or 55.6% indicated this practice setting, with "other" being indicated by six or 22.2% and hospitals indicated by 4 or 14.8%. Only two nurse-midwives (7.4%) work in solo obstetrical practices. Group practices with 4 or 5 physicians were the most common, indicated by 41% of respondents; the largest group employed nine physicians. Most respondents worked with two other nurse-midwives in the same group (63.6%), about 32% were the only midwife in the practice.

Ten or 37% of the respondents received their training at the Medical University of South Carolina, College of Nursing and 70% completed training in the 1980s. Most respondents (58%) saw

between 100 and 250 patients for office visits per month, with a mean of 159 per month. Nurse-midwives who did deliveries averaged 10 per month, with 6 respondents indicating they did not do deliveries. Normal vaginal deliveries accounted for an average of 91.2% of all deliveries; assisting with caesarean sections averaged 5.3%; forceps deliveries, 1.9% and other types of deliveries, 1.7%. Four nurse-midwives assisted with caesarean sections for 10% or more of their deliveries while only two indicated that 10% or more of their deliveries were done with forceps.

Only 4 respondents indicated that they provided prenatal care or back-up for health department patients, and only 3 of these indicated that they delivered babies of health department patients. Four respondents indicated having delivered a baby with cerebral palsy, and only one delivery resulted in a malpractice claim.

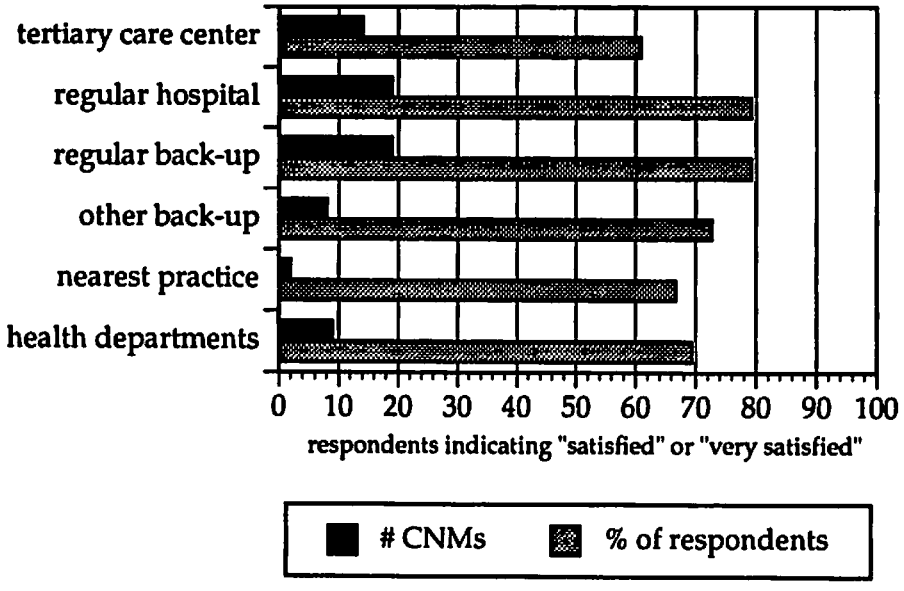
Satisfaction with Back-up

The survey asked respondents to indicate their level of satisfaction with their practice relationship and with other clinical components on a scale from 1 (not at all satisfied) to 5 (very satisfied). Almost two-thirds (61%) were satisfied or very satisfied with the relationship between their practice and the nearest tertiary care center, 30% were somewhat satisfied and almost 9 percent were not very satisfied. However, almost 80% were satisfied or very satisfied with the relationship to the hospital and to their regular back-up practice. Only 11 nurse-midwives had an alternate back-up practice, and about 73% indicated they were satisfied or very satisfied, but two of them (18.2%) said they were not at all satisfied with the alternate. Only three nurse-midwives indicated providing back-up to a practice, and they were all at least somewhat satisfied with the relationship with their own practice. Nine of thirteen nurse-midwives responding to this item (69.3%) indicated they were satisfied or very satisfied with the relationship between their practice and the health department serving their area.

Table 1
Satisfaction with Relationship Between Practice and Other Sources of Medical Care

CNMs indicating satisfied/very satisfied with:	CNM respondents	
	#CNMs	% CNMs responding
tertiary care center	14	60.8
regular hospital	19	79.2
regular back-up	19	79.2
other back-up	8	72.7
nearest practice	2	66.6
health departments	9	69.3

Figure 1
Satisfaction with Relationship Between Practice and Other Sources of Medical Care



Distance to Back-up

About half the respondents indicated that the distance between their practice and the nearest tertiary care center was 10 miles or less. However, the mean distance was 24.4 miles, which is skewed toward the high end due to the farthest distance indicated of 150 miles. Similarly, most respondents indicated the distance from their practice to their regular hospital was less than 5 miles, with the farthest distance being 60 miles and the mean being 4.5 miles. Back-up or covering practices averaged only 1.9 miles away and there was no back-up or covering practice more than 15 miles from any of the nurse-midwives' practices. The farthest health department was 20 miles away, with an average of 5.9 miles to the health department in the respondents' service area.

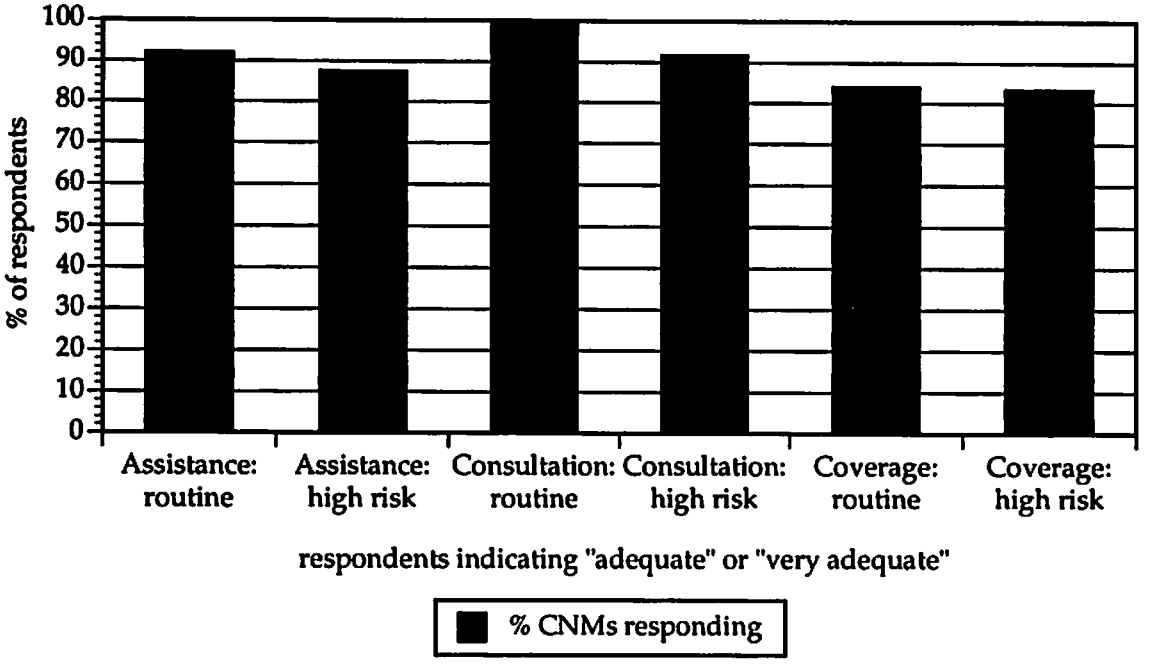
Assistance, Consultation and Coverage for Routine and High Risk Deliveries

On the whole, respondents were very satisfied with the adequacy of assistance, consultation and coverage for both routine and high risk deliveries. Only one respondent indicated that coverage for routine or high risk deliveries was very inadequate, and only one respondent indicated that assistance for high risk patients was very inadequate. Not less than 83% of the respondents felt that assistance, consultation and coverage was adequate or very adequate for both routine and high risk deliveries.

Table 2
Opportunities for Assistance, Consultation and Coverage:
Percent of CNMs Indicating "Adequate" or "Very Adequate"

% of CNMs indicating "adequate/very adequate"	CNM respondents (N=25)	
	Routine Deliveries	High-Risk Deliveries
Assistance	92.0	87.5
Consultation	100.0	91.7
Coverage	84.0	83.4

Figure 2
Opportunities for Assistance, Consultation and Coverage:
Percent of CNMs Indicating "Adequate" or "Very Adequate"



Certified nurse-midwives were asked to comment on the service areas for their practices; 72% of the respondents indicated that there were more than 10 physicians in their service area delivering babies. Almost 70% of the respondents said that there were more than 10 ob/gyns delivering in their service area and 23% indicated there were more than 10 FPs delivering babies in their service area. Eight nurse-midwives (32%) indicated that there were no other nurse-midwives delivering in the area, while 15 (60%) indicated there were up to three other nurse-midwives delivering in the area. Two respondents said they practiced in areas where there were 6 other nurse-midwives delivering in their

service area. This questionnaire item may lack reliability due to differences in the respondents' interpretation of "service area."

Medicaid Policy

Prenatal and delivery care to Medicaid patients was unlimited for 36% of the respondents, limited to a certain number of Medicaid patients for 24% of the respondents and 40% indicated they did not provide care for Medicaid patients. Since most of the respondents were employed in physician group practices, the "policy" regarding care to Medicaid patients may reflect that of the physicians', not the nurse-midwives'. For those who indicated providing care only to a limited number of Medicaid patients, or who did not serve the Medicaid population (N=16), the most important influencing factor was the low level of reimbursement (57% of respondents). The feeling that these patients were more litigious, non-compliant or high-risk were not influential factors in limiting care to Medicaid patients, nor were Medicaid policies or the amount of paperwork. Almost 50% of the respondents to this question listed "other" factors as being the most important in influencing their decision, and many of the "other" factors included the policies of the physicians with whom these nurse-midwives were in practice. This is exemplified in the proportion of Medicaid patients comprising the prenatal care practice for the years 1986-1988. Close to 50% of the respondents indicated there were 0% Medicaid patients over this span of years. However, practices comprised of 50% or more Medicaid patients went from 2 in 1986 to 3 in 1987 to 6 in 1988.

Changes in Obstetric Patient Volume

Regarding changes in the types of patients seen in the obstetrics practice over the previous 12 months, 70% indicated there had been no change in the numbers of uninsured; 75% had no change in the numbers of medically high-risk patients; 64% indicated no change in the numbers of Medicaid patients and 44% indicated no change in numbers of new patients. Over half of the respondents, however had taken on new patients; 27% had increased the numbers of Medicaid patients seen; and 25% had increased the numbers of uninsured patients. Very few recorded having stopped or reduced providing care to these four types of patients. Regarding obstetric patient volume in general, approximately one-third (32%) of the respondents had seen no change in volume while two-thirds (69%) had increased their obstetric patient volume.

Obstetrics: Reasons for Including in Practice and Plans for the Future

Personal satisfaction received from doing obstetrics was the primary reason respondents indicated they included obstetrics in their practices (92% of respondents). Providing higher quality obstetrical care was important to 84% and providing compassionate care to women was indicated by 80% of the nurse-midwives responding. Needs of the community was indicated as a reason for providing obstetrics by 60% and 20% listed other reasons for including obstetrics in their practice.

Two nurse-midwives (8%) planned to stop their obstetrics practice sometime in the coming year, and one planned to continue for another year. The vast majority (20 nurse-midwives or 83%) had plans to continue for more than one year, and one indicated she would be forced to stop if her insurance premiums exceeded a certain amount.

Professional Liability Insurance

All respondents were covered by malpractice insurance for obstetrics; approximately half (45%) by Medical Mutual Insurance Company of N.C. and half listing another insurance carrier. Respondents had been covered in North Carolina an average of 2.7 years. Approximately one-fourth (24%) had occurrence types of insurance contracts, 44% had claims made and 32% did not know their type of insurance contract. Only one respondent was paying her own malpractice premiums; 68% of respondents indicated their employers paid the premiums and 24% had practice corporations paying the premium.

The average premium paid annually was $4547, with a low of $2198 and a high of $7500. When asked what annual obstetric malpractice premium would force them to stop purchasing obstetrical malpractice insurance, the average premium was $7000, although one indicated it would take an annual premium of $20,000. If this outlier is excluded from the calculation of the mean, then the average premium would be $5818, only about $1300 more than the average premium currently being paid. The premium that would force them to stop practicing obstetrics if patient reimbursement remained the same averaged $7800 over the 10 nurse-midwives responding to this question. Again, one indicated it would take $20,000 and if this response is excluded from the calculation, the average premium becomes $6444.

One-fifth of the respondents indicated they would continue to practice obstetrics without malpractice insurance, however, all of the respondents indicated that the principal hospital at which they practiced obstetrics required them to have obstetrics malpractice insurance. Only one respondent had ever been named in an obstetrics personal injury suit and this claim was settled out of court with the insurance company.

CHAPTER 4

FAMILY AND GENERAL PRACTITIONER SURVEY RESULTS AND THE NORTH CAROLINA OBSTETRICAL PROVIDERS AND BIRTH CHARACTERISTICS INDEX

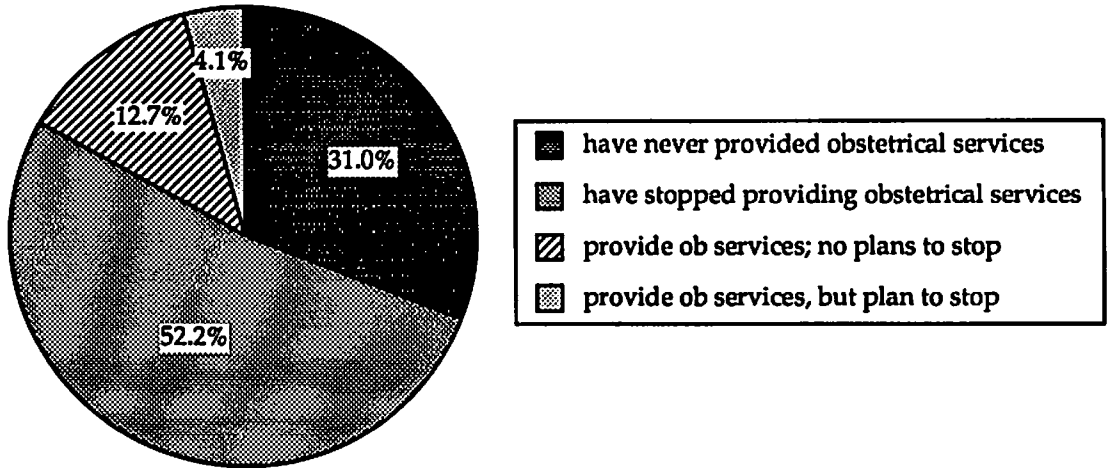
Overview

A survey of family and general practitioners was conducted by the Sheps Center for Health Services Research, University of North Carolina at Chapel Hill in association with the Office of Rural Health, North Carolina Department of Human Resources. A postpaid survey card was mailed to all active, licensed family and general practitioners in an effort to determine the availability of obstetrical services on a county-by-county basis. The survey was initially mailed on September 11, 1989 to the 1759 family and general practitioners, including residents in training, identified in the N.C. Board of Medical Examiner's license files as active in North Carolina. A follow-up mailing was sent to all non-respondents in mid-October and a telephone follow-up was conducted from November 1989 to February 1990; non-respondents in rural counties were a priority for the follow-up activity.

Of the 1759 physicians surveyed, 72 were excluded due to death, retirement, moving out of state, or not deliverable, leaving a total of 1687 physicians. The response rate was 799 of 1687 or 47.4%.

The survey was organized into two sections: one for physicians who do not provide obstetrical services and the other for physicians who do provide these services. Of the physicians responding to the survey and actively practicing medicine, 663 or 83% indicated that they did not provide obstetrical services at the time of the survey. Of those, 247 or 37.3% had never practiced obstetrics and the remaining 62.7% had stopped providing obstetrical care and had no plans to reinstate these services. The remaining 136 physicians or 16.8% of the respondents did provide obstetrical services. However, approximately one-fourth (33) of these had plans to stop providing obstetrical care in the near future. Two of the 136 physicians indicated they provided pre- or post-natal care only, and did no deliveries. Figure 1 shows the breakdown of respondents' delivery status.

Figure 1
Obstetrical Delivery Status of Family and General Practitioner Survey Respondents



The NC Obstetrical Providers and Birth Characteristics Index

In determining obstetrical access, knowledge about geographic birth patterns, infant mortality and the location of providers is necessary. A county-by-county inventory of obstetrical providers and birth characteristics (Table 1) was compiled in mid-1990 using data from the three phases of the NC Obstetrics Access and Professional Liability Study (obstetrician/gynecologists, certified nurse midwives and family/general practitioners; see Chapters 2 and 3). Data on resident births, occurrence births, and infant mortality were obtained from the NC Division of Statistics and Information Services. The county-by-county figures on obstetrical providers were reviewed for accuracy by the staff of the Division of Maternal and Child Health, NC Department of Environment, Health and Natural Resources and the Office of Rural Health and Resource Development, NC Department of Human Resources. The number of obstetrical providers in the inventory may not match the numbers from the NC Obstetrics Access and Professional Liability Study due to the additional data collection completed after the survey analysis had begun. Due to time and manpower limitations, nonmetropolitan counties were given priority in terms of arriving at an accurate count of obstetrical providers of all types and telephone calls were made to these counties' health departments to ascertain the number of obstetrical providers. Provider counts of family physicians delivering babies in counties in metropolitan statistical areas in particular may not be complete.

To determine how the geographic distribution of births relates to the location of obstetrical providers and obstetrical access, several ratios were calculated. First, providers for each county were assigned a weight based on estimates of the average number of deliveries performed per year for the

Table 1: NC Obstetrical Providers and Birth Characteristics Index

County	1989 occurrence births	1989 resident births	1989 occurrence births to residents	1989 % resident births out of county	1991 OB/GYNs delivering	1991 FPs delivering	1991 CNMs delivering	1991 Total Providers	1991 Total Providers Weighted
Alamance	1167	1535	1049	31.66	5	0	0	5	5
Alexander	1	351	1	99.72	0	0	0	0	0
Alleghany	2	99	2	97.98	0	0	0	0	0
Anson	272	391	262	32.99	0	0	0	0	0
Ashe	46	256	40	84.38	0	1	0	1	0.22
Avery	104	187	61	67.38	0	2	0.1	2.1	0.508
Beaufort	503	597	380	36.35	2	1	0	3	2.22
Bertie	2	309	2	99.35	1	2	0	3	1.44
Bladen	117	454	115	74.67	0	1	0	1	0.22
Brunswick	213	707	208	70.58	2	0	0	2	2
Buncombe	3142	2378	2265	4.75	15	14	1	30	18.76
Burke	1208	993	809	18.53	7	0	0	7	7
Cabarrus	1281	1403	866	38.28	3	2	0	5	3.44
Caldwell	417	961	398	58.58	3	0	0	3	3
Camden	0	96	0	100	0	0	0	0	0
Carteret	512	690	470	31.88	4	1	0	5	4.22
Caswell	4	269	3	98.88	0	0	0	0	0
Catawba	2270	1714	1583	7.64	12	0	0	12	12
Chatham	176	571	64	88.79	1	2	3	6	3.48
Cherokee	177	202	112	44.55	1	1	0	2	1.22
Chowan	411	170	156	8.24	2	0	0	2	2
Clay	0	71	0	100	0	2	0	2	0.44
Cleveland	1375	1349	1147	14.97	5	2	0	7	5.44
Columbus	673	783	591	24.52	2	0	1	3	2.68
Craven	1929	1589	1468	7.61	7	1	2	10	8.58
Cumberland	6859	5734	5575	2.77	22	5	1	28	23.78
Currituck	0	193	0	100	0	0	0	0	0
Dare	6	349	6	98.28	0.6	1	0.3	1.9	1.024
Davidson	1084	1693	963	43.12	7	0	0	7	7
Davie	3	298	3	98.99	0	0	0	0	0

data updated as of April 1991

Table 1: NC Obstetrical Providers and Birth Characteristics Index

County	1989 occurrence births	1989 resident births	1989 occurrence births to residents	1989 % resident births out of county	1991 OB/GYNs delivering	1991 FPs delivering	1991 CNMs delivering	1991 Total Providers	1991 Total Providers Weighted
Duplin	399	613	370	39.64	2	0	0	2	2
Durham	5035	3103	2925	5.74	38	8	5	51	43.16
Edgecombe	769	986	715	27.48	2	0	0	2	2
Forsyth	5656	3996	3739	6.43	40	4	0	44	40.88
Franklin	4	503	4	99.2	0	1	0	1	0.22
Gaston	2168	2722	1890	30.57	10	0	4	14	12.72
Gates	1	135	1	99.26	0	0	0	0	0
Graham	1	118	1	99.15	0	0	0	0	0
Granville	313	569	231	59.4	2	1	0	3	2.22
Greene	0	192	0	100	0	0	0	0	0
Guilford	6973	5289	5092	3.72	34	1	4	39	36.94
Halifax	968	925	682	26.27	5	1	0	6	5.22
Harnett	295	1265	224	82.29	2	4	0	6	2.88
Haywood	261	549	248	54.83	2	5	0	7	3.1
Henderson	778	824	614	25.49	5	0	0	5	5
Hertford	598	380	301	20.79	1	0	0	1	1
Hoke	0	460	0	100	0	0	0	0	0
Hyde	4	74	4	94.59	0	0	0	0	0
Iredell	1561	1398	1213	13.23	10	0	0	10	10
Jackson	941	306	289	5.56	2	5	0	7	3.1
Johnston	511	1255	490	60.96	0	3	0	3	0.66
Jones	3	151	3	98.01	0	0	0	0	0
Lee	842	650	374	42.46	3	0	0	3	3
Lenoir	843	823	680	17.38	4	0	0	4	4
Lincoln	456	699	374	46.49	2	0	0	2	2
Macon	2	243	2	99.18	0	0	0	0	0
Madison	3	181	3	98.34	0	0	0	0	0

data updated as of April 1991

Table 1: NC Obstetrical Providers and Birth Characteristics Index

County	1989 occurrence births	1989 resident births	1989 occurrence births to residents	1989 % resident births out of county	1991 OB/GYNs delivering	1991 FPs delivering	1991 CNMs delivering	1991 Total Providers	1991 Total Providers Weighted
Martin	176	352	114	67.61	1	0	1	2	1.68
McDowell	331	500	311	37.8	2	0	0	2	2
Mecklenburg	11881	8516	8398	1.39	68	5	4	77	71.82
Mitchell	185	170	95	44.12	0	3	0.3	3.3	0.864
Montgomery	232	382	211	44.76	0	3	0	3	0.66
Moore	1313	807	733	9.17	7	0	0	7	7
Nash	1418	1180	958	18.81	9	0	0	9	9
New Hanover	2778	1637	1611	1.59	18	0	0	18	18
Northampton	0	342	0	100	0	1	0	1	0.22
Onslow	3261	3374	3153	6.55	10	1	1	12	10.9
Orange	2139	1176	547	53.49	17	13	1	31	20.54
Pamlico	0	140	0	100	0	0	0	0	0
Pasquotank	942	510	464	9.02	4.4	0	0.7	5.1	4.876
Pender	1	403	1	99.75	0	0	0	0	0
Perquimans	0	153	0	100	0	0	0	0	0
Person	3	449	3	99.33	0	0	0	0	0
Pitt	2699	1719	1679	2.33	15	5	0	20	16.1
Polk	2	159	2	98.74	0	0	0	0	0
Randolph	493	1537	471	69.36	1	5	0	6	2.1
Richmond	437	666	394	40.84	3	0	0	3	3
Robeson	1234	1890	1133	40.05	4	0	1	5	4.68
Rockingham	1014	1204	827	31.31	4	2	0	6	4.44
Rowan	1171	1545	1090	29.45	5	3	0	8	5.66
Rutherford	765	820	658	19.76	3	0	0	3	3
Sampson	590	717	532	25.8	2	5	0	7	3.1
Scotland	941	568	481	15.32	2	1	0	3	2.22
Stanly	488	718	440	38.72	4	0	0	4	4
Stokes	13	481	11	97.71	0	0	0	0	0
Surry	752	833	539	35.29	3	6	0	9	4.32

data updated as of April 1991

Table 1: NC Obstetrical Providers and Birth Characteristics Index

County	1989 occurrence births	1989 resident births	1989 occurrence births to residents	1989 % resident births out of county	1991 OB/GYNs delivering	1991 FPs delivering	1991 CNMs delivering	1991 Total Providers	1991 Total Providers Weighted
Swain	4	203	4	98.03	0	0	0	0	0
Transylvania	264	291	233	19.93	2	1	0	3	2.22
Tyrrell	0	47	0	100	0	0	0	0	0
Union	757	1481	643	56.58	4	1	0	5	4.22
Vance	675	711	478	32.77	3.6	1	0	4.6	3.82
Wake	7731	6780	6506	4.04	37	1	1	39	37.9
Warren	0	238	0	100	0.4	4	0	4.4	1.28
Washington	97	217	73	66.36	0	0	0	0	0
Watauga	842	362	337	6.91	3	1	0	4	3.22
Wayne	1748	1693	1564	7.62	3	0	0	3	3
Wilkes	612	754	575	23.74	4	6	0	10	5.32
Wilson	1290	1018	941	7.56	6	0	0	6	6
Yadkin	132	384	115	70.05	0	4	0	4	0.88
Yancey	2	163	2	98.77	0	0	0.6	0.6	0.408
NC Total:	102752	102091	75395	26.15	511	143	32	686	564.22

data updated as of April 1991

Table 1: NC Obstetrical Providers and Birth Characteristics Index

County	occurrence births per provider	occurrence births per provider weighted	resident births per provider	resident births per provider weighted	NCORHRD ROMS county designation	1985-1989 Five Year IMR	% Resident Births Paid by Medicaid 1989
Alamance	233.40	233.40	307.00	307.00		9.32	26
Alexander	no providers	no providers	no providers	no providers	HI	8.96	21
Alleghany	no providers	no providers	no providers	no providers	LOW	13.33	12
Anson	no providers	no providers	no providers	no providers	HI	14.91	35
Ashe	46.00	209.09	256.00	1163.64	HI	10.55	42
Avery	49.52	204.72	89.05	368.11	LOW	6.24	35
Beaufort	167.67	226.58	199.00	268.92	HI	10.87	44
Bertie	0.67	1.39	103.00	214.58		12.86	55
Bladen	117.00	531.82	454.00	2063.64	HI	13.95	50
Brunswick	106.50	106.50	353.50	353.50	HI	7.08	45
Buncombe	104.73	167.48	79.27	126.76		9.02	30
Burke	172.57	172.57	141.86	141.86		8.95	19
Cabarrus	256.20	372.38	280.60	407.85		10.68	25
Caldwell	139.00	139.00	320.33	320.33	HI	13.50	26
Camden	no providers	no providers	no providers	no providers	LOW	5.31	39
Carteret	102.40	121.33	138.00	163.51		10.44	27
Caswell	no providers	no providers	no providers	no providers	HI	8.48	29
Catawba	189.17	189.17	142.83	142.83		12.66	19
Chatham	29.33	50.57	95.17	164.08		9.17	21
Cherokee	88.50	145.08	101.00	165.57		7.62	39
Chowan	205.50	205.50	85.00	85.00		5.35	36
Clay	0.00	0.00	35.50	161.36		8.36	34
Cleveland	196.43	252.76	192.71	247.98		14.55	31
Columbus	224.33	251.12	261.00	292.16	HI	13.42	43
Craven	192.90	224.83	158.90	185.20		11.40	21
Cumberland	244.96	288.44	204.79	241.13		12.58	23
Currituck	no providers	no providers	no providers	no providers	LOW	16.51	15
Dare	3.16	5.86	183.68	340.82	HI	5.89	11
Davidson	154.86	154.86	241.86	241.86		10.82	25
Davie	no providers	no providers	no providers	no providers		7.20	21

data updated as of April 1991

Table 1: NC Obstetrical Providers and Birth Characteristics Index

County	occurrence births per provider	occurrence births per provider weighted	resident births per provider	resident births per provider weighted	NCORHRD ROMS county designation	1985-1989 Five Year IMR	% Resident Births Paid by Medicaid 1989
Duplin	199.50	199.50	306.50	306.50	HI	13.08	44
Durham	98.73	116.66	60.84	71.90		12.11	28
Edgecombe	384.50	384.50	493.00	493.00	HI	16.69	49
Forsyth	128.55	138.36	90.82	97.75		13.35	28
Franklin	4.00	18.18	503.00	2286.36	HI	15.24	39
Gaston	154.86	170.44	194.43	213.99		12.31	27
Gates	no providers	no providers	no providers	no providers	LOW	15.22	39
Graham	no providers	no providers	no providers	no providers	LOW	8.44	51
Granville	104.33	140.99	189.67	256.31	HI	14.09	27
Greene	no providers	no providers	no providers	no providers	LOW	16.15	46
Guilford	178.79	188.77	135.62	143.18		13.20	29
Halifax	161.33	185.44	154.17	177.20		15.82	57
Harnett	49.17	102.43	210.83	439.24	HI	11.37	32
Haywood	37.29	84.19	78.43	177.10		8.30	30
Henderson	155.60	155.60	164.80	164.80		11.39	32
Hertford	598.00	598.00	380.00	380.00	HI	11.37	52
Hoke	no providers	no providers	no providers	no providers	HI	9.76	43
Hyde	no providers	no providers	no providers	no providers	LOW	14.79	55
Iredell	156.10	156.10	139.80	139.80		12.78	25
Jackson	134.43	303.55	43.71	98.71		12.69	48
Johnston	170.33	774.24	418.33	1901.52	HI	10.75	30
Jones	no providers	no providers	no providers	no providers	LOW	16.01	40
Lee	280.67	280.67	216.67	216.67		12.86	33
Lenoir	210.75	210.75	205.75	205.75		13.87	40
Lincoln	228.00	228.00	349.50	349.50		8.52	24
Macon	no providers	no providers	no providers	no providers		11.03	40
Madison	no providers	no providers	no providers	no providers	LOW	9.96	35

data updated as of April 1991

Table 1: NC Obstetrical Providers and Birth Characteristics Index

County	occurrence births per provider	occurrence births per provider weighted	resident births per provider	resident births per provider weighted	NCORHRD ROMS county designation	1985-1989 Five Year IMR	% Resident Births Paid by Medicaid 1989
Martin	88.00	104.76	176.00	209.52		10.49	46
McDowell	165.50	165.50	250.00	250.00	HI	11.72	31
Mecklenburg	154.30	165.43	110.60	118.57		12.18	27
Mitchell	56.06	214.12	51.52	196.76		5.54	36
Montgomery	77.33	351.52	127.33	578.79	HI	14.20	36
Moore	187.57	187.57	115.29	115.29		10.01	32
Nash	157.56	157.56	131.11	131.11		14.87	36
New Hanover	154.33	154.33	90.94	90.94		10.17	40
Northampton	0.00	0.00	342.00	1554.55	HI	17.25	53
Onslow	271.75	299.17	281.17	309.54		11.67	12
Orange	69.00	104.14	37.94	57.25		11.08	20
Pamlico	no providers	no providers	no providers	no providers	LOW	14.03	41
Pasquotank	184.71	193.19	100.00	104.59		9.56	35
Pender	no providers	no providers	no providers	no providers	HI	11.95	42
Perquimans	no providers	no providers	no providers	no providers	LOW	13.48	42
Person	no providers	no providers	no providers	no providers	HI	11.34	37
Pitt	134.95	167.64	85.95	106.77		15.44	42
Polk	no providers	no providers	no providers	no providers	LOW	18.79	23
Randolph	82.17	234.76	256.17	731.90		10.03	18
Richmond	145.67	145.67	222.00	222.00		14.97	38
Robeson	246.80	263.68	378.00	403.85	HI	13.51	49
Rockingham	169.00	228.38	200.67	271.17	HI	9.89	32
Rowan	146.38	206.89	193.13	272.97		11.19	21
Rutherford	255.00	255.00	273.33	273.33	HI	9.79	29
Sampson	84.29	190.32	102.43	231.29		11.83	49
Scotland	313.67	423.87	189.33	255.86	HI	12.64	52
Stanly	122.00	122.00	179.50	179.50		9.01	25
Stokes	no providers	no providers	no providers	no providers		7.70	17
Surry	83.56	174.07	92.56	192.82		12.53	27

data updated as of April 1991

Table 1: NC Obstetrical Providers and Birth Characteristics Index

County	occurrence births per provider	occurrence births per provider weighted	resident births per provider	resident births per provider weighted	NCORHRD ROMS county designation	1985-1989 Five Year IMR	% Resident Births Paid by Medicaid 1989
Swain	no providers	no providers	no providers	no providers	LOW	10.12	58
Transylvania	88.00	118.92	97.00	131.08		7.77	33
Tyrrell	no providers	no providers	no providers	no providers	LOW	13.56	66
Union	151.40	179.38	296.20	350.95		11.72	26
Vance	146.74	176.70	154.57	186.13		14.98	44
Wake	198.23	203.98	173.85	178.89		12.91	17
Warren	0.00	0.00	54.09	185.94		19.38	44
Washington	no providers	no providers	no providers	no providers	LOW	19.53	48
Watauga	210.50	261.49	90.50	112.42		7.58	31
Wayne	582.67	582.67	564.33	564.33	HI	10.69	30
Wilkes	61.20	115.04	75.40	141.73		13.03	25
Wilson	215.00	215.00	169.67	169.67		9.41	45
Yadkin	33.00	150.00	96.00	436.36		7.28	25
Yancey	3.33	4.90	271.67	399.51	LOW	6.80	32
NC Total:	149.78	182.11	148.82	180.94		11.95	

data updated as of April 1991

different types of providers. The NC Obstetrics Access and Professional Liability Study found that North Carolina obstetrician/gynecologists perform an average of 180 deliveries per year and certified nurse midwives practicing obstetrics perform an average of 123 deliveries per year. Data from surveys conducted by the North Carolina Academy of Family Physicians (Speros, 1991) and the American Academy of Family Physicians (AAFP, 1987) estimate that those family practitioners who pracitice obstetrics do an average of 40 deliveries per year. Using these averages, weights were assigned to providers as a percentage of the average number of deliveries per year for obstetricians; family physicians received a weight of 0.22 and certified nurse midwives a weight of 0.68.

An occurence birth-to-provider and an occurrence birth-to-weighted provider ratio was calculated for each county to determine the actual burden of obstetrical care that providers were incurring in their county of practice. Occurrence births are births occurring in the county, regardless of the county of residence of the mother. Resident birth data (births to residents of a county, regardless of where the birth occurred) are used in calculating infant mortality rates, so resident births-to-provider ratios and resident birth-to-providers weighted ratios were also calculated for each county for comparison purposes. The definitions and sources of data for the variables in Table 1 are listed in Table 2. The remainder of this chapter is devoted to the geographic analysis and description of these variables. Maps 1-12 referenced here are located at the end of the chapter.

Table 2
Definitions of Variables
Obstetrical Providers and Birth Characteristics Index
for North Carolina, 1989-91

County: is the county of practice of the provider. Where county of practice is unknown, county of residence is used. Source: Sheps Center-maintained files from NC Board of Medical Examiners, lists from NC Academy of Family Physicians, information from NC Department of Human Resources, Office of Rural Health and Resource Development (NCORHRD).

Occurrence Births: live births that occur in an area irrespective of place of residence. Live births occurring in an area to residents of the area are included in this count. Source: NC Vital Statistics, 1989, Vol. 1. NC Dept. of Environment, Health and Natural Resources, Division of Statistics and Information Services (DSIS), Center for Health and Environmental Statistics (CHES).

Resident Births: live births of residents of an area. Source: NC Vital Statistics, 1989, Vol. 1. NC Dept. of Environment, Health and Natural Resources, DSIS, CHES.

Occurrence Births to Residents : live births occurring in an area to residents of that area. Source: NC Vital Statistics, 1989, Vol. 1. NC Dept. of Environment, Health and Natural Resources, DSIS, CHES.

% Resident Births Out of County: derived by subtracting occurrence births to residents from total resident births and then dividing by total resident births. Source: NC Vital Statistics, 1989, Vol. 1. NC Dept. of Environment, Health and Natural Resources, DSIS, CHES.

OB/GYNs Delivering: information obtained from the NCRHRP NC Obstetrics Access and Professional Liability Survey of active NC OB/GYNs, OBs and GYNs conducted in June 1989 (residents in training not included). Additional information obtained from telephone follow-up to physicians' offices, county health departments and the NC Office of Rural Health and Resource Development in Spring 1990 for selected counties. NCORHRD provides updates on an ongoing basis for physician (both OB/GYN and FP) as well as CNM delivering status. OB/GYNs not responding to the NCRHRP survey or for whom no additional information was available were counted as delivering.

FPs Delivering: information obtained from the NCRHRP mailing to active NC FPs in September 1989 (residents in training not included). Additional information was obtained from the NCAFP Spring 1989 membership survey, as well as information from the NCORHRD for selected counties. FPs not responding to any surveys were NOT counted as delivering. Data for metropolitan counties especially may not be complete.

CNMs Delivering: information obtained from the NCRHRP NC Obstetrics Access and Professional Liability Survey conducted in September 1989. Additional information on location obtained on an ongoing basis from the NCORHRD.

Total Providers: the sum of OB/GYNs Delivering, FPs Delivering and CNMs Delivering. In some counties total will not be an integer due to practitioners' time being divided between counties.

Total Providers Weighted: Weights were assigned to FPs and to CNMs on the basis of comparing the number of deliveries/year of these providers to the number of deliveries/year for OB/GYNs. Information was based on estimates of deliveries for OB/GYNs and CNMs obtained from the NCRHRP Obstetrics Access and Professional Liability Survey, and on estimates for FPs from the American Academy of Family Practitioners for the years 1986-87. Compared to OB/GYNs' average of 180 deliveries/year, FPs average 40 deliveries per year and were given a weight of 0.22, CNMs average 123 deliveries/year and were given a weight of 0.68.

Occurence Births:Providers: Ratio of number of births occurring in a county per provider in that county.

Occurence Births:Providers Weighted: Ratio of number of births occurring in a county per "weighted provider" in that county.

Resident Births:Providers: Ratio of number of resident births per provider of a county.

Resident Births:Providers Weighted: Ratio of number of resident births per "weighted provider" of a county.

NCORHRD ROMS County Designation: HI designation if a) non-MSA or MSA county with no urbanized area (hereinafter referred to as "county") has total weighted providers ≥ 1 and occurrence births:provider weighted ratio ≥ 350 or resident births:provider weighted ratio ≥ 250; OR b) county has total weighted providers ≥ 0 but < 1 and occurrence births ≥ 350 or resident births > 250. LOW designation if a) county has total weighted providers ≥ 0 but < 1 and occurrence births:provider weighted ratio ≥ 350 or resident births:provider weighted ratio ≥ 250 but occurrence births < 350 or resident births < 250. Source: NC Department of Human Resources, Office of Rural Health and Resource Development.

Five-Year Infant Mortality Rate 1985-1989: the number of infant deaths occurring during the period 1985-1989 per 1000 live births occurring during the same period. Source: NC Vital Statistics, 1989, Vol. 1. NC Dept. of Environment, Health and Natural Resources, DSIS, CHES.

Percent Resident Births Paid by Medicaid, 1990: for births occurring within the state in 1990, the percent paid for by Medicaid by residence of the mother. Source: NC Department of Environment, Health and Natural Resources.

Location of Obstetrical Providers

Twenty-four counties in North Carolina were without obstetrical providers of any sort as of April 1991 (Map 1). These counties are scattered throughout the State and all but three (Stokes, Davie and Alexander) are counties which are not part of a Metropolitan Statistical Area (MSA). Many of the counties with no obstetrical providers are adjacent to MSA counties that do have obstetrical providers (such as New Hanover, Cumberland, Orange or Durham), or are adjacent to a non-MSA county with a tertiary care hospital with obstetricians on staff, such as Pitt County. Maps 2, 3 and 4 show locations of obstetrical providers by specialty and illustrate how they are concentrated in the State's MSAs. In 1991, one-third of the State's counties were without obstetrician/gynecologists delivering babies, over half of the counties had no family physicians willing to deliver babies and two-thirds of the certified nurse midwives doing deliveries were located in MSAs.

Where Are the Babies Being Born?

In 1989, 28 North Carolina counties had 95% or more of their resident deliveries performed out of county (Map 5). This means that at least 95% of the babies born to residents of these 28 counties were delivered in counties other than where they lived. Three of these counties are in MSAs, Alexander, Davie and Franklin, and there were not more than 13 births occurring in any of these 28 counties during the course of the year. Franklin county residents generally go to hospitals in neighboring Wake and Durham counties to deliver babies while Davie and Alexander county residents generally travel west to Forsyth and Iredell county, respectively. Ten of these 28 counties had no resident deliveries at all (100% out of county). Residents of these counties must go to adjacent counties or counties even farther away that have a hospital providing delivery services to have their babies. These 28 counties are generally located in the northeastern and western mountain regions of the state, and correspond to those hospitals that have no delivery services. Map 6 shows the status of NC counties regarding the availability of a hospital doing deliveries within each county.

It is interesting to note that less than half of these 28 counties had five year (1985-1989) infant mortality rates above the state average of 11.95 infant deaths per 1000 live births (see Map 10). Several metropolitan counties had infant mortality rates above the state average (Forsyth, Guilford, Wake, Mecklenburg and Durham). Having tertiary care hospitals that serve as referral centers for high-risk deliveries may account for these counties' higher infant mortality rates. High infant mortality is often associated with low birthweight, which is in turn linked to prenatal care and the availability of obstetrical providers. Ratios of births per provider in a county gives a picture of the

burden of obstetrical care and the potential problems in terms of access for women in that county when these ratios are high.

Map 7 shows where the births occur accross the State. The six major urbanized areas in the state accounted for the most number of births. These six counties accounted for 43% of the births in North Carolina in 1989. Almost three-quarters of the counties (73) had less than one thousand births per year, and as previously mentioned, there are 10 counties that had no births at all. Many eastern and western counties had very few births; these are also counties whose hospitals may not offer delivery services. Showing where the births are occurring in addition to where the residents are located who are having babies is useful in analyzing regionalization patterns of perinatal services.

The Burden of Care

The obstetrical providers who care for the births occurring in their county of practice have a wide range of "burden," defined here by the ratio of births occurring in each county to the providers in that county. Map 8 shows 16 counties where the ratio is over 210 births per provider, and these counties are concentrated in the middle and eastern parts of the state. Each of these sixteen counties had at least one obstetrician providing delivery services, although, as highlighted in Chapter 2, there is a wide range of backup for the delivering physicians, ranging from no other providers in the county to 27 other providers.

Calculating the weighted ratio of obstetrical providers to occurrence births in counties where there are providers (see Table 1) shows that there are 31 counties where the weighted ratio is 200 deliveries per year or greater (the average is 180/year for OB/GYNs). Of these 31 counties, 6 do not have a practicing obstetrician (Ashe, Avery, Bladen, Johnston, Mitchell, and Montgomery counties). Bladen and Ashe each have one family physician practicing obstetrics (equivalent to .22 of an OB/GYN based on number of deliveries) while Avery has 2 FPs and Johnston, Mitchell and Montgomery each have 3 FPs doing deliveries. Weights are generally used when comparing the obstetrical workload of obstetricians versus family physicians or nurse midwives in a specific area. However, in counties where there are no obstetricians for comparative purposes, the ratios using weights can easily be misconstrued.

Using weights to calculate and compare birth to provider ratios may not accurately represent many rural counties, since family physicians may be providing quite adequate obstetrical care in counties where there are no obstetrician/gynecologists. Giving these family physicians a weight of 0.22 of an OB/GYN is not representative; looking at unweighted ratios of occurrence births to obstetrical providers will produce a more realistic view of what is going on in many counties.

Since many vital statistics related to birth outcomes and health are based on the residence of the mother, it is interesting to compare how counties stack up when these factors are differentiated in birth to provider ratios. Map 9 shows the resident birth to provider ratios, and only 6 of the 16 counties

in the highest category in this map correspond to those in the top category of Map 8 which shows occurrence births to provider ratios. Portraying this type of data graphically helps to show how complicated analyzing birth and provider data can be, especially in determining areas of need. While one map shows provider burden by location of births, the other can be used in comparing residence of birth to incidence of low birthweight and infant mortality.

Infant mortality rates are often used in conjunction with resident births and numbers of providers in guaging a county's need for obstetrical manpower. Map 10 shows the five-year infant mortality rates for each county for 1985-1989. The state average for that five-year period was 11.95 deaths per 1000 live births. Forty-five counties had rates higher than the state average, and of those, a dozen had no obstetrical providers as of 1991. Fourteen of these 45 counties had less than 50 births occurring in the county, only 7 had occurrence births to provider ratios in the top category (210 or more births per provider) and 7 counties had resident births to provider ratios in the top category shown in the map (more than 280 births per provider). These comparisons are seen when looking at the infant mortality distribution compared to Maps 1, 7, 8, and 9. Not all the 45 counties were rural; the location and number of providers or births, as well as the obstetrical burden of providers may or may not help explain a county's infant mortality rate.

The Rural Obstetrics Manpower Shortage (ROMS) Program

In an effort to get physicians to practice in areas of primary medical care need, the North Carolina Office of Rural Health and Resource Development coordinates several programs. One such program is the Rural Obstetrics Manpower Shortage (ROMS) program within the High Needs Service Bonus Program (HNSBP). Along with the NC Student Loan Program, the HNSBP is designed to attract primary medical care physicians (family physicians, internists, obstetrician/gynecologists and pediatricians), mid-level providers (physician assistants, nurse practitioners and certified nurse midwives) to locate in certain high needs, hard to recruit for sites. As of October 1991, there were 83 opportunities in 39 counties (Bernstein, 1991). The ROMS program was developed to include providers locating in certain designated counties in any practice setting; there are currently 47 ROMS counties designated in the State.

ROMS county designations are made using county resident and occurrence births, practice location of delivering obstetricians, family physicians, and certified nurse midwives, along with the average number of births for each type of provider to generate weighted ratios of resident and occurrence births per obstetrical provider for each county. Rural counties and counties within Metropolitan Statistical Areas with no urbanized area plus Primary Care Health Professional Shortage Area (PC-HPSA) designation with resident births per weighted obstetrical provider ratios of greater than or equal to 250 and/or with occurrence births per weighted obstetrical provider ratios of greater than or equal to 350 are selected as experiencing an obstetrical manpower shortage for purposes

of determining eligibility for High Needs Service Bonus Program participation of delivering providers locating in these counties. The ROMS counties are prioritized based on indicated greater absolute numbers in need; higher priority counties must have 350 or more occurrence births or 250 or more resident births. Map 11 shows the 46 counties eligible for ROMS program participation as designated by the Office of Rural Health and Resource Development.

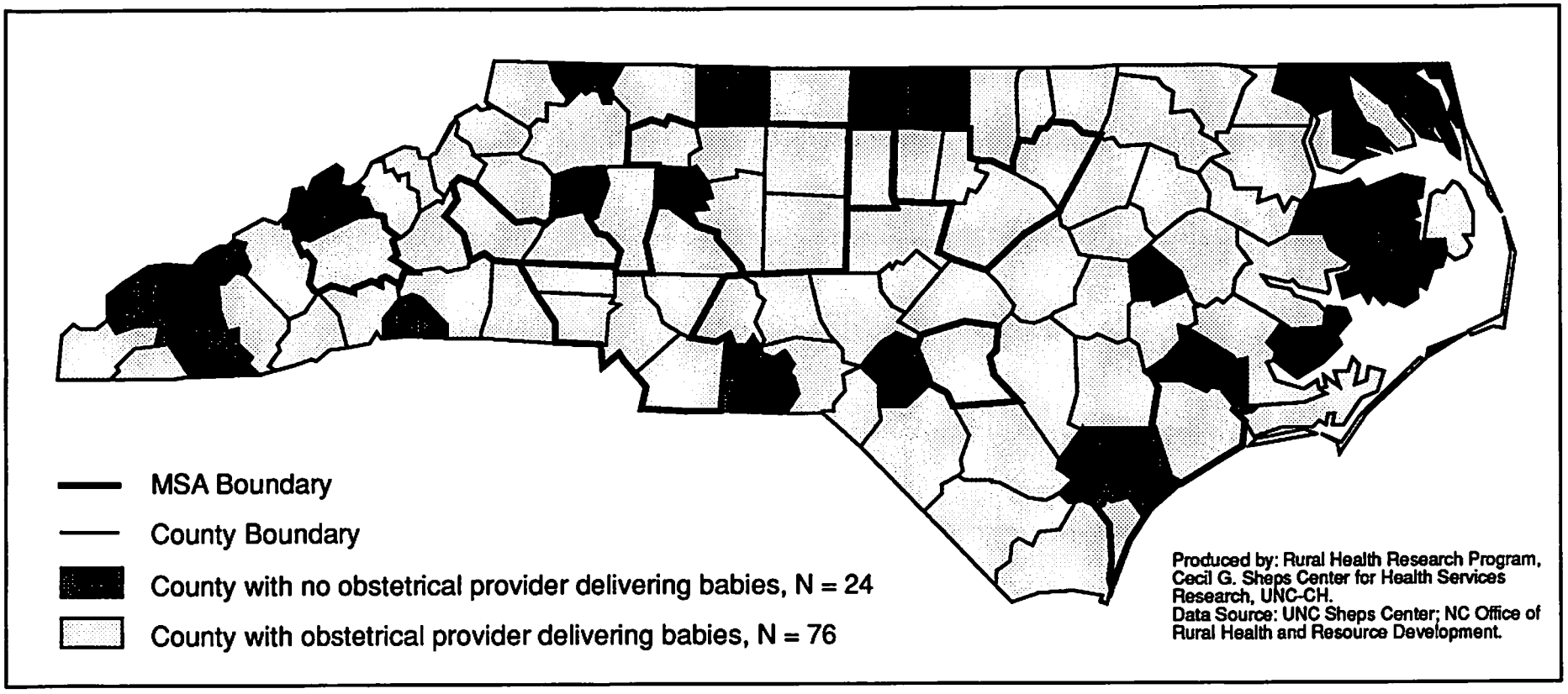
Medicaid and Access

Medicaid increased its reimbursement for prenatal care and delivery from $650 to $925 in 1989 and then to $1100 in 1990. The inadequacy of this reimbursement, especially in earlier years, is one reason why many North Carolina physicians stopped providing prenatal and delivery care to women on Medicaid. Private insurers in the state still have a higher reimbursement rate, but the recent increase enables physicians to recover some of the expenses incurred in providing care to the economically disadvantaged. Eligibility was also expanded to 185% of the poverty level, and this resultant increases in Medicaid participation among pregant women can be seen in Map 12 showing the distribution of Medicaid births across the state. The data for out of state births covered by Medicaid is not available; those counties bordering other states may actually have higher percentages of births paid by Medicaid than portrayed in the map. This map shows the majority of the eastern and northeastern counties as well as the westernmost tip of the state relying heavily on Medicaid as a payment mechanism.

A recent national analysis of Medicaid participation data showed that physicians respond to important policy variables, such as fee levels and eligibility criteria. In analyzing data from two comparable groups of physicians surveyed in 1977-78 and in 1984-85, it was found that physicians treated significantly more Medicaid patients when Medicaid fees were relatively high and when there was a relatively large number of people eligible for Medicaid in their area (Mitchell, 1991). While fee levels were not found to affect Medicaid participation of rural physicians, their high participation rates suggested that Medicaid patients already had ready access to care in rural areas. This results of this study suggest that physicians will respond positively to increased demand for services by the increased numbers of Medicaid eligibles and will agree to treat more Medicaid patients and be reimbursed at a higher rate.

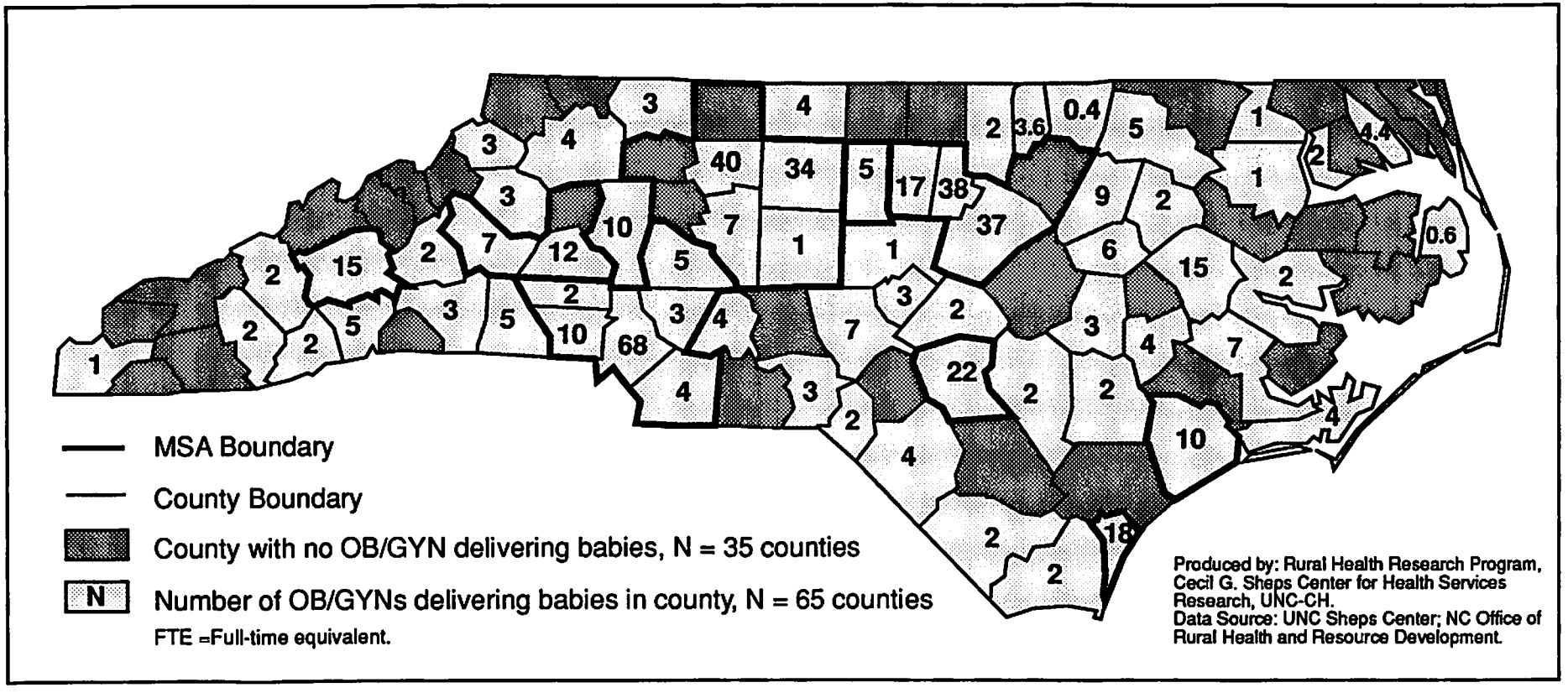
Map 1

Counties With No Obstetrical Providers Delivering Babies, 1991

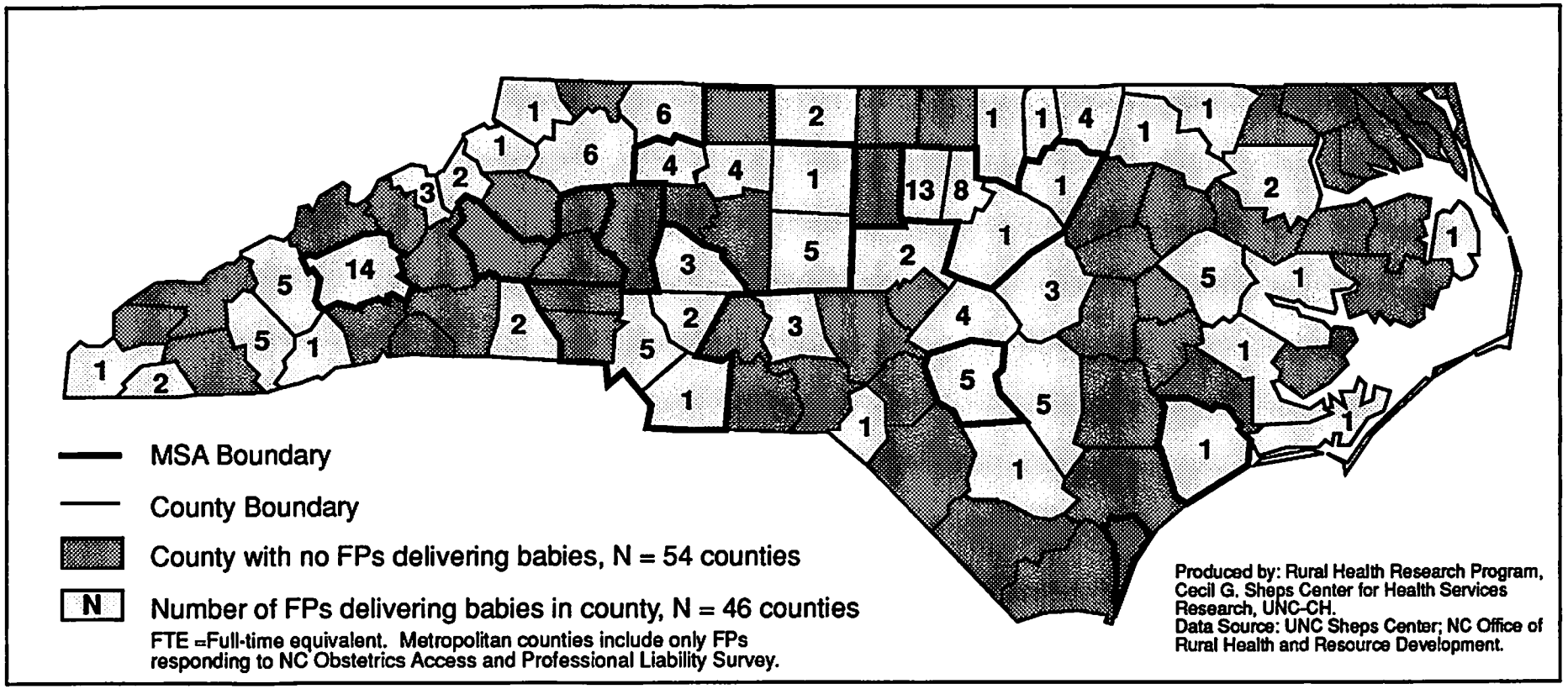


Map 2

Distribution of FTE Obstetricians Delivering Babies, 1991

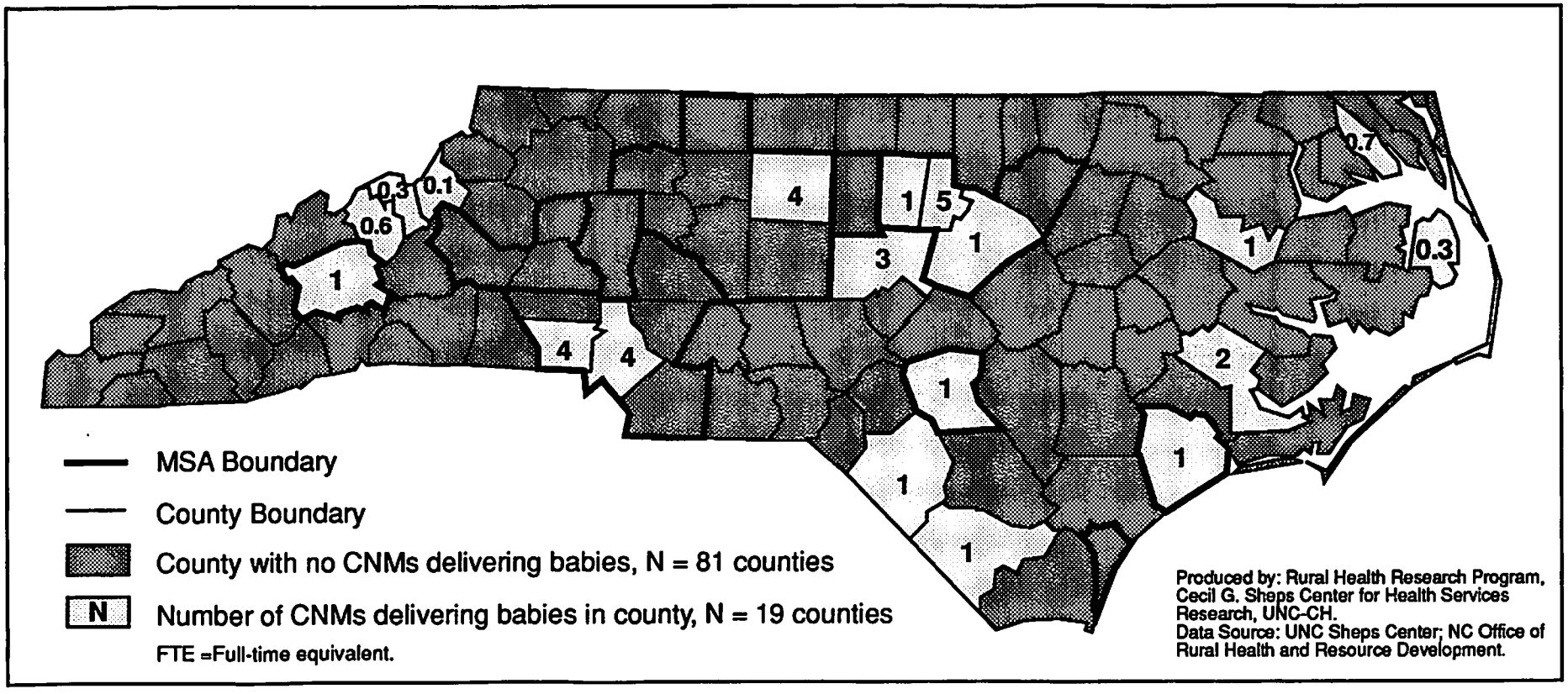


Map 3
Distribution of FTE Family Practitioners Delivering Babies, 1991



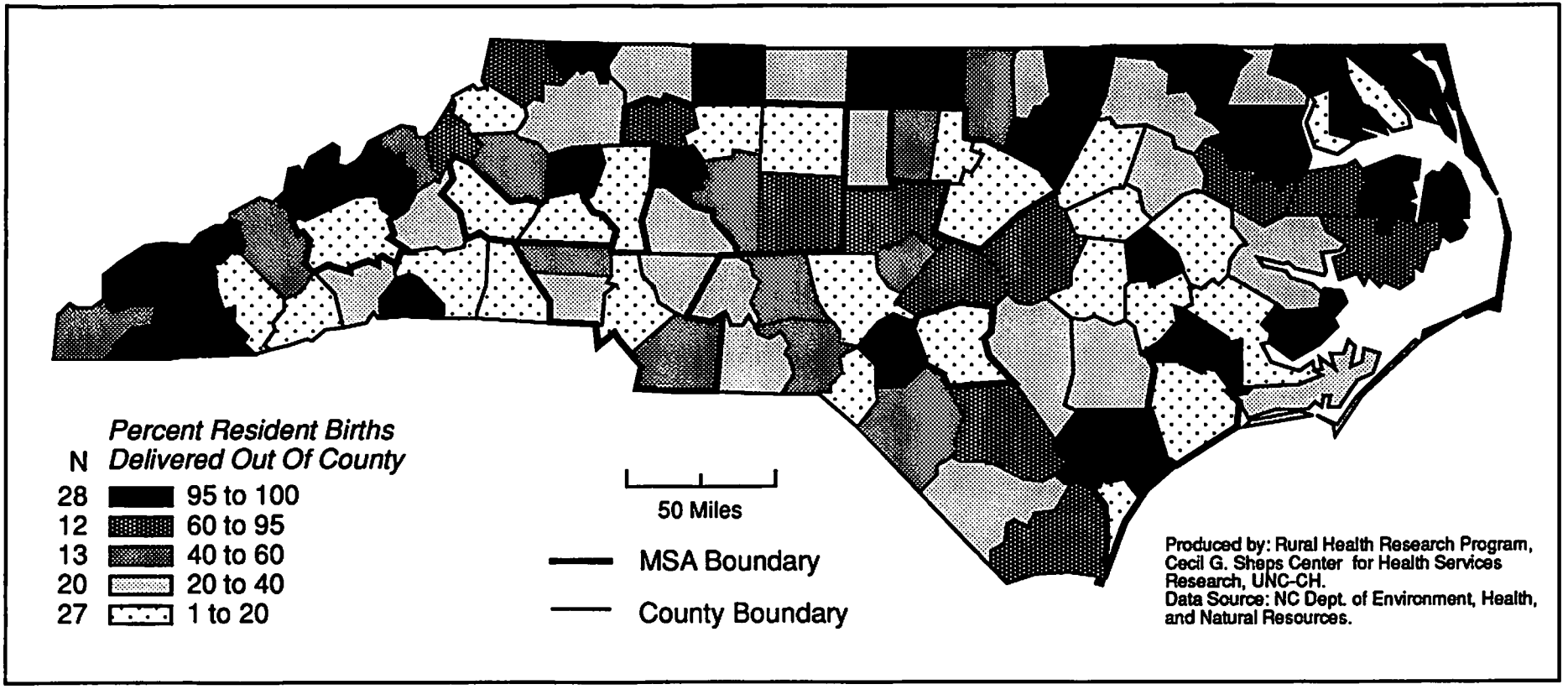
Map 4

Distribution of FTE Certified Nurse Midwives Delivering Babies, 1991

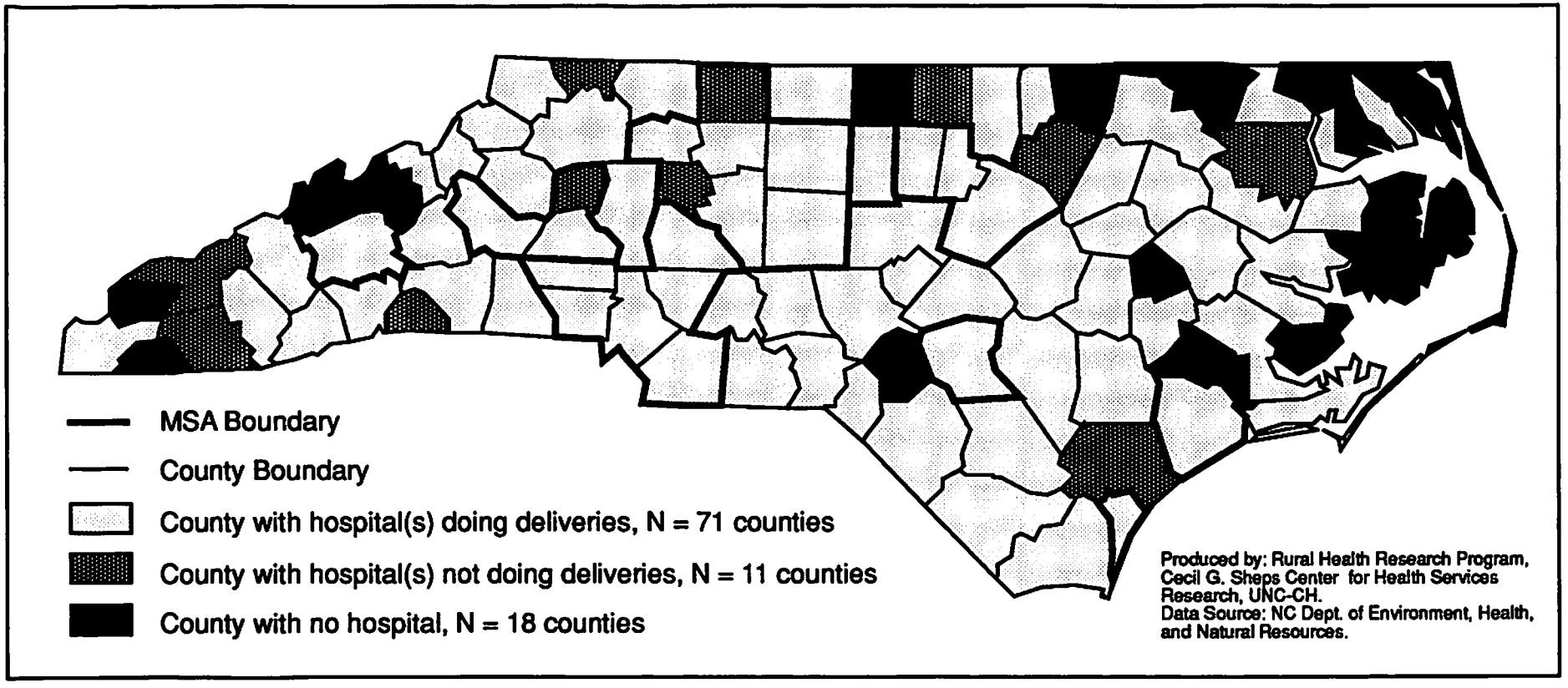


Map 5

Percent Resident Births Delivered Out Of County, 1989

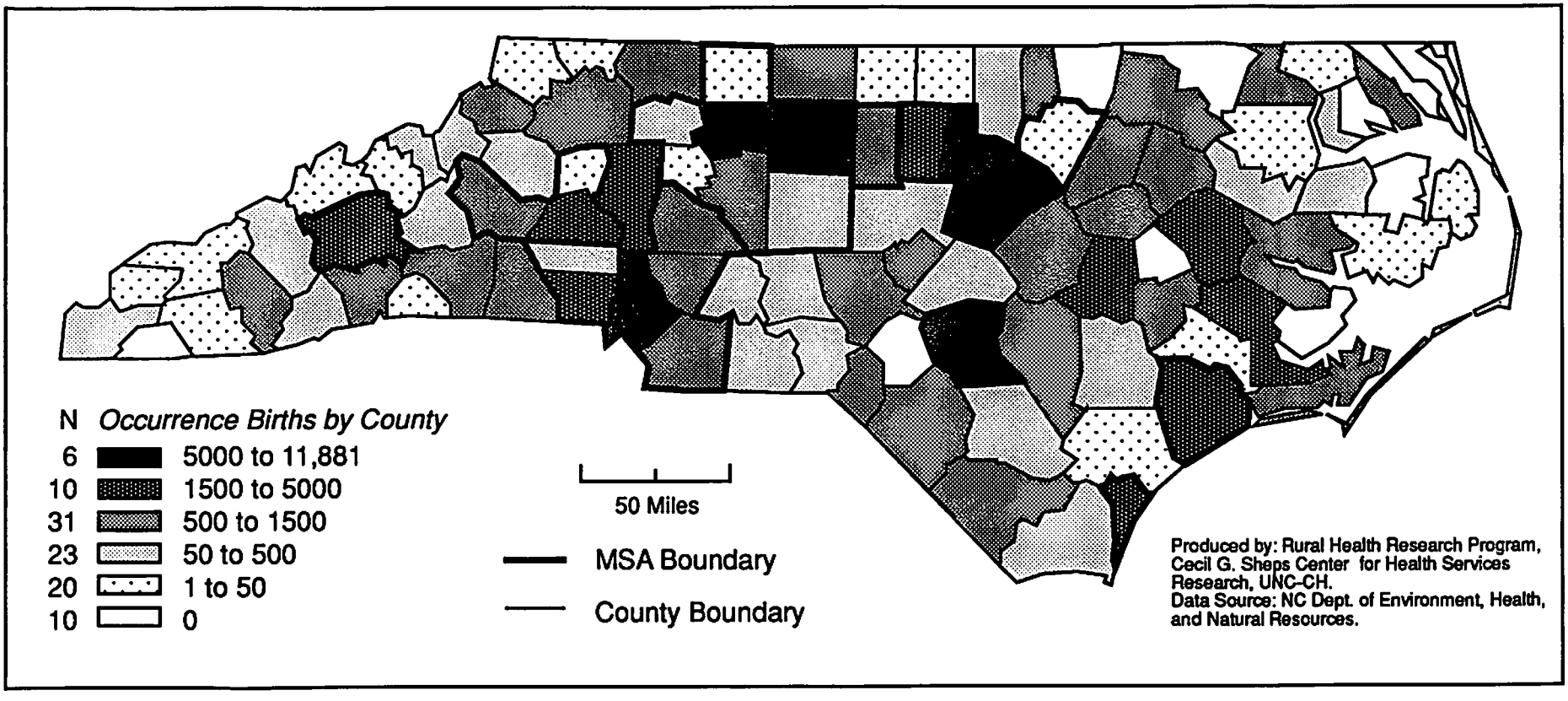


Map 6
Hospital Delivery Status By County, 1989



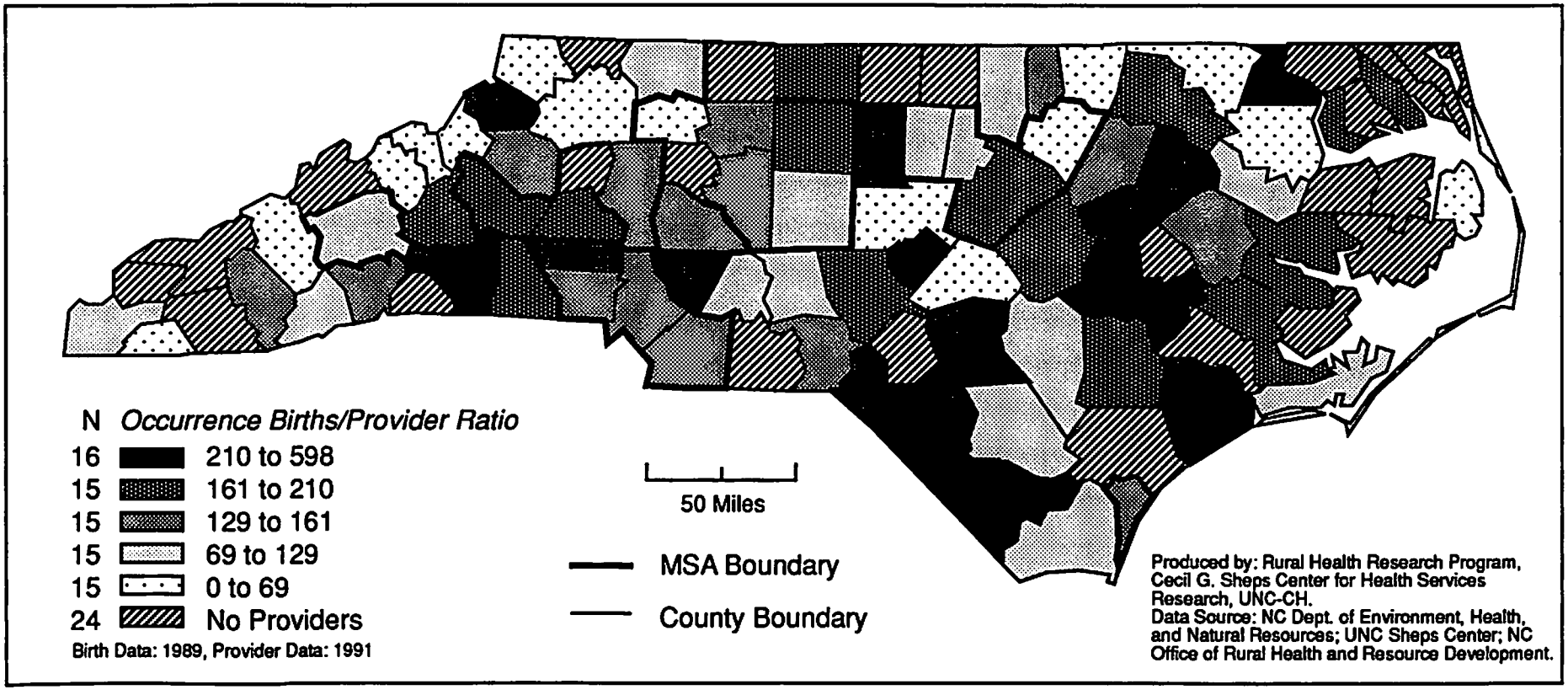
Map 7

Number of Births Occurring in Each County, 1989

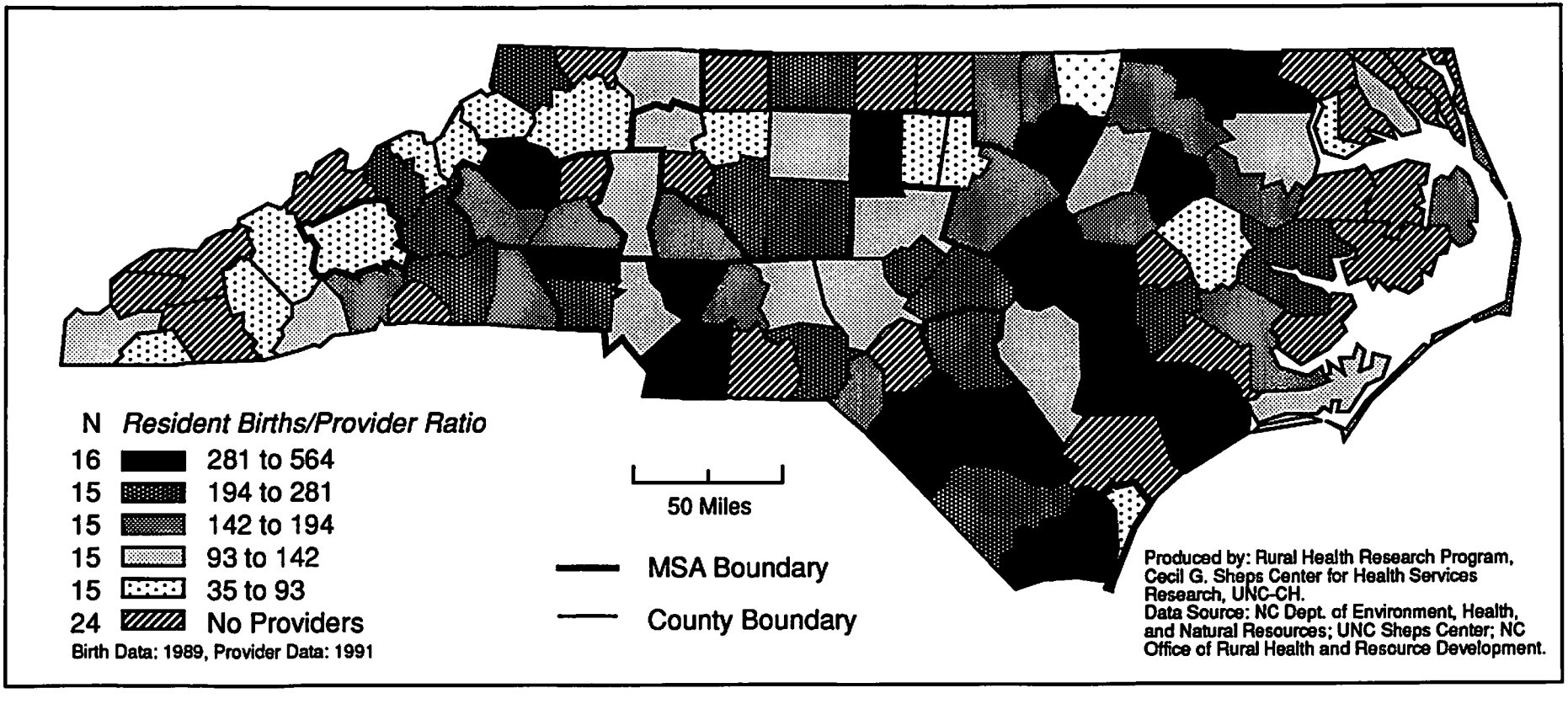


Map 8

Occurrence Births to Provider Ratio, 1989

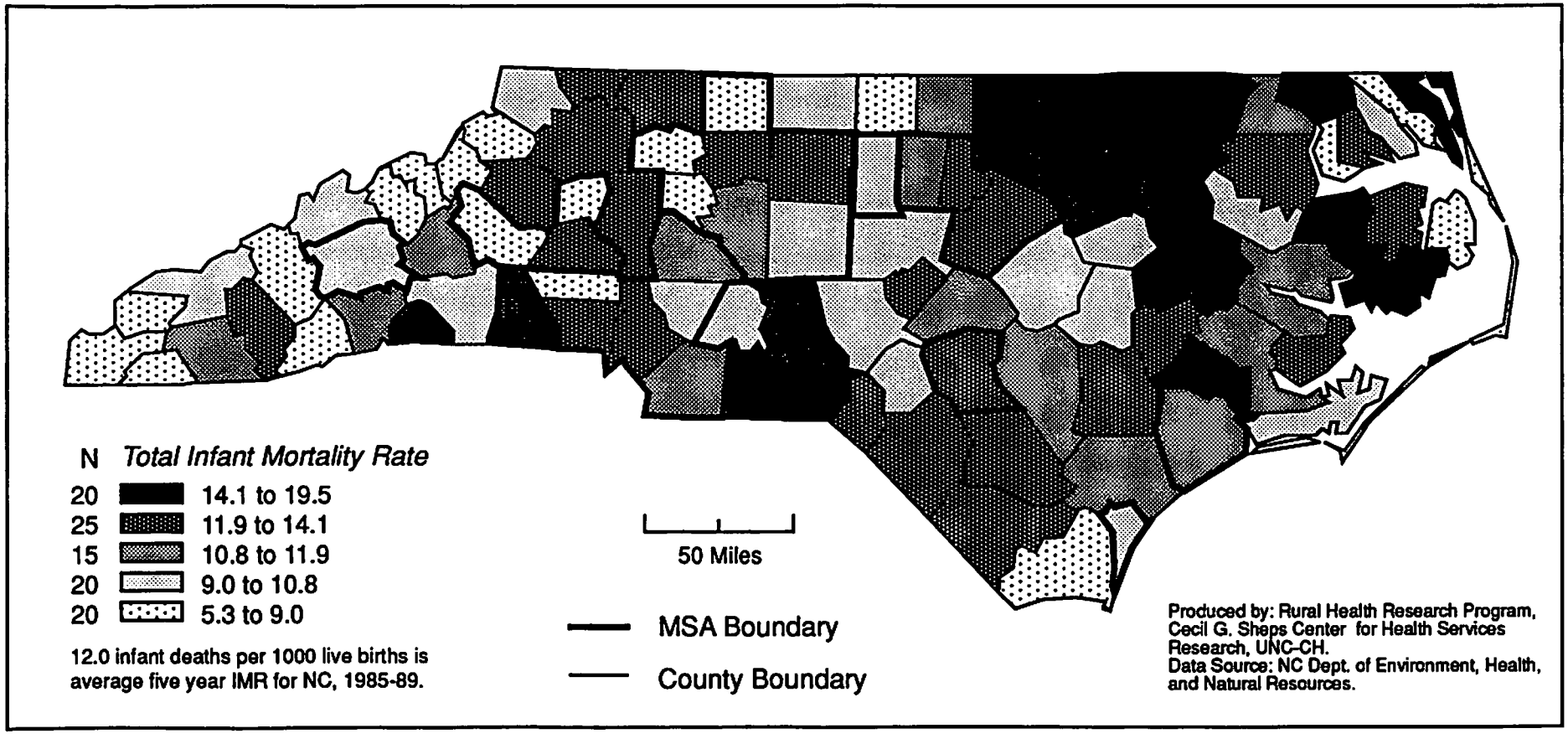


Map 9
Resident Births to Provider Ratio, 1989



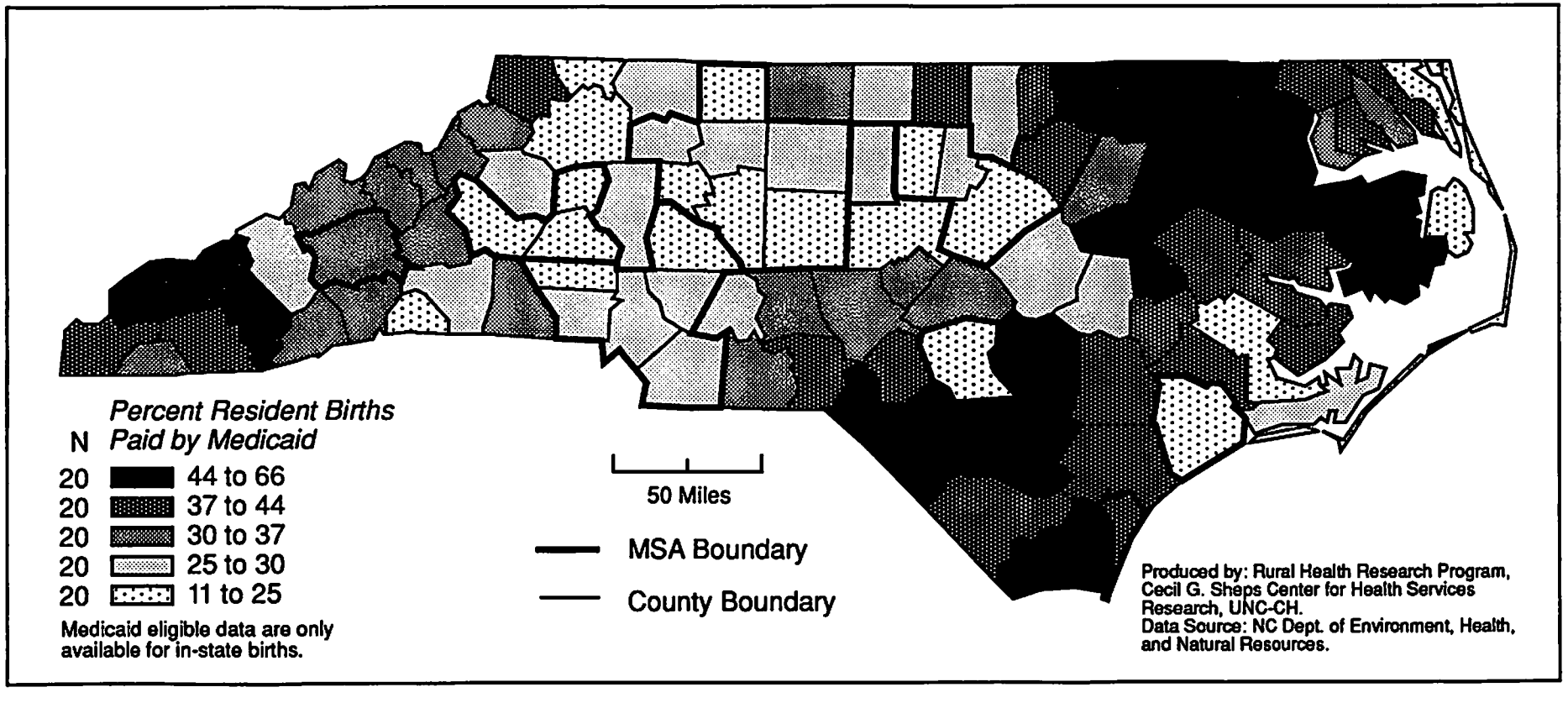
Map 10

Total Infant Mortality Rate, 1985-89



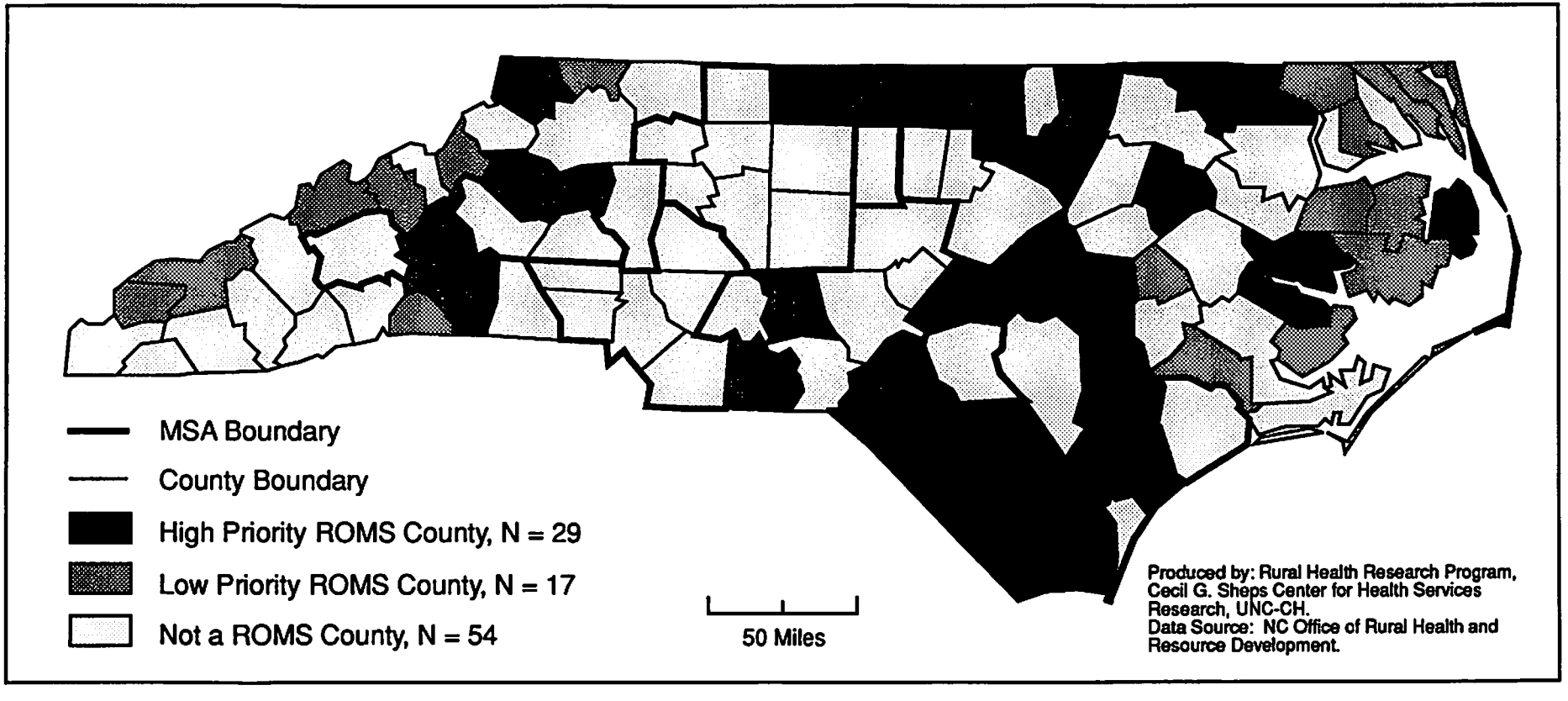
Map 11

Percent Resident Births Paid By Medicaid, 1989



Map 12

North Carolina Rural Obstetrical Manpower Shortage (ROMS) Counties, 1991



CHAPTER 5
TORT REFORM AND MEDICAL MALPRACTICE LIABILITY

In June of 1990, the North Carolina General Assembly considered legislation that would establish a "no-fault" insurance fund to provide financial compensation for those infants born with a birth-related neurological injury, which generally refers to cerebral palsy syndrome. As a part of this program, suits against the obstetricians delivering infants with a birth-related neurological injury would not be allowed to enter the tort system to seek damages or other compensation from obstetrical providers. One of the intents of the NC Obstetrics Access and Professional Liability Survey was to determine the impact upon physicians' practices of the implementation of a no-fault insurance fund. The results of the survey indicate that tort reform is seen by North Carolina OB/GYN physicians as likely to have only a marginal effect on the numbers and/or types of patients they see. Of those who responded that a no-fault insurance program would likely cause a change in their practice, its implementation was seen as leading to an increase in the number of Medicaid and high-risk patients for whom they would provide care. Providers in nonmetropolitan counties anticipated greater change in their patient caseload than providers in metropolitan counties. Results indicate that an increase in the Medicaid reimbursement level would influence a majority of obstetricians to increase their Medicaid patient caseload. Tort reform for cerebral palsy cases may not, in and of itself, improve access to obstetrical services in North Carolina, while other possible measures such as increases in Medicaid reimbursement levels may.

Background

The current medical professional liability situation in the United States most profoundly affects physicians providing obstetrical care. The number and severity of claims has in turn affected the price and availability of medical malpractice insurance (IOM, 1989) Between 1984 and 1987, malpractice premiums rose 70% for OB/GYNs across the United States. The expense and lower relative availability of medical malpractice insurance for obstetrical providers has had severe consequences on accessibility of their services, particularly for poor women and those living in rural areas (IOM, 1989) Every year, there are increasing numbers of OB/GYNs who cease to deliver babies. Surveys of the members of ACOG indicated that 9% stopped practicing obstetrics in 1983, 12.3% in 1985 and 12.4% in 1987 (ACOG, 1988) This trend is somewhat less pronounced in North Carolina, where 6.8% (n=28) of the OB/GYNs responding to the 1989 survey discussed in Chapter 2 of this report had stopped practicing obstetrics since 1986.

Family physicians, traditionally the primary providers of obstetrical care in rural areas, have also stopped providing obstetrical services in response to the increasing costs of liability insurance. The

American Academy of Family Physicians (AAFP) reported that 23.3% of its members had stopped practicing obstetrics by 1985 (AAFP, 1986). At the state level, the number of family practitioners providing obstetrical services in North Carolina dropped from an estimated 500 to 150 physicians between 1985 and 1988 causing severe shortages of obstetrical providers, particularly in rural areas (Lennon et al., 1990) The number of physicians providing obstetrical care in nonmetropolitan areas nationwide has dropped 20% in the last five years (IOM, 1989).

This chapter describes the problems of access to obstetrical services in North Carolina, with particular emphasis on the effects of a tort reform package that was introduced to the North Carolina General Assembly in the summer session of 1990. Tort reform in North Carolina will be analyzed in light of similar tort reforms already enacted in other states, namely Virginia and Florida, and other policy options to increase access to obstetrical care in North Carolina will be proposed.

Tort Reforms in Virginia and Florida, and the North Carolina Proposal

As a consequence of the rising costs of medical malpractice liability insurance, the period between 1985 and 1989 has been characterized as a time of "crisis" in obstetrical access because of a perceived and real problem with the cost of medical malpractice liability insurance. Every state, with the exception of West Virginia, has enacted some sort of tort reform in an effort to reduce the number and severity of medical malpractice claims and thereby bring down the high cost of medical malpractice insurance (IOM, 1989) These efforts have mostly involved limits on physician liability, *ad damnum* provisions, and limits on attorney's fees (*ad damnum* clauses disclose the amount of the award a plaintiff is seeking in a suit).

In 1976, North Carolina passed several reforms to be included in its tort law in an effort to curb the high cost of medical malpractice insurance (US GAO, 1986) These included a reduction of the statute of limitations for filing a malpractice claim, and the elimination of the use of *ad damnum* clauses for actions claiming over $10,000 in damages. However, none of the enacted tort reforms in North Carolina directly addressed the issue of skyrocketing obstetrical malpractice liability costs.

The most innovative tort reforms have been enacted in Virginia and Florida. In these states, claims involving birth-related neurological injuries, usually cerebral palsy syndrome, are compensated from an established fund on a no-fault basis (much like worker's compensation), thus taking such cases out of the tort system altogether. These plans vary slightly in how they are implemented, but more importantly in how they define a birth-related neurological impairment, as these definitions determine who would be eligible for compensation.

The Virginia Birth-Related Neurological Injury Compensation Act (Injured Infant Act of 1988) was the first such no-fault compensation law dealing solely with medical liability, and was passed in response to a very real obstetrical care crisis (White, 1988) In 1986, two of the State's medical malpractice liability carriers had declared they would no longer write new policies for obstetrical

providers and a third insurer stated that it was ending coverage of all obstetricians practicing in medical groups of ten providers or less. As a result, one out of every four obstetricians in Virginia was at risk of losing their malpractice liability insurance coverage upon expiration of their 1987 policies. The Medical Society of Virginia responded by drafting a bill that would take certain birth-related injuries out of the tort system, with the anticipated result being of smaller and more predictable jury awards and lower malpractice premiums. Since the bill was drafted in consultation with Virginia's malpractice insurance carriers, it was predicted that they would reenter the medical liability insurance market, as indeed they did within days after passage of the bill.

The Injured Infant Act of Virginia establishes a fund from which cases fitting the Act's definition of a birth-related neurological injury are compensated. Damages are not permitted to be sought through the tort system. Participation by obstetrical providers and hospitals in the program is not mandatory. The fund is maintained by a yearly assessment of $5,000 for participating physicians and a $50 fee for each delivery from participating hospitals. The fund is further enhanced by a $250 annual assessment from every licensed physician in the state. Those who participate are also required provide obstetrical care for the indigent through local health departments.

The Virginia statute defines "birth-related neurological injury" as "...an injury to the brain or spinal cord of an infant caused by the deprivation of oxygen or mechanical injury occurring in the course of labor, delivery or resuscitation in the immediate post-delivery period in a hospital which renders the infant permanently nonambulatory, aphasic, incontinent, and in need of assistance in all phases of daily living. This definition applies to live births only." The Virginia General Assembly, in its 1990 session, amended this definition to state that the injury must cause the infant to be permanently "motorically disabled and (i) developmentally disabled or (ii), for infants sufficiently developed to be cognitively evaluated, cognitively disabled." The 1990 amendment was intended to clarify rather than broaden the definition of types of infants protected by the fund (Goolsby, 1990).

As Virginia's was the first no-fault scheme of its kind to be enacted, it has received the most scrutiny. Brown (1989) notes that the definition of neurological injury in the Virginia Act may be too restrictive. When the Act went into effect in 1988, the rate of new claims for damages in the tort system dropped by two thirds. This may have been due to removal of some patients from eligibility for claims within the tort system due to the legislation. Also, potential claimants seeking damages from either the tort system or the fund may be waiting to take action, within the statute of limitations, for the constitutionality of the Act to be decided or the definition of eligibility for compensation in the Act to be broadened.

The Florida Birth-Related Neurological Injury Compensation Plan that went into effect on January 1, 1989 was drawn up much along the same lines of the Virginia Act and came about under much the same circumstances as had the Virginia program (Tedcastle & Dewar, 1988) The Florida Act states that in order to be eligible for compensation the infant must be "permanently and substantially

mentally and physically impaired." Unlike the Virginia Act, the Florida statute does not list specific disabilities (Brown, 1989).

Freeman and Freeman (1989), who first proposed that a no-fault compensation scheme be applied to cases of cerebral palsy, argue that those plans already in effect are not truly "no-fault" as they cover only those cases where the infant is most seriously handicapped and require that the neurological injury be the consequence of intrapartum damage. Their proposal would cover infants having a "nonprogressive motor handicap resulting from damage to the central nervous system at the time of or before birth that substantially interferes with a child's use of one or more of his or her arms or legs." In their proposal, no punitive damages would be awarded, and compensation would cover 80% of all handicap-related expenses up to $250,000 per child.

In 1989, the North Carolina General Assembly created the North Carolina Birth-Related Neurological Impairment Study Commission. The Commission's efforts came to fruition on June 4, 1990 when House Bill 2296 establishing the North Carolina Birth-Related Neurological Impairment Program (Birth Impairment Fund) was introduced in the North Carolina General Assembly. This bill proposed no-fault compensation for those born with a birth-related neurological injury. The Program would be placed under the Department of Environment, Health, and Natural Resources, the Secretary of which would appoint a director who would determine the eligibility of claims. The fund would be maintained by a $170 fee per delivery, of which 55% would be paid by the delivering physician and 45% would be remitted by the hospital or birthing facility where the delivery was performed.

The North Carolina proposal in HB 2296 defines a "birth-related neurological impairment" as "an impairment of the brain function of a person which occurred or could have occurred during pregnancy, before or during a delivery or in the immediate resuscitative period after a delivery, and which results in a nonprogressive inability to control motor function and renders the person chronically impaired A birth-related neurological impairment may be accompanied by one or more associated symptoms, including (i) vision, speech, hearing or learning difficulties, (ii) seizures, or (iii) behavioral and psychological problems. This definition shall not include disability caused by genetic abnormality." The North Carolina definition of a "birth-related neurological injury" was, by purpose, broadly drawn.

The NC Birth Impairment Fund bill was considered by the N.C. House Human Resources Subcommittee on Mental Health, Exceptional and Gifted People, where an amendment was added to the bill mandating that obstetrical providers accept Medicaid patients as well as cooperate with local health departments in the development of plans to provide "continuity and quality of care" to those patients eligible for Medicaid. From there, the bill was moved to the full House Committee on Human Resources, where despite much opposition, it was given a favorable report and referred to the full House for passage. Once on the House floor, the bill was removed from the calendar and sent to the

House Finance Subcommittee on Ways and Means, effectively killing the proposal for the 1990 legislative summer session.

NC Obstetrics Access and Professional Liability Survey

Chapter 2 gives a detailed description of the obstetrician survey conducted in 1989. Those surveyed were asked questions concerning their obstetrics practice status, patient load, Medicaid patient load, and whether or not they had delivered a child who had, or later developed, cerebral palsy. The medical malpractice liability crisis has been seen as partly responsible for limiting access of those on Medicaid to obstetrical providers and causing physicians to curtail their number of high risk deliveries. Because the proposed North Carolina Birth Impairment Fund is an attempt to alleviate the malpractice crisis, the survey was designed to measure the impact of such reform upon the practices of OB/GYNs. The survey included questions that covered access to obstetrical care for Medicaid, uninsured, and high-risk patients. The survey also investigated the effect of alternative policies such as an increase in the Medicaid reimbursement level. Those who were no longer practicing obstetrics were asked why they discontinued that part of their practice to determine if medical malpractice liability concerns had influenced their decision.

Results: Tort Reform and Practice Change

Respondents were asked the following: "A proposal is being prepared for consideration by the North Carolina General Assembly that will remove most cases of cerebral palsy from the tort system through the development of a fund to provide care for cerebral palsy patients. Do you think a system such as this would change your obstetrics practice?" Of those responding to this question (n= 319), 70% (224) responded that it would not change their practices while 30% (95) thought that it would do so (Table 1).

Table 1
Passage of Tort Reform: Changes in Obstetrics Practice

Would passage of tort reform change your practice?	Metro OB/GYNs		Nonmetro OB/GYNs		Total OB/GYNs	
	Number	Percent	Number	Percent	Number	Percent
YES	52	26.1	43	35.8	95	29.8
NO	147	73.9	77	64.2	224	70.2
Total	199	100%	127	100%	319	100%

The data suggest that the proposal would have greater influence among nonmetropolitan providers than among metropolitan providers; 36% of the nonmetropolitan compared to 26% of the metropolitan respondents thought their practices might change. Those who stated that tort reform

would lead to changes in their practices were asked how they felt it would do so in relation to certain aspects of their practice (Tables 2-5).

Table 2
Passage of Tort Reform: Effect on Number of Deliveries

How would passage affect your number of deliveries?	Metro OB/GYNs		Nonmetro OB/GYNs		Total OB/GYNs	
	Number	Percent	Number	Percent	Number	Percent
Number would decrease	2	4.1	1	2.5	3	3.4
Number would remain same	26	53.1	20	51.3	46	52.3
Number would increase	21	42.9	18	46.2	39	44.3
Total	49	100%	39	100%	88	100%

Table 3
Passage of Tort Reform: Effect on Number of High Risk Deliveries

Passage's effect on number of high risk deliveries?	Metro OB/GYNs		Nonmetro OB/GYNs		Total OB/GYNs	
	Number	Percent	Number	Percent	Number	Percent
Number would decrease	3	5.9	1	2.5	4	4.4
Number would remain same	19	37.3	14	35.0	33	36.3
Number would increase	29	56.9	25	62.5	54	59.3
Total	51	100%	40	100%	91	100%

Table 4
Passage of Tort Reform: Effect on Uninsured Patient Load

How would passage affect your uninsured patient load?	Metro OB/GYNs		Nonmetro OB/GYNs		Total OB/GYNs	
	Number	Percent	Number	Percent	Number	Percent
Number would decrease	1	2.0	0	0	1	1.2
Number would remain same	31	63.3	23	60.5	54	62.1
Number would increase	17	34.7	15	39.5	32	36.8
Total	49	100%	38	100%	87	100%

Table 5
Passage of Tort Reform: Effect on Medicaid Patient Load

How would passage affect your Medicaid patient load?	Metro OB/GYNs		Nonmetro OB/GYNs		Total OB/GYNs	
	Number	Percent	Number	Percent	Number	Percent
Number would decrease	1	2.0	1	2.6	2	2.3
Number would remain same	34	69.4	16	41.0	50	56.8
Number would increase	14	28.6	22	56.4	36	40.9
Total	49	100%	39	100%	88	100%

A majority of the physicians responding felt that the tort reform proposal would generate an increase in their number of high risk deliveries (59.3%). Most respondents also felt that the number of normal deliveries, Medicaid deliveries and uninsured deliveries would not be affected by passage of the proposal. There was not a substantial difference between metropolitan and nonmetropolitan respondents, except for the effect that passage of tort reform would have on Medicaid patient load. Fifty-six percent (56.4%) of the nonmetropolitan respondents felt that their Medicaid patient load would increase but only 28% of the metropolitan respondents foresaw an increase in the number of Medicaid patients they would see.

Deliveries per Month and Practice Change

Physicians were asked how many babies they delivered per month, on average. Overall, 55.9% (n=181) of all respondents delivered between 11 and 20 infants per month while 26.5% of those surveyed delivered between 6 and 10 infants per month. Twelve percent (12.4%) delivered more than 20 babies per month. Cross-tabulations were done on the number of deliveries by anticipated effects of tort reform on medical practice. The passage of tort reform was seen as affecting a greater percentage of nonmetropolitan physicians who deliver between 6 and 20 babies per month than their metropolitan counterparts delivering the same number of babies. Of the nonmetropolitan providers who are delivering between 6-10 and 11-20 infants per month, 39.3% and 36.8%, respectively, believed their practices would change under the proposed tort reform, as opposed to 24.1% and 23.8% of the metropolitan providers delivering the same numbers of babies.

Medicaid Patient Load

Physicians were asked to indicate their policies regarding the provision of prenatal and delivery care to Medicaid patients. Table 6 shows the breakdown between nonmetropolitan and metropolitan respondents. Over three quarters (78%) of the nonmetropolitan physicians provide care to

Medicaid patients while a little over half (53%) of the metropolitan physicians provide care for these patients.

Table 6
Provision of Obstetrical Care to Medicaid Patients

Provision of prenatal and delivery care to Medicaid pts	Metro OB/GYNs		Nonmetro OB/GYNs		Total OB/GYNs	
	Number	Percent	Number	Percent	Number	Percent
do not provide	96	47.3	27	22.1	123	37.9
provide to a limited number	64	31.5	34	27.9	98	30.1
provide to an unlimited no.	43	21.2	61	50.0	104	32.0
Total	203	100%	122	100%	325	100%

Cross-tabulations were done between those who stated their practices would change under tort reform (Table 1) and their responses to the volume of Medicaid patients they served (Table 6). Thirty-two of the 98 OB/GYNs (33%) who provided care to a limited number of Medicaid patients would also see their practices change under tort reform. Fifteen of the 34 nonmetropolitan physicians (44%) who provided care to a limited number of Medicaid patients would also see their practices change under a no-fault insurance scheme while 17 of 64 metropolitan providers (26.6%) who provided care to a limited number of Medicaid patients would see their practices change in some way under a tort reform proposal.

Ob/gyns were also asked if they would increase their Medicaid patient load for prenatal and delivery care if the reimbursement level were raised to $1,200 per Medicaid birth. Of the 303 obstetricians who responded to this question, 177 (58.4%) stated they would increase their Medicaid caseload should the reimbursement level be raised, while 126 (41.6%) indicated they would not do so (Table 7).

Table 7
Increase in Reimbursement Level and Medicaid Patient Load

Would you increase your Medicaid caseload if reimbursement for deliveries were raised to $1200?	Metro OB/GYNs		Non-metro OB/GYNs		Total OB/GYNs	
	Number	Percent	Number	Percent	Number	Percent
YES	98	53.3	79	66.4	177	58.4
NO	86	46.7	40	33.6	126	41.6
Total	184	100%	119	100%	303	100%

A metro/nonmetro comparison shows that two-thirds of OB/GYNs practicing in nonmetropolitan counties would increase their Medicaid patient load if the reimbursement level were raised, while only 53.3% of the metropolitan providers would make a change in Medicaid caseloads.

Cerebral Palsy Deliveries

An effort was made to estimate the number of cerebral palsy deliveries in the last three years in the State. Forty-five percent (45.6%) of the respondents reported delivering a cerebral palsy infant at some time during their practices and 66 of these physicians reported delivering a total of 141 cerebral palsy infants in the last three years (Table 8).

Table 8
Cerebral Palsy Deliveries in North Carolina

Have you delivered a child with cerebral palsy?	Metro OB/GYNs		Nonmetro OB/GYNs		Total OB/GYNs	
	Number	Percent	Number	Percent	Number	Percent
YES	82	41.8	62	51.7	144	45.6
NO	114	58.2	58	48.3	172	54.4
Total	196	100%	120	100%	316	100%

Of these 66 physicians, 44 (66.6%) indicated they had delivered one child with such a condition in the last three years and 13 providers stated they had delivered two infants who were subsequently diagnosed with cerebral palsy. Four OB/GYNs had delivered three infants with cerebral palsy, and three providers reported having delivered four, five, and ten infants with cerebral palsy, respectively. Two OB/GYNs stated they had delivered 20 infants in the last three years who had the condition or later developed it. Applying this rate to all OB/GYNs known to deliver babies in North Carolina would produce an estimate of approximately 80 cerebral palsy syndrome births per year in North Carolina. The North Carolina Medical Society estimates there are from 100 to 200 infants born with cerebral palsy each year based on an incidence of one to two cerebral palsy births per 1,000 annually, and an average of about 100,000 births per year in this State (Bruton, 1990) This compares to an annual estimate by United Cerebral Palsy of North Carolina, Inc. of 150 infants born each year with cerebral palsy in this State (Everest, 1990) The estimate derived from the NCRHRP survey may be low for a number of reasons. First of all, there was a lower response rate among OB/GYNs in the largest metropolitan counties where high-risk births are more likely to occur because of the location of tertiary care centers; secondly, this figure does not include births attended by other obstetrical providers such as family practitioners or nurse midwives.

Of the survey respondents who had delivered a child with cerebral palsy sometime in their careers (N=144), almost 70% (100 MDs) felt a tort reform proposal would not change their numbers of

deliveries or their caseload regarding uninsured or Medicaid patients. A metropolitan/nonmetropolitan comparison, however, shows that 40.3% of the nonmetropolitan physicians versus only 22% of the metropolitan physicians indicated that passage of a no-fault insurance fund would affect their practice in some way.

Only thirteen providers who had delivered a child within the last three years indicated that delivery of a child with cerebral palsy had later resulted in a malpractice claim. Four of these claims were settled out of court, two favored the obstetrician, five claims are pending and two are still being considered. Six of the seven nonmetropolitan obstetricians who had experienced a claim said tort reform would change their practices in some way but only two of the six metropolitan OB/GYNs indicated that tort reform would influence their practices. The effects of tort reform appear ambiguous even among those few physicians who have had claims brought against them for a cerebral palsy delivery.

Analysis of Respondents No Longer Practicing Obstetrics

In an effort to find out if malpractice premiums or liability issues influences physicians' decisions to stop practicing obstetrics, cross-tabulations were run on the 47 respondents who were no longer delivering babies as of June 1989. Physicians were asked to rank the three most important factors influencing their decision to stop delivering babies, and 43 of the 47 who no longer deliver provided this information.

Fear of an obstetrics malpractice lawsuit did not seem to be the most important factor; only five (12%) mentioned it as the most important factor compared to 10 respondents (23%) indicating the inconvenience of obstetrical practice (long hours, on-call, etc.) as being the most influential factor in their decision to stop delivering babies. The increasing cost of malpractice insurance was cited by 7 (16%) of the respondents and only 3 (7%) reported that an ongoing or prior obstetrics lawsuit was the most important factor in their decision to stop providing obstetrical services.

Summary

It is the expectation of North Carolina physicians practicing in the specialty of obstetrics/gynecology that the implementation of a tort reform law such as that proposed in HB 2296 would not greatly influence the practice patterns or patient demography of most obstetricians. Passage of the proposed tort legislation would have a potential impact on a greater proportion of nonmetropolitan providers delivering 6-11 babies per month than their metropolitan counterparts, or physicians delivering either less than six or more than eleven babies per month. A majority of providers who stated that their practices would change under tort reform felt that the changes would be reflected in an increase in their number of high risk deliveries.

The provision of obstetrical care to Medicaid patients and the effects of an increase in the reimbursement level for Medicaid deliveries were shown to differ between metropolitan and nonmetropolitan physicians. Over three-quarters of nonmetropolitan physicians provide obstetrical care to Medicaid patients while a approximately half of the metropolitan physicians do so. Similarly, two-thirds of the nonmetropolitan physicians compared to about half of the metropolitan physicians felt an increase in reimbursement for Medicaid deliveries would lead them to increase their Medicaid caseload.

Of the survey respondents, 144 physicians had at some time delivered a child who had, or who was later diagnosed as having, cerebral palsy, and 70% of these physicians felt tort reform would not change their numbers of deliveries or caseload regarding uninsured or Medicaid patients. However, there were discrepancies with regard to rurality, with 40% of the nonmetropolitan respondents and only 22% of the metropolitan respondents indicating that passage would affect their practices. This difference of opinion is again reflected in those 13 physicians out of 66 whose cerebral palsy delivery in the last three years resulted in a lawsuit. Most of the nonmetropolitan (86%) physicians versus only one third of the metropolitan physicians involved in lawsuits felt that tort reform would indeed lead to changes in their practices.

Among those who ended their obstetrics practice, only 5 of 43 (12%) listed fear of a lawsuit as the most important reason they ended their obstetrics practice compared to 23% (N=10) who stated the inconvenience of an obstetrics practice as the most influential reason leading them to end that part of their practice. Only three (7%) OB/GYNs reported an ongoing or prior lawsuit as the most influential reason for ending their obstetrical practices.

Conclusions

North Carolina has enacted limited tort reform in order to stem the medical malpractice crisis. Tort reforms active in other states, such as limiting awards, capping attorney's fees, and pretrial screening panels, may also be viable for North Carolina; however, the effectiveness of such legislation in the encouragement of obstetrical providers as a whole to maintain their practices is still being debated. Upon review of the research, the National Academy of Science's Institute of Medicine concluded that while certain tort reforms in some states may have had some success, particularly in limiting the size of malpractice awards, they have not succeeded as a whole in restraining the negative impact that the tort system has had on the provision of obstetrical care. In a regional study, however, Rosenblatt et al (1990) concluded that tort reforms in Washington, Alaska, Montana, and Idaho may have decreased the rate at which providers left obstetrical practice.

As tort reforms are being considered, other steps beyond those of adjusting the legal environment may be useful in the encouragement of OB/GYNs and other obstetrical providers to increase access to their services. For example, an increase in the reimbursement rate for Medicaid deliveries was seen in

this study as causing OB/GYNs to provide care for those patients covered by Medicaid. Though not fully evaluated as yet, the Rural Obstetrical Care Incentive (ROCI) program may also increase access to the delivery of obstetrical care since the program reimburses selected rural physicians for their malpractice premiums (Langholz & Ricketts, 1989).

The North Carolina Birth-Related Neurological Impairment Program, as it is currently drawn, may or may not influence practitioners to change their practices, depending upon the final structure of the bill. For example, the assessment the provider is charged per birth may be cost-prohibitive and affect provision of care to indigent mothers and/or those on Medicaid by making those patients unprofitable to the provider. How liability insurers will respond via malpractice premiums to such legislation is also uncertain. If there is little or no decrease in malpractice premium rates, the assessment required for the Birth Impairment Fund would remain particularly unpopular and would further hinder the willingness of providers to care for the uninsured or those on Medicaid. Mandatory Medicaid participation as amended to the Birth Impairment Fund bill may make this aspect of tort reform unpopular as well.

A careful review of the impact of similar legislation in Virginia and Florida needs to be undertaken to better predict the influence of a no-fault medical liability insurance plan in North Carolina. Two areas that must be carefully investigated are the definitions of eligibility for the Fund, and the response of liability insurers to the legislation. The issue of eligibility was of major importance in the General Assemblies of Florida and Virginia (White, 1988; Tedcastle & Dewar, 1988). Too broad a definition regarding eligibility for compensation may result in depletion of the funds, while too narrow a definition would make the programs ineffective. The North Carolina definition of "birth-related neurological impairment" is, in keeping with its purpose, more inclusive than both the Florida and Virginia definitions. It has been estimated that 100-200 infants per year may be entitled to compensation under the proposed fund (Bruton, 1990). This extremely wide range of potential claimants to the proposed North Carolina fund may be problematic. Indeed, in the debates concerning the North Carolina plan, actuarial soundness of the proposed North Carolina Birth Impairment Fund has been the area of most concern (Ready, 1990).

CHAPTER 6

THE NORTH CAROLINA RURAL OBSTETRICAL CARE INCENTIVE PROGRAM

This chapter analyzes the current medical malpractice crisis by focusing on a policy initiative by the State of North Carolina designed to alleviate the problem. Rising malpractice premiums and fear of litigation influence many family physicians and obstetricians' decisions to provide obstetrical care or not. This is especially evident in rural areas, where family physicians are often the only source of obstetrical care, and where obstetricians tend to practice solo or in small groups without the technical backup provided by large, metropolitan medical centers. In response to the outflow of physicians from obstetrical practice, the North Carolina General Assembly in 1988 passed the Rural Obstetrical Care Incentive Bill (ROCI), designed to encourage practitioners to provide obstetrical care in underserved areas. In return for their services, the state compensates physicians for the difference between the costs of malpractice with and without obstetrical practice, or $6,500, whichever is less. This chapter outlines the context of that program in North Carolina and suggests approaches for its evaluation and application in other states.

Program Goals and Aims

The most general goal of the ROCI program has been to increase access to obstetrical care for poor, rural women in North Carolina. Initially, the program was designed to provide financial incentive to return to obstetrics to those physicians who had discontinued obstetrical care in rural areas. The expectation was that if the financial incentive was great enough, many physicians might resume their obstetrical practice. As program funding was cut, so was the expectation that the funding could entice physicians to resume their obstetrical practice. In essence, the money provided by the program went to secure private or public obstetrical care in rural areas.

Another goal of the program is to increase the coverage which currently exists at many local health departments. It is hoped that by funding physicians to provide care at local health departments, current waiting times will decrease, and more residents will have access to adequate obstetrical care in their county. Ultimately, the program would like to have the funds to ensure that every resident in every county in North Carolina has access to either public or private prenatal services, regardless of ability to pay. In order to meet this goal, more money must be made available, which is the intent of subsequent ROCI legislative requests.

Background of the Bill

The North Carolina Rural Obstetrical Care Incentive bill (HB2424) was introduced into the North Carolina House on June 15, 1988 (for text of bill see Appendix D). The concept of the bill originated in 1985, after the North Carolina Academy of Family Physicians (NCAFP) lost appeals

over high malpractice premiums, both to Medical Mutual Insurance Co. and to the North Carolina Insurance Commission (Henley, 1988).

After formulating the concept, the idea was given to Southern Strategy, a North Carolina lobbying group which represents NCAFP's interests. To help ensure the bill's chances of passing in the legislative session, Southern Strategy focused on one bill, introduced by one member, into one house of the legislature. House Representative Robert Hunter was selected, not only because of his past support for family physician issues, but also for political reasons such as his association with the speaker of the House and the chairman of the Appropriations Committee, whose combined support for the bill was essential. In addition, Representative Hunter represented a county in which there was a shortage of family physicians providing obstetrical care, so the issue directly affected his constituency.

The bill encountered mild resistance in the House, as some Representatives felt that lack of obstetrical care was more a county than state concern. This opposition was overcome and the bill was referred to the Senate Appropriations Committee, which decreased the amount of funding to $240,000 from the $960,000 specified in the original bill (Wright, 1988). The bill was folded into a larger appropriations bill, Senate Bill 257, Chapter 1086; the relevant text is found in Appendix E.

Specific Provisions of the Bill

Senate Bill 257, Chapter 1086 sets aside $240,000 from the General Fund provided to the Division of Human Resources to fund a pilot program "to compensate family physicians and obstetricians who agree to provide prenatal and obstetrical care in counties which are underserved in respect to these services." (North Carolina Senate, 1988) While the bill contained general guidelines to govern the program, specific rules were to be issued by the Commission for Health Services. The Division of Health Services was responsible for establishing and evaluating the program under the guidelines and rules established by the Commission, as well as for reporting back to the chairmen of the House and Senate Appropriations Committees.

Underserved areas

The phrase "underserved areas with respect to obstetric care" is critical to the understanding of the provisions of the bill. As noted in both bills (Appendices D and E), power was given to the Commission for Health Services to adopt rules governing the provisions set forth in the bill. The administrative authority given to the commission by the bill enables it to publish temporary rules effective for up to 180 days. These rules were drafted by the North Carolina Division of Health Services' attorneys, and were published in the North Carolina Administrative Code (Koetzy, 1988). Sections 8B.0900 to 8B.0906 of these codes contain the rules regulating Rural Obstetrical Care Incentive Funds (NC Commission for Health Services, 1988). Of specific interest are the definitions regarding underserved counties with regard to obstetrical care. Rules limit the amount of compensation for

liability premiums any one underserved county can receive to $19,500. A county is considered underserved with respect to obstetrical care if the county meets one or more of the following, listed in order of importance:

1) There are no public or private prenatal services available within the county.

2) There is no public or private prenatal clinic available within the health department, hospital or primary care center that serves low-income pregnant women within the county.

3) There is a public prenatal clinic, but no physician to staff the clinic, or to provide back-up to physician extenders.

4) The county has inadequate obstetrical coverage demonstrated by such factors as a waiting list of twenty-eight calendar days for an appointment to a public prenatal clinic or 50 percent or more of resident live births occurring outside the county.

5) Implementation of these rules would preserve county obstetrical services threatened with discontinuation.

Regulations regarding physicians

Initially, the house bill (HB2424) sought to appropriate $950,000 from the state's general fund to the Department of Human Resources, but in the final version of the bill (S257) the amount was trimmed to $240,000. There is no record of the formula used to estimate costs of the legislation nor the costs of meeting all obstetrical access needs described in the legislation. The Commission of Health Services adopted temporary rules listing regulations regarding the maximum compensation for physicians in underserved counties, which is either the difference in the premiums they pay in order to provide obstetrical care, or $6,500, whichever is less. The compensation is based upon a mature rate of $1,000,000/$1,000,000 (per occurrence/aggregate limit) coverage, with disbursement to be through the Maternal and Child Health Branch of the Division of Health Services. The Bill restricts coverage to private practice physicians and specifically excludes federally-employed physicians or physicians employed by "an institute of higher learning." No mention of National Health Service Corps private practice option or community health center physicians was included. In return, the physician must provide prenatal care to all women whom they see, regardless of economic status and ability to pay, although they are not required by the bill to provide care which is beyond their professional level of competence.

Program Expansion

The ROCI program began in 1989, with the program year running from January 1, 1989 through December 31, 1989, although funding for the program was appropriated on a fiscal year basis with the fiscal year running July 1, 1988 through June 30, 1989. As already mentioned, the program received $240,000 in its first year which was available to be distributed to physicians who met all the program's requirements. In the first year, 51 doctors participated through 21 county health departments to provide prenatal and delivery services to women seeking care through the health departments (Map 1). For the second program year, an additional $1 million was requested for expansion of ROCI, but this was denied and the program was funded at the same level in 1990 as it was in 1989. By the third year of the program, 1991, funds available more than doubled for the program, and it was funded at $540,000, a $300,000 increase over the previous years, although $2 million was requested for the program. This increase allowed the program to expand to include 44 health departments and 121 physicians (Map 2).

Another change took place in 1991 when certified nurse-midwives (CNMs) were added to the ROCI program. Under the present rules, a CNM is eligible to receive up to $3000 per year. As with physicians, the level of individual funding is determined by the difference between a CNM's insurance premium with and without coverage for deliveries, or $3000, whichever is less. The role that CNMs play in the ROCI program is highlighted in the forthcoming North Carolina Rural Health Research Program's ROCI Evaluation Report.

The ROCI program has continued to expand in spite of severe budgetary constraints which the State of North Carolina has faced in recent years. During the 1991 General Assembly session, as many programs were being cut, the ROCI program almost doubled, so that $1,040,000 will be available in its fourth year of operation. The Office of Rural Health and Resource Development will receive $30,000 for recruitment purposes, and the remainder will be distributed using the same rules as previous years. Without any rule changes, the number of counties participating in ROCI will have to increase to 54 from the present 44 if all the program dollars are to be distributed with each county eligible to receive the full $19,500.

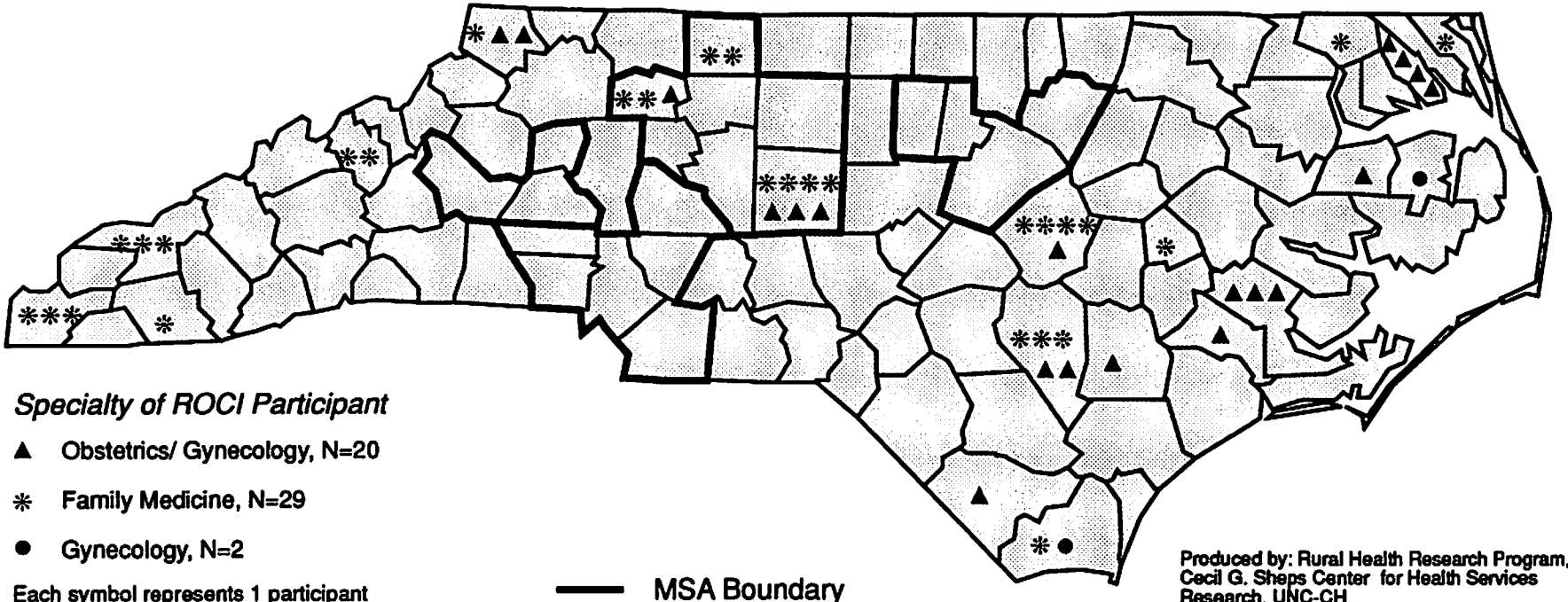
Estimated Impact of the Rural Obstetrical Care Program

Malpractice costs

Can the North Carolina Rural Obstetrical Care program decrease the impact of malpractice costs on obstetrics? The program was proposed to provide relief for physicians against the high cost of malpractice, but many issues need to be considered in evaluating the potential of this legislation. First, family practitioners must consider the coverage they personally need. The legislation specifies that compensation is to be calculated based upon a minimal amount of coverage ($1,000,000/$1,000,000), and

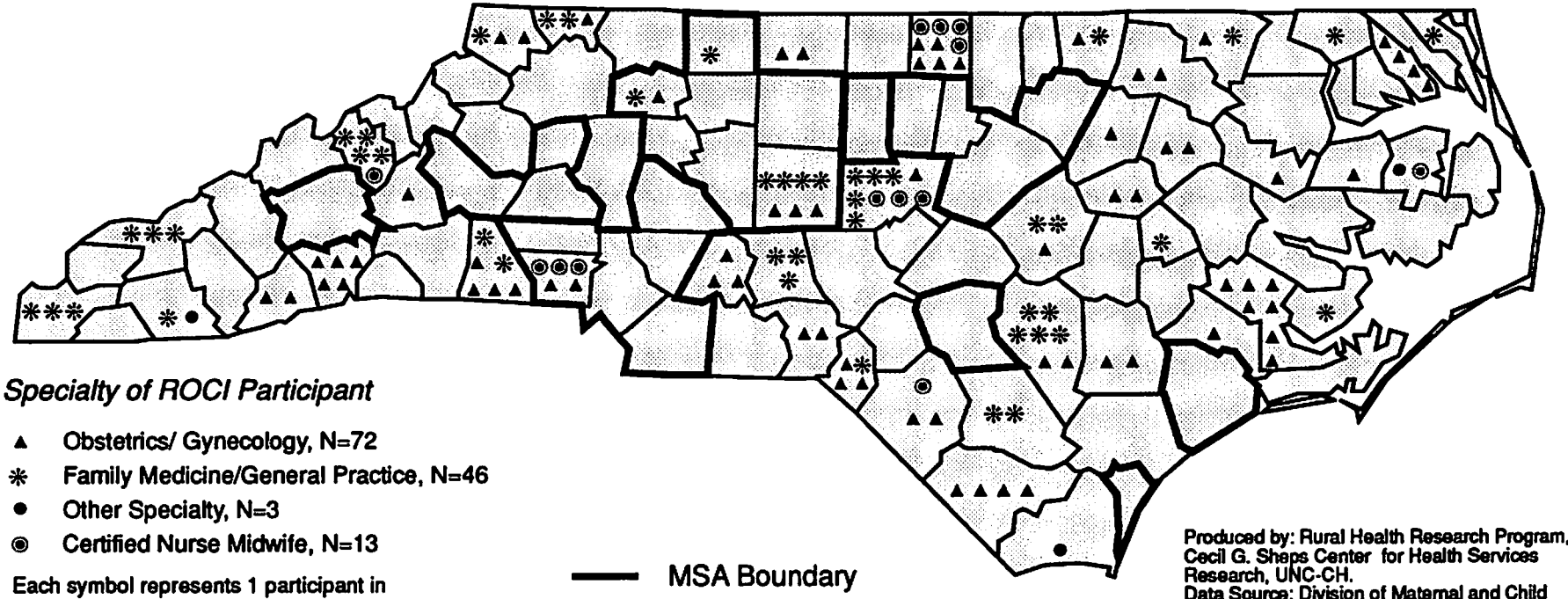
Map 1

ROCI Program Participants by County, 1989



Map 2

ROCI Program Participants by County, 1991



therefore might not provide significant assistance to those physicians who choose to carry more comprehensive coverage. Additionally, the fact that obstetrics is one of the easiest practices in which to file a malpractice lawsuit poses a substantial threat which tends to outweigh the compensation provided (Mitchelson, 1988).

Second, by accepting compensation, a family physician has to provide prenatal care to all women, within his professional competence. By increasing his patient base, especially by incorporating low income patients, a family physician may increase his exposure to poor obstetrical outcomes. Since lower income patients are frequently in poor health, physicians may find that they face poorer outcomes and perhaps increased liability with these mothers. While the coverage may appear adequate, the potential increased risk must be estimated and weighed.

In general, the ROCI legislation approaches the malpractice crisis by attending to its most obvious symptom, premium charges. The bill does not approach the root of the problem, however, which involves the high number of lawsuits, increased awards settlements, and an insurance industry which may not have been closely regulated. Family physicians worry that after they have accepted state compensation the state could then drop its compensation package, which will leave them no better off than they currently are, and with the additional problem of having to buy supplementary tail insurance coverage should they decide to quit practicing again.

A theory has been advanced that the reduction of the total number of physicians who provide obstetrics may have a secondary positive effect, as those who continue to practice will become increasingly more proficient in providing quality care, thereby decreasing the number of lawsuits (Rosenblatt & Detering, 1988). While this theory may contain some truth, a decrease in the physicians practicing obstetrics, especially in rural areas, might have devastating effects on access to care; this is the situation which the North Carolina Rural Obstetrical Care Incentive program was intended to address.

Estimated impact on the extent of obstetrical service

At the time the bill was introduced, there were twenty-two counties in North Carolina that had no physicians providing maternity care and another twenty in which half the expectant mothers leave the county for obstetrical care (NC House, 1988). Will this new law result in the provision of the needed care in these counties? Providing compensation for liability insurance may be one piece of the puzzle, although with the level of compensation provided it cannot solve the problem single-handedly.

Many factors influence whether or not a family physician will decide to provide obstetrical services. If a community happens to have an obstetrician/gynecologist available or is within twenty-five miles of a family practitioner, it is likely that that physician will not be inclined to resume obstetrics there, and that a new family physician will not feel the need to practice OB there (Tietze, et

al., 1988) Another consideration is the diversification of the physician's patient base. As the mix of payer types becomes more complex, there is increased financial incentive to provide obstetrical services, because more patients will have better insurance coverage or the ability to pay more out-of-pocket (Gordon, et al., 1987)

If the physician is fairly new in practice, has at least a four-month rotation in obstetrics during residency training, and is part of a group practice, s/he is likely to continue the provision of obstetrical services (Henley, 1988). On the other hand, family physicians historically only provide obstetric services for five to ten years after residency; if tail coverage policies are not brought under control, or compensation provided for family physicians, many will not be inclined to start obstetrical care upon graduation from residency training (Rosenblatt & Wright, 1987).

A final characteristic which might influence physicians is the commitment of the state to continue the ROCI program. The fairly constant expansion in spite of fiscal hard times seems to point to a program which is politically popular and fairly secure in its likelihood of being funded in the future. The viewpoint of several members of the General Assembly is that the ROCI program allows the legislature to respond to the malpractice insurance crisis, the lack of physicians delivering babies in rural areas and poor infant mortality statistics simultaneously, for a relatively small amount of money.

Evaluation of the ROCI Program

There has been some disagreement among interested parties about the way in which the success or failure of the ROCI program should be measured. Some have conceived of the program as being a means of recruiting physicians to locate and practice obstetrics in rural areas of the state, implying that the success or failure of the program be measured by its ability to attract physicians, who would not otherwise have done so, to rural and underserved areas. Another view is that the program was not intended to be a recruitment tool, but a intermediate measure designed to slow the attrition rate of physicians abandoning their obstetrics practices in rural, underserved areas. This viewpoint suggests that the success or failure of the program not be judged solely on the number of new physicians moving to rural North Carolina, but on its ability to solidify the care available in a county at the inception of the program. Measures important in illustrating the program's ability to do this are changes in the availability of prenatal care through health departments, the rate at which physicians leave health departments or drop obstetrical services from their practices, and the relative ease that Medicaid patients have in receiving care since the program began.

The enacting legislation does not specifically state that there are certain numbers of physicians the program is expected to recruit. Those intimately familiar with the program, the staff of the Office of Rural Health and Resource Development and the Maternal and Child Health Division, feel that the program was initiated in the face of the loss of obstetrical providers in rural North Carolina and was designed to allow the rate of doctors leaving obstetrics. The ROCI program

appears to be a response to a crisis in rural areas—the malpractice crisis and its effects on the way physicians practice medicine— and was not conceived of or designed to be a comprehensive recruitment tool.

A comprehensive evaluation of the program's first three years is presented in the forthcoming report from the NC Rural Health Research Program: "A Response to the Professional Liability Crisis: The First Three Years of North Carolina's Rural Obstetrical Care Incentive Program." As other states face rising malpractice premiums and the corresponding decline in obstetrical services, especially in rural areas, programs such as ROCI become of interest to a broader audience than the North Carolina General Assembly. Demonstrating the implementation and effects of this state's ROCI program may have far reaching implications across the nation as other states try to respond to their particular mix of health status, distribution and access problems. The ROCI evaluation presented in the upcoming report should be of particular interest to the proponents of a bill which appears to be a federal version of the program— House Bill 2229. Proposed by Congressman J. Roy Rowland to the United States Congress asks for $30 million to be set aside and given to states for "medical demonstration projects to allow States to test innovative ways for increasing medical participation of obstetrical /gynecological providers in rural areas" (House Bill 2229, 1991). Further, it establishes demonstration grants to test innovative approaches to the obstetrical liability problem, making money available for programs with a minimum of rules and guidelines imposed at the Federal level. Dissemination of North Carolina's experience with the ROCI program should prove useful to many health policy makers nationwide.

Conclusions

The physician malpractice crisis of the 1980s revolves around costs. First, there are the costs to the patients—increased fees, unnecessary testing, and limited access to services are having a profound effect, especially in rural areas. Second, there are the costs to the physician in the form of higher premiums and increased emotional stress. These two factors, especially since higher premiums are causing many physicians to modify their practices, often lead to the reduction or elimination of obstetrical services. Over the past five years, nearly 40 percent of the North Carolina family practitioners who once provided obstetrical services have ceased to do so.

In response to this concern, the North Carolina legislature passed the Rural Obstetrical Care Incentive Bill, which subsidizes the malpractice premiums for a limited number of physicians who guarantee to provide obstetrical services. Despite its ability to support physicians who would potentially have curtailed obstetrics especially to underserved patients, the ROCI program has only a limited ability to address the whole perinatal care problem. The lack of obstetrical care in rural areas remains a problem, therefore, as concerns continue over whether the compensation will be adequate and

whether it can provide the needed incentive for physicians to provide obstetrical care in underserved areas. Yet, the state has made a step forward by taking this approach.

CHAPTER 7
SUMMARY AND POLICY RECOMMENDATIONS

The medical malpractice system in this country influences not only the cost of care, but also access to needed services; abuses to it have led to a loss in confidence in the system and reform is overdue. Results of the North Carolina Obstetrics Access and Professional Liability Study reinforce what has been revealed across the nation: physicians are leaving the practice of obstetrics; many because of increased costs and other issues associated with the medical professional liability climate. This has led to decreased access to care, particularly for poor women, high-risk women, and those in rural areas. The liability climate has also led physicians to change the way they practice obstetrics.

Rather than make policy recommendations anew, we will present here some of the recurring viewpoints from national commissions and associations regarding issues of obstetrical care access and medical malpractice, all of which are supported by this research.

Institute of Medicine

The Institute of Medicine of the National Academy of Sciences charged the Committee to Study Medical Professional Liability and the Delivery of Obstetrical Care to examine the effects of medical professional liability on delivery of and access to obstetrical care. The Committee's goals in making recommendations was to increase access to high-quality, affordable obstetrical care for all women, regardless of their ability to pay, where they live, or where the care is delivered.

Long-Term Recommendations

1. States should consider alternatives to the tort system; specifically the no-fault designated compensable events scheme, the AMA-Specialty Society's fault-based administrative system, and legislation authorizing the use of private contracts to stipulate arrangements for resolving medical professional liability disputes between providers and patients.
2. The federal government should support demonstration projects through the Department of Health and Human Services for various solutions and studies of proposed state legislation.
3. A national data base on malpractice claims should be developed; including required disclosures by medical malpractice insurers regarding rates, payouts, settlements, and claims; by hospitals and hospital groups and by other providers and provider groups regarding claims; and by relevant state agencies. (The National Practitioner Data Bank will have information on all malpractice claims paid after September 1, 1990, although limited information is collected on each claim.)
4. Systematic technology assessment is needed. Sufficient primary data is needed to determine the safety, effectiveness, and other attributes of new technologies relevant to obstetrics.

Short-Term Solutions

5. States should address the access problems of the poor at once.
6. Federal tort claims act coverage, or its equivalent, should be extended to certain obstetrical practitioners. To lessen the immediate problems posed by professional liability issues in government-financed Community and Migrant Health Centers, Congress should authorize the extension of the personal immunities offered by the Federal Torts Claims Act, or equivalent coverage to all practitioners of obstetrical care at these centers. Such an action would relieve practitioners of steep malpractice insurance and of personal liability, while providing plaintiffs a legal remedy.
7. States should contribute to professional liability coverage for Medicaid providers. As a temporary measure to ensure full access to obstetrical care for women whose care is financed partly by Medicaid, the committee recommends that states follow the examples of several states and counties which have taken actions to reduce the professional liability risk of providers of obstetrical services to poor women. (North Carolina's Rural Obstetrical Care Incentive Program is one such program).
8. The National Health Service Corps should be expanded. The reviving and expansion of the recently restricted National Health Serv ices Corps would increase the numbers of physicians in underserved areas.

The National Commission on Children

The National Commission on Children was created by Congress and the President on December 22, 1987 "to serve as a forum on behalf of the children of the Nation," with the task of assessing the status of children and families in the United States and proposing new directions for policy and program development. Although medical professional liability was not specifically an issue, access to health care and improving health was. The Commission states: "If this nation is to succeed in protecting children's health, there must be a major commitment from families, communities, health care providers, employers, and government to meet children's basic health needs and to ensure that all pregnant women and children have access to health care." Accordingly, the Commission urges the nation to improve the chances that all American children will be born healthy and grow up healthy:

1. Parents must protect their children's health by protecting their own health and being role models for healthful behavior, by doing everything in their power to provide a safe environment, and by seeking essential health services for their children.
2. Communities must take responsibility for creating safe neighborhoods, supporting the development of community-based health education and health care programs, and sponsoring activities and

special projects to help families gain access to needed services. (North Carolina's High Priority Infant Program and Baby Love are examples.)

3. Government and employers together should develop a universal system of health care coverage for pregnant women and children that guarantees a basic level of care and includes specific provisions to contain the costs and improve the quality of care.
4. The federal and state governments should expand effective health care programs for underserved populations. This includes the National Health Service Corps, Community and Migrant Health Centers, Maternal and Child Health Block Grants, Special Supplemental Food Program for Women, Infants, and Children (WIC).
5. Health professionals should work together with professionals from other disciplines to improve the quality and comprehensiveness of health and social services, participate in publicly funded programs, and serve their communities as volunteers and resource persons.

The Commission states that a comprehensive approach to the delivery of health services can improve coordination among providers, expand social support (through case management), and increase the likelihood that families will obtain all the services they need. Sometimes referred to as "one-stop shopping," these client-centered systems seek to integrate many health and social services in one location, simplify their enrollment procedures, and unify eligibility criteria. When poor, socially isolated families have children with special needs, the prospect of arranging all the care and services those children require can be overwhelming, and the problems are compounded because medical and social services are fragmented and poorly coordinated. Casefinding, outreach, home visits targeting high-risk women and children, mobile prenatal care outreach and pediatric care units, referrals from other providers or agencies, telephone hotlines and public information programs can all enhance the likelihood that high-risk populations will receive care.

The important characteristic of many models of effective, comprehensive programs that have developed in communities across the country is that they seek simultaneously to meet the immediate health needs of the mothers and children they serve and to alleviate the stress and other problems in the families' home environments that adversely affect health.

North Carolina and Its Problems

The State of North Carolina can benefit from the reforms suggested by the two national organizations, but our particular circumstances present unique strengths as well as weaknesses that could potentially assist or hinder such changes. North Carolina remains a rural state with a large portion of its population living in areas where the effects of the economic recessions of the 1980s have not been relieved, leaving many communities poorer now than they were a decade ago. Those same communities are at a disadvantage in the distribution of funds for education and economic development

and become less and less attractive places to practice obstetrics. The capacity of a community to provide high quality education as well as cultural resources is an important factor in a physician's decision to locate in an area, as well as the potential for a stable income.

This state has a unique system for recruiting and supporting physicians to practice in rural areas. Its Area Health Education Centers (AHEC) program is a national model, and its Office of Rural Health was the first such program in the nation. Yet, these two unique and successful programs must compete in a national market for physicians and must seek support in a state where recent budget problems are the equal of any other state. The four medical schools and the emerging nurse-midwifery program at East Carolina University are closely tied to the AHEC program and their trainees provide much of the obstetrical care that would otherwise be missing from rural areas. When, however, communities look for immediate relief from their problems of access, it is the university medical schools where they can see the only source of trained clinicians to meet their needs.

If the recommendations reviewed here can be implemented, the systems of care that exist must be recognized and built upon in a coordinated effort by the AHEC program, the state's Office of Rural Health, and the obstetrics departments of the medical schools. The burden of sharing resources needs to fall equally on these existing institutions to create a coordinated, regional network that supports existing practices and strategically fosters new practices in areas most in need.

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APPENDIX A

OBSTETRICIAN/GYNECOLOGIST SURVEY INSTRUMENT

☐☐☐☐

NORTH CAROLINA OBSTETRICS ACCESS AND PROFESSIONAL LIABILITY STUDY

This survey is being conducted by the Health Services Research Center of the University of North Carolina at Chapel Hill with endorsement from the North Carolina Obstetrical and Gynecological Society. The questionnaire is being sent to all active physicians in the state who may be practicing obstetrics in an effort to determine the availability of these services on a county-by-county basis, and the effect malpractice claims and policies have had on obstretrical practice in North Carolina. The information requested from you is vital in ascertaining those areas lacking essential obstetrical services, and will be used to identify and evaluate ways in which services can be made more readily available to all North Carolinians. The data collected in this survey will be reported to relevant North Carolina policy-making bodies and a final report will be mailed to you if you so desire. All data will be reported in aggregate form.

The identification number at the top of the page allows us to keep track of questionnaires as they are returned. Any information that would permit identification of an individual will be strictly confidential. The questionnaire should take you about 15-20 minutes to complete. Please mail the completed form in the enclosed prepaid envelope. If you have any questions, please don't hesitate to call Dr. Thomas C. Ricketts at (919) 966-7120. Please mail your completed questionnaire within 10 days to:

North Carolina Obstetrics Access and Professional Liability Study
Campus Box #7490, Chase Hall
Chapel Hill, NC 27599-7490

Thank you for your cooperation and time.

☐ Check here if you would like a copy of the summary report.

☐☐☐☐

BACKGROUND INFORMATION

1. Are you currently actively practicing medicine?

   ☐ 1. yes ☐ 0. no

If you are NOT currently practicing medicine, please do not continue. Return this questionnaire in the prepaid envelope provided. Thank you for your time.

2. Please indicate the configuration of the practice in which you spend the MAJORITY of your time. *(Check one.)*

   ☐ 1. solo private practice
   ☐ 2. private, single specialty group practice
   ☐ 3. private, predominantly fee-for-service multi-specialty group practice
   ☐ 4. staff or group model HMO (pre-paid group practice)
   ☐ 5. full-time hospital practice
   ☐ 6. military service
   ☐ 7. resident in training *(please indicate training year)* _____
   ☐ 8. other *(please specify)* _____

3. If in a group practice (responses 2 through 6 above), how many physicians are in your group?

   _____ physicians

4. In what year were you born? Year: 19_____

5. What is your gender? ☐ 1. male ☐ 2. female

6. In what year did you finish your residency? Year: 19_____

7. Do you currently practice obstetrics?

   ☐ 0. no ☐ 1. yes *(skip to question 9)*

8. If you DO NOT currently practice obstetrics, please indicate your situation:

   ☐ a. I have never practiced obstetrics. *(see box below)*
   ☐ b. I stopped practicing obstetrics in 19_____ *(see box below)*

If you HAVE NEVER practiced obstetrics, please stop here and return the questionnaire in the stamped envelope provided. Thank you for your help and cooperation.

If you have STOPPED practicing obstetrics, please stop here and answer the questions on the BLUE SHEETS included with your questionnaire.

9. If you DO practice obstetrics, please indicate the percentage of your professional practice time you spend in:

   a._____ % time in obstetrical patient care
   b. _____ % time in gynecological patient care
   c. _____ % time in other activities

   100% total time

YOUR OBSTETRICAL PRACTICE

10. On the average, how many deliveries do you personally perform per month?

_____ deliveries/month

11. In the area where most (80%) of your patients live, how many other physicians are delivering babies? Include the other physicians in your group practice. *(If greater than 10, indicate 10+)*

_____ other physicians deliver babies in the area

12. How many of these are obstetrician/gynecologists? *(If greater than 10, indicate 10+)*

_____ obstetrician/gynecologists deliver babies in the area

13. How many are family physicians or general practitioners? *(If greater than 10, indicate 10+)*

_____ family physicians/general practitioners deliver babies in the area

14. Do you provide regular back-up, assistance, or coverage for family/general practitioners doing obstetrics?

☐ 1. yes ☐ 0. no

15. On the whole, how adequate are the assistance, consultation and coverage opportunities for ROUTINE deliveries in your community?

a. ASSISTANCE (colleagues to see patients or review charts)	b. CONSULTATION (by telephone or in person)	c. COVERAGE (practitioners working in your absence)
☐ 5. very adequate	☐ 5. very adequate	☐ 5. very adequate
☐ 4. adequate	☐ 4. adequate	☐ 4. adequate
☐ 3. not sure	☐ 3. not sure	☐ 3. not sure
☐ 2. inadequate	☐ 2. inadequate	☐ 2. inadequate
☐ 1. very inadequate	☐ 1. very inadequate	☐ 1. very inadequate

16. On the whole, how adequate are the assistance, consultation and coverage opportunities for HIGH-RISK deliveries in your community?

a. ASSISTANCE (colleagues to see patients or review charts)	b. CONSULTATION (by telephone or in person)	c. COVERAGE (practitioners working in your absence)
☐ 5. very adequate	☐ 5. very adequate	☐ 5. very adequate
☐ 4. adequate	☐ 4. adequate	☐ 4. adequate
☐ 3. not sure	☐ 3. not sure	☐ 3. not sure
☐ 2. inadequate	☐ 2. inadequate	☐ 2. inadequate
☐ 1. very inadequate	☐ 1. very inadequate	☐ 1. very inadequate

17. What is your policy regarding providing prenatal and delivery care to Medicaid obstetrical patients?

☐ 1. do not currently provide prenatal and delivery care for Medicaid obstetrical patients

☐ 2. provide prenatal and delivery care to a limited number of Medicaid obstetrical patients

☐ 3. no limit to the number of Medicaid obstetrical patients cared for *(skip to question 19)*

18. If you DO NOT provide prenatal and delivery care or provide prenatal and delivery care to a LIMITED NUMBER of Medicaid obstetrical patients, please rank the THREE most important factors influencing your decision in this regard. Use 1= the most important factor, 2= next important, and 3= next important. *(Mark in only three boxes.)*

☐ a. these patients are more litigious

☐ b. these patients are non-compliant

☐ c. there is too much paperwork

☐ d. the reimbursement level is too low

☐ e. these patients have high risk pregnancies

☐ f. I am dissatisfied with Medicaid policies

☐ g. other (please specify) _____

19. Of your prenatal care practice, what proportion was comprised of Medicaid patients for the following calendar years?

a. _____% Medicaid patients in 1986

b. _____% Medicaid patients in 1987

c. _____% Medicaid patients in 1988

20. If the Medicaid payment for prenatal care and delivery were raised to $1200, would you increase your Medicaid caseload for prenatal care and delivery of Medicaid patients?

☐ 1. yes ☐ 0. no

21. Do you provide care for, or provide back-up for Health Department patients for their prenatal maternity clinic visits?

☐ 1. yes ☐ 0. no

22. Do you deliver babies of Health Department patients?

☐ 1. yes ☐ 0. no *(skip to question 24)*

23. If yes, which Health Department(s)? _____

_____

24. Over the last 12 months, how has your obstetrics practice changed in terms of the TYPES OF PATIENTS that you see? *(Check all that apply.)*

- ☐ a. stopped or reduced providing care to UNINSURED patients
- ☐ b. increased providing care to UNINSURED patients
- ☐ c. stopped or reduced providing care to MEDICALLY HIGH RISK patients
- ☐ d. increased providing care to MEDICALLY HIGH RISK patients
- ☐ e. stopped or reduced providing care to MEDICAID patients
- ☐ f. increased providing care to MEDICAID patients
- ☐ g. limited number of NEW patients accepted
- ☐ h. other changes in terms of types of patients *(please specify)*

_____

25. Over the last 12 months, how has your obstetrics practice changed in terms of the MEDICAL ASPECTS of your practice? *(Check all that apply.)*

- ☐ a. increased use of tests or monitoring procedures
- ☐ b. increased use of consultations with other physicians
- ☐ c. provided more information to patients about risks and benefits of procedures
- ☐ d. raised patient fees due to higher malpractice insurance premiums
- ☐ e. provided more preventive services such as pap smears
- ☐ f. increased the use of written consent procedures
- ☐ g. eliminated specific services *(please specify)* _____
- ☐ h. reduced specific services *(please specify)* _____
- ☐ i. other changes *(please specify)* _____

26. In the past 12 months, has your obstetrical patient volume: *(Check one.)*

- ☐ 2. increased over the year before *(skip to question 28)*
- ☐ 1. stayed the same as the year before *(skip to question 28)*
- ☐ 0. decreased over the year before

27. If your obstetric patient volume has DECREASED, please rank the THREE most important factors influencing your decision to do so. Use 1= the most important factor, 2= next important, and 3= next important. *(Mark in only three boxes.)*

- ☐ a. fear of an obstetrics malpractice lawsuit
- ☐ b. ongoing obstetrics lawsuit
- ☐ c. increasing costs of obstetrics malpractice insurance
- ☐ d. uncertainty of future costs of obstetrics malpractice insurance
- ☐ e. occurrence type of insurance contract not available
- ☐ f. inconvenience of obstetrics practice (on call, time commitment, lack of sleep)
- ☐ g. lack of adequate back-up
- ☐ h. lack of adequate facilities
- ☐ i. decreased interest in practicing obstetrics
- ☐ j. other *(please specify)* _____

28. A proposal is being prepared for consideration by the North Carolina General Assembly that will remove most cases of cerebral palsy from the Tort system through the development of a fund to provide care for cerebral palsy patients. Do you think a system such as this would change your obstetrics practice?

☐ 1. yes ☐ 0. no *(skip to question 30)*

29. If yes, how do you think it would affect:
(Check one box in each row for each aspect of your practice.)

	increase	stay the same	decrease
a. your number of deliveries	☐	☐	☐
b. your number of HIGH RISK deliveries	☐	☐	☐
c. your UNINSURED patient load	☐	☐	☐
d. your MEDICAID patient load	☐	☐	☐

30. Have you delivered any babies who were initially or subsequently diagnosed as having cerebral palsy or a form of cerebral palsy, or a neurological disorder that might be related to a later diagnosis of cerebral palsy?

☐ 1. yes ☐ 0. no *(skip to question 34)*

31. If YES, how many of these babies have you delivered in the last THREE years?

_____ babies with cerebral palsy

32. Did any of these deliveries result in a malpractice claim or lawsuit?

☐ 1. yes ☐ 0. no *(skip to question 34)*

33. If YES, please describe each claim and its outcome or current status.

_____

_____

_____

_____

34. Have you heard of the Rural Obstetrics Care Incentive program, a state-funded program that helps pay your obstetric malpractice premiums if you practice in an underserved area?

☐ 1. yes ☐ 0. no *(skip to question 37)*

35. If yes, do you participate in the Rural Obstetrics Care Incentive program?

☐ 1. yes ☐ 0. no *(skip to question 37)*

36. If yes, through which Health Department(s)? _____

_____

_____

PROFESSIONAL LIABILITY INSURANCE

37. Are you covered by professional liability (malpractice) insurance?

☐ 1. yes *(skip to question 39)* ☐ 0. no

38. If you answered NO above, why not? _____

_____

(Please skip to question 47)

39. What is your current annual malpractice premium? $_____ per year

40. What insurance organization covers you for malpractice? *(Check one.)*

☐ 1. Medical Mutual Insurance Company of North Carolina

☐ 2. Medical Protective Insurance Company

☐ 3. St. Paul Fire and Marine Insurance Company

☐ 4. I/my employer is self-insured

☐ 5. other *(please specify)* _____

41. How long have you been covered by this company or organization for practice in North Carolina?

_____ years

42. What type of insurance contract do you have with this company or organization?

☐ 1. occurrence

☐ 2. claims made

☐ 3. don't know

☐ 4. other *(please specify)* _____

43. Are you covered by professional liability insurance for obstetrics?

☐ 1. yes ☐ 0. no *(skip to question 48)*

44. What is your current annual OBSTETRIC malpractice premium?

$_____ per year

45. Who is currently paying your obstetric malpractice premiums? *(Check one.)*

☐ 1. I personally pay the premiums

☐ 2. my employer pays the premiums

☐ 3. my employer is self-insured

☐ 4. my practice corporation pays the premium

☐ 5. other arrangement *(please specify)*_____

46. What annual obstetric malpractice premium would force you to stop purchasing obstetrical malpractice insurance AND stop practicing obstetrics?
(for a claims made policy or generally adequate and responsible coverage)

$_____ per year

47. Would you continue your obstetrics practice without obstetrics malpractice coverage?

☐ 1. yes ☐ 0. no

48. Does the principal hospital at which you practice obstetrics require you to have obstetric malpractice insurance?

☐ 1. yes ☐ 0. no

49. Have you ever been named in an obstetrics personal injury suit or malpractice claim?

☐ 1. yes ☐ 0. no *(skip to question 52)*

50. If yes, how many malpractice claims have been filed against you?

_____ claims have been filed

51. How many culminated in the following outcomes?

a. _____ claims were filed and dropped

b. _____ claims were settled out of court with patient

c. _____ claims were settled out of court with insurance company

d. _____ claims produced a court decision in your favor

e. _____ claims produced a court settlement in favor of plaintiff

52. How satisfied are you with the relationship between YOUR PRACTICE and:

	Very Satisfied		Somwhat Satisfied		Not at all Satisfied	Doesn't Apply
a. tertiary care center	5	4	3	2	1	N
b. your regular hospital	5	4	3	2	1	N
c. your regular back-up or covering practice	5	4	3	2	1	N
d. other back-up or covering practice	5	4	3	2	1	N
e. nearest practice for which you provide back-up	5	4	3	2	1	N
f. health department serving your area	5	4	3	2	1	N

53. What is the distance between YOUR PRACTICE and:

		Doesn't Apply
a. tertiary care center	_____ miles	N
b. your regular hospital	_____ miles	N
c. your regular back-up or covering practice	_____ miles	N
d. other back-up or covering practice	_____ miles	N
e. nearest practice for which you provide back-up	_____ miles	N
f. health department serving your area	_____ miles	N

54. In which North Carolina hospitals do you have obstetrical privileges?

_____

_____

Thank you for answering this questionnaire. Please return it in the prepaid envelope provided.

☐☐☐☐

PLEASE ANSWER THESE QUESTIONS IF YOU HAVE STOPPED PRACTICING OBSTETRICS

1. If you have STOPPED your obstetrics practice, please rank the THREE most important factors influencing your decision to do so. Use 1= the most important factor, 2= next important, and 3= next important. *(Mark in only three boxes.)*

   ☐ a. fear of an obstetrics malpractice lawsuit
   ☐ b. ongoing or prior obstetrics lawsuit
   ☐ c. increasing costs of obstetrics malpractice insurance
   ☐ d. uncertainty of future costs of obstetrics malpractice insurance
   ☐ e. occurrence type of insurance contract not available
   ☐ f. inconvenience of obstetrics practice (on call, time commitment, lack of sleep)
   ☐ g. lack of adequate back-up
   ☐ h. lack of adequate facilities
   ☐ i. lack of nearby facilities
   ☐ j. other *(please specify)* _____

2. Have you heard of the Rural Obstetrics Care Incentive program, a state-funded program that helps pay your obstetric malpractice premiums if you practice in an underserved area?

   ☐ 1. yes ☐ 0. no

3. Are you covered by professional liability (malpractice) insurance?

   ☐ 1. yes *(skip to question 5)* ☐ 0. no

4. If you answered NO above, why not? _____

   _____

   (Please skip to question 9)

5. What is your current annual malpractice premium? $_____/year

6. What insurance organization covers you for malpractice? *(Check one.)*

   ☐ 1. Medical Mutual Insurance Company of North Carolina
   ☐ 2. Medical Protective Insurance Company
   ☐ 3. St. Paul Fire and Marine Insurance Company
   ☐ 4. I/my employer is self-insured
   ☐ 5. other *(please specify)* _____

7. How long have you been covered by this company or organization for practice in North Carolina?

   _____ years

8. What type of insurance contract do you have with this company or organization?

   ☐ 1. occurrence
   ☐ 2. claims made
   ☐ 3. don't know
   ☐ 4. other *(please specify)* _____

9. Have you ever been named in an obstetrics personal injury suit or malpractice claim?

   ☐ 1. yes ☐ 0. no *(Please stop here and see instructions in box below)*

10. If yes, how many malpractice claims have been filed against you?

    _____ claims have been filed

11. How many culminated in the following outcomes?

    a. _____ claims were filed and dropped
    b. _____ claims were settled out of court with patient
    c. _____ claims were settled out of court with insurance company
    d. _____ claims produced a court decision in your favor
    e. _____ claims produced a court settlement in favor of plaintiff

THANK YOU FOR ANSWERING THIS QUESTIONNAIRE.

Please return the entire questionnaire in the prepaid envelope provided.

North Carolina Obstetrics Access and Professional Liability Study
Campus Box #7490, Chase Hall
Chapel Hill, NC 27599-7490

APPENDIX B

CERTIFIED NURSE-MIDWIFE SURVEY INSTRUMENT

NORTH CAROLINA OBSTETRICS ACCESS AND PROFESSIONAL LIABILITY STUDY MIDWIFE QUESTIONNAIRE

This survey is being conducted by the Rural Health Research Program of the Health Services Research Center, University of North Carolina at Chapel Hill with endorsement from the North Carolina Obstetrical and Gynecological Society. The questionnaire is being sent to all active midwives in the state who may be practicing obstetrics in an effort to determine the availability of these services on a county-by-county basis, and the effect malpractice claims and policies have had on obstetrical practice in North Carolina. The information requested from you is vital in ascertaining those areas lacking essential obstetrical services, and will be used to identify and evaluate ways in which services can be made more readily available to all North Carolinians. The data collected in this survey will be reported to relevant North Carolina policy-making bodies and a final report will be mailed to you if you so desire. All data will be reported in aggregate form.

The identification number at the top of the page allows us to keep track of questionnaires as they are returned. Any information that would permit identification of an individual will be strictly confidential. The questionnaire should take you about 15-20 minutes to complete. Please mail the completed form in the enclosed prepaid envelope within 10 days. If you have any questions, please don't hesitate to call Dr. Thomas C. Ricketts at (919) 966-7120.

Thank you for your cooperation and time.

North Carolina Obstetrics Access and Professional Liability Study
Midwife Questionnaire
North Carolina Rural Health Research Program
Campus Box #7490, Chase Hall
Chapel Hill, NC 27599-7490

☐ Check here if you would like a copy of the summary report.

Supported by Grant No. HA-R-000016, Office of Rural Health Policy, Health Resources and Services Administration, P.H.S., U.S. D.H.H.S.

☐☐☐☐

BACKGROUND INFORMATION

1. Are you currently actively practicing midwifery?

   ☐ 1. yes ☐ 0. no

2. If NO, are you currently involved in nursing or providing clinical services to patients?

   ☐ 1. yes ☐ 0. no *(see box below)*

If you are NOT currently providing clinical services, please do not continue. Return this questionnaire in the prepaid envelope provided. Thank you for your time.

3. Please indicate the configuration of the practice in which you spend the MAJORITY of your time. *(Check one.)*

   ☐ 1. solo obstetrics or obstetrics/gynecology private practice
   ☐ 2. solo family practice
   ☐ 3. other solo private practice
   ☐ 4. obstetrics/gynecology group practice or partnership (not hospital)
   ☐ 5. family practice or general practice group or partnership
   ☐ 6. private, predominantly fee-for-service multi-specialty group practice
   ☐ 7. staff or group model HMO (pre-paid group practice)
   ☐ 8. full-time hospital practice (may be part of a group)
   ☐ 9. military service
   ☐ 10. midwife in training *(please indicate training year)* _____
   ☐ 11. faculty or affiliated with an academic medical center
   ☐ 12. other *(please specify)* _____

4. If in a group practice (responses 4 through 9 above), how many physicians are in your group?

   _____ physicians

5. If in a group practice (responses 3 through 8 above), how many midwives are in your group?

   _____ number of midwives in your group (including yourself)

6. In what year were you born? Year: 19_____

7. What is your gender? ☐ 1. male ☐ 2. female

8. Where did you do your midwife training? Name of school: _____

   City/State: _____

9. In what year did you finish your training? Year: 19_____

10. Do you currently provide obstetrical services for your patients?

    ☐ 0. no ☐ 1. yes *(skip to question 12)*

11. If you DO NOT currently practice obstetrics, please indicate your situation:

    ☐ a. I have never practiced midwifery. *(see box below)*
    ☐ b. I stopped practicing midwifery in 19_____ *(see box below)*

If you HAVE NEVER practiced midwifery, please stop here and return the questionnaire in the stamped envelope provided. Thank you for your help and cooperation.

If you have STOPPED practicing midwifery, please stop here and answer the questions on the BLUE SHEET included with your questionnaire.

☐☐☐☐

YOUR OBSTETRICAL PRACTICE

12. In which North Carolina hospitals do you have obstetrical privileges?

_____

_____

13. On average, how many patients do you see for office visits per month?

_____ patients

14. On average, how many deliveries do you perform per month?

_____ average number of deliveries per month

15. Please characterize the types of deliveries you perform in a month:

a. _____ % spontaneous vaginal delivery

b. _____ % forceps (either mid or outlet)

c. _____ % assisting with caesarean sections

d. _____ % other (please specify) _____

100% types of deliveries per months

16. Do you provide care for, or provide back-up for Health Department patients for their prenatal maternity clinic visits?

☐ 1. yes ☐ 0. no

17. Do you deliver babies of Health Department patients?

☐ 1. yes ☐ 0. no *(skip to question 19)*

18. If yes, which Health Department(s)? _____

_____

19. Have you delivered any babies who were initially or subsequently diagnosed as having cerebral palsy or a form of cerebral palsy, or a neurological disorder that might be related to a later diagnosis of cerebral palsy?

☐ 1. yes ☐ 0. no *(skip to question 23)*

20. If YES, how many of these babies have you delivered in the last THREE years?

_____ babies with cerebral palsy or suspected cerebral palsy

21. Did any of these deliveries result in a malpractice claim or lawsuit?

☐ 1. yes ☐ 0. no *(skip to question 23)*

22. If YES, please describe each claim and its outcome or current status.

_____

_____

_____

23. How satisfied are you with the relationship between YOUR PRACTICE and:

	Very Satisfied		Somewhat Satisfied		Not at all Satisfied	Doesn't Apply
a. tertiary care center	5	4	3	2	1	N
b. your regular hospital	5	4	3	2	1	N
c. your regular back-up or covering practice	5	4	3	2	1	N
d. other back-up or covering practice	5	4	3	2	1	N
e. nearest practice for which you provide back-up	5	4	3	2	1	N
f. health department serving your area	5	4	3	2	1	N

24. What is the distance between YOUR PRACTICE and:

		Doesn't Apply
a. tertiary care center	_____ miles	N
b. your regular hospital	_____ miles	N
c. your regular back-up or covering practice	_____ miles	N
d. other back-up or covering practice	_____ miles	N
e. nearest practice for which you provide back-up	_____ miles	N
f. health department serving your area	_____ miles	N

25. On the whole, how adequate are the assistance, consultation and coverage opportunities for ROUTINE deliveries in your community?

a. ASSISTANCE (colleagues to see patients or review charts)	b. CONSULTATION (by telephone or in person)	c. COVERAGE (practitioners working in your absence)
☐ 5. very adequate	☐ 5. very adequate	☐ 5. very adequate
☐ 4. adequate	☐ 4. adequate	☐ 4. adequate
☐ 3. not sure	☐ 3. not sure	☐ 3. not sure
☐ 2. inadequate	☐ 2. inadequate	☐ 2. inadequate
☐ 1. very inadequate	☐ 1. very inadequate	☐ 1. very inadequate

26. On the whole, how adequate are the assistance, consultation and coverage opportunities for HIGH-RISK deliveries in your community?

a. ASSISTANCE (colleagues to see patients or review charts)	b. CONSULTATION (by telephone or in person)	c. COVERAGE (practitioners working in your absence)
☐ 5. very adequate	☐ 5. very adequate	☐ 5. very adequate
☐ 4. adequate	☐ 4. adequate	☐ 4. adequate
☐ 3. not sure	☐ 3. not sure	☐ 3. not sure
☐ 2. inadequate	☐ 2. inadequate	☐ 2. inadequate
☐ 1. very inadequate	☐ 1. very inadequate	☐ 1. very inadequate

27. On average, how many of your obstetrical patients need referral to regional perinatal centers?

_____ patients per year

28. On average, how many of your obstetrical patients do you refer to area obstetricians?

_____ patients per year

29. What is your policy regarding providing prenatal and delivery care to Medicaid obstetrical patients? *(Check one.)*

☐ 1. do not currently provide prenatal and delivery care for Medicaid obstetrical patients

☐ 2. provide prenatal and delivery care to a limited number of Medicaid obstetrical patients

☐ 3. no limit to the number of Medicaid obstetrical patients cared for *(skip to question 31)*

30. If you DO NOT provide prenatal and delivery care or provide prenatal and delivery care to a LIMITED NUMBER of Medicaid obstetrical patients (responses 1 and 2 above), please rank the THREE most important factors influencing your decision in this regard. Use 1= the most important factor, 2= next important, and 3= next important. *(Mark in only three boxes.)*

☐ a. these patients are more litigious (fear of a malpractice lawsuit)

☐ b. these patients are non-compliant

☐ c. there is too much paperwork

☐ d. the reimbursement level is too low

☐ e. these patients have high risk pregnancies

☐ f. I am dissatisfied with Medicaid policies

☐ g. other *(please specify)* _____

31. Of your prenatal care practice, what proportion was comprised of Medicaid patients for the following calendar years?

a. _____% Medicaid patients in 1986

b. _____% Medicaid patients in 1987

c. _____% Medicaid patients in 1988

32. In the area where most (80%) of your patients live, how many other physicians are delivering babies? Include the other physicians in your group practice. *(If greater than 10, indicate 10+)*

_____ other physicians deliver babies in the area

33. How many of these are obstetrician/gynecologists? *(If greater than 10, indicate 10+)*

_____ obstetrician/gynecologists deliver babies in the area

34. How many are family physicians or general practitioners? *(If greater than 10, indicate 10+)*

_____ family physicians/general practitioners deliver babies in the area

35. How many other midwives deliver in this area? *(If greater than 10, indicate 10+)*

_____ other midwives deliver babies in the area

36. Over the last 12 months, how has your obstetrics practice changed in terms of the TYPES OF PATIENTS that you see? *(Check one box for each type of patient.)*

a. Uninsured Patients	b. Medically High Risk	c. Medicaid	d. New Patients
☐ 0. no change	☐ 0. no change	☐ 0. no change	☐ 0. no change
☐ 1. stopped care	☐ 1. stopped care	☐ 1. stopped care	☐ 1. stopped care
☐ 2. reduced care	☐ 2. reduced care	☐ 2. reduced care	☐ 2. reduced care
☐ 3. increased care	☐ 3. increased care	☐ 3. increased care	☐ 3. increased care

37. In the past 12 months, has your obstetrical patient volume: *(Check one.)*
    - ☐ 2. increased over the year before *(skip to question 39)*
    - ☐ 1. stayed the same as the year before *(skip to question 39)*
    - ☐ 0. decreased over the year before

38. If you have DECREASED your obstetric patient volume, please rank the THREE most important factors influencing your decision to do so. Use 1= the most important factor, 2= next important, and 3= next important. *(Mark in only three boxes.)*
    - ☐ a. fear of an obstetrics malpractice lawsuit
    - ☐ b. opposition from physicians
    - ☐ c. opposition from hospital authorities
    - ☐ d. increasing costs of obstetrics malpractice insurance
    - ☐ e. uncertainty of future costs of obstetrics malpractice insurance
    - ☐ f. lack of patient acceptance
    - ☐ g. inconvenience of obstetrics practice (on call, time commitment, lack of sleep)
    - ☐ h. lack of adequate back-up
    - ☐ i. lack of adequate/nearby facilities
    - ☐ j. decreased interest in practicing obstetrics or "burn-out"
    - ☐ k. other *(please specify)* _____

39. What are the reasons you include obstetric services in your practice? *(Check all that apply.)*
    - ☐ a. personal satisfaction from obstetrical practice
    - ☐ b. because of the needs of the community
    - ☐ c. to provide more compassionate care to women
    - ☐ d. to provide higher quality obstetrical care
    - ☐ e. other *(please specify)* _____

40. What are your future plans for your obstetric practice? *(Check one.)*
    - ☐ 1. I plan to stop after this year *(please indicate date)* _____
    - ☐ 2. I plan to continue for at least one more year
    - ☐ 3. I plan to continue for more than one year
    - ☐ 4. I will stop if my liability premiums increase beyond: _____

PROFESSIONAL LIABILITY INSURANCE

41. Are you covered by professional liability (malpractice) insurance?

☐ 1. yes *(skip to question 43)* ☐ 0. no

42. If you answered NO above, why not? _____

_____

43. Are you covered by professional liability insurance for obstetrics?

☐ 1. yes ☐ 0. no *(skip to question 52)*

44. What insurance organization covers you for malpractice? *(Check one.)*

☐ 1. Medical Mutual Insurance Company of North Carolina

☐ 2. Medical Protective Insurance Company

☐ 3. St. Paul Fire and Marine Insurance Company

☐ 4. I/my employer is self-insured

☐ 5. other *(please specify)* _____

45. How long have you been covered by this company or organization for practice in North Carolina?

_____ years

46. What type of insurance contract do you have with this company or organization?

☐ 1. occurrence

☐ 2. claims made

☐ 3. don't know

☐ 4. other *(please specify)* _____

47. What is the extent of your liability coverage? *(Check one.)*

☐ 1. $1 million occurrence/$1 million aggregate

☐ 2. $2 million occurrence/$2 million aggregate

☐ 3. $3 million occurrence/$3 million aggregate

☐ 4. other (please specify) $_____occurrence $_____aggregate

48. What is your current annual OBSTETRIC malpractice premium?

$_____ per year

49. Who is currently paying your obstetric malpractice premiums? *(Check one.)*

☐ 1. I personally pay the premiums

☐ 2. my employer pays the premiums

☐ 3. my employer is self-insured

☐ 4. my practice corporation pays the premium

☐ 5. other arrangement *(please specify)*_____

50. What annual obstetric malpractice premium would force you to **STOP PURCHASING OBSTETRICAL MALPRACTICE INSURANCE?** (for a claims made policy or generally adequate and responsible coverage)

    $_____ per year

51. What annual obstetric malpractice premium would force you to **STOP PRACTICING OBSTETRICS** if patient reimbursement remained the same? (for a claims made policy or generally adequate and responsible coverage)

    $_____ per year

52. Would you continue your obstetrics practice without obstetrics malpractice coverage?

    ☐ 1. yes ☐ 0. no

53. Does the principal hospital at which you practice obstetrics require you to have obstetric malpractice insurance?

    ☐ 1. yes ☐ 0. no

54. Have you ever been named in an obstetrics personal injury suit or malpractice claim?

    ☐ 1. yes ☐ 0. no *(Please stop here and return questionnaire.)*

55. If yes, how many malpractice claims have been filed against you?

    _____ claims have been filed

56. How many culminated in the following outcomes?

    a. _____ claims were filed and dropped

    b. _____ claims were settled out of court with patient

    c. _____ claims were settled out of court with insurance company

    d. _____ claims produced a court decision in your favor

    e. _____ claims produced a court settlement in favor of plaintiff

    f. _____ claims are still pending

THANK YOU FOR ANSWERING THIS QUESTIONNAIRE.
PLEASE RETURN IT IN THE PREPAID ENVELOPE PROVIDED.

☐☐☐☐

PLEASE ANSWER THESE QUESTIONS IF YOU HAVE STOPPED PRACTICING MIDWIFERY

1. Do you still provide prenatal care to your patients?

   ☐ 1. yes ☐ 0. no *(skip to question 3)*

   2. What percentage of your patients do you refer to:

      a. _____ % of patients referred to family practice physicians providing obstetrical care

      b. _____ % of patients referred to obstetricians in the area

      c. _____ % of patients referred to obstetricians outside the area

3. If you have DECREASED your obstetric patient volume, please rank the THREE most important factors influencing your decision to do so. Use 1= the most important factor, 2= next important, and 3= next important. *(Mark in only three boxes.)*

   ☐ a. fear of an obstetrics malpractice lawsuit
   ☐ b. opposition from physicians
   ☐ c. opposition from hospital authorities
   ☐ d. increasing costs of obstetrics malpractice insurance
   ☐ e. uncertainty of future costs of obstetrics malpractice insurance
   ☐ f. lack of patient acceptance
   ☐ g. inconvenience of obstetrics practice (on call, time commitment, lack of sleep)
   ☐ h. lack of adequate back-up
   ☐ i. lack of adequate/nearby facilities
   ☐ j. decreased interest in practicing obstetrics or "burn-out"
   ☐ k. other *(please specify)* _____

4. What factors, if any, would cause you to include obstetrics once again in your practice? Please rank the THREE most important factors, using 1= the most important factor, 2= next important, and 3= next important. *(Mark in only three boxes.)*

   ☐ x. **Check here if you would not practice obstetrics again under any circumstances.**

   ☐ a. decrease in my liability insurance premiums
   ☐ b. a cap on increases in liability insurance premiums
   ☐ c. one or more physicians to help me handle the workload
   ☐ d. up-to-date equipment at delivery facilities
   ☐ e. support from hospital authorities and physicians
   ☐ f. adequate obstetrical back-up in the area
   ☐ g. greater patient acceptance
   ☐ h. availability of continuing training in obstetrics in the area
   ☐ i. other *(please specify)* _____

5. What insurance organization covers you for malpractice? *(Check one.)*

- ☐ 1. Medical Mutual Insurance Company of North Carolina
- ☐ 2. Medical Protective Insurance Company
- ☐ 3. St. Paul Fire and Marine Insurance Company
- ☐ 4. I/my employer is self-insured
- ☐ 5. other *(please specify)* _____

6. How long have you been covered by this company or organization for practice in North Carolina?

_____ years

7. What type of insurance contract do you have with this company or organization? *(Check one.)*

- ☐ 1. occurrence
- ☐ 2. claims made
- ☐ 3. don't know
- ☐ 4. other *(please specify)* _____

8. What is the extent of your liability coverage? *(Check one.)*

- ☐ 1. $1 million occurrence/$1 million aggregate
- ☐ 2. $2 million occurrence/$2 million aggregate
- ☐ 3. $3 million occurrence/$3 million aggregate
- ☐ 4. other (please specify) $_____occurrence $_____aggregate

9. What is your current annual malpractice premium?

$_____ per year

10. Have you ever been named in an obstetrics personal injury suit or malpractice claim?

☐ 1. yes ☐ 0. no *(Please stop here and see instructions in box below)*

11. If yes, how many malpractice claims have been filed against you?

_____ claims have been filed

12. How many culminated in the following outcomes?

a. _____ claims were filed and dropped
b. _____ claims were settled out of court with patient
c. _____ claims were settled out of court with insurance company
d. _____ claims produced a court decision in your favor
e. _____ claims produced a court settlement in favor of plaintiff
f. _____ claims are still pending

THANK YOU FOR ANSWERING THIS QUESTIONNAIRE.
Please return the entire questionnaire in the prepaid envelope provided.

North Carolina Obstetrics Access and Professional Liability Study•Campus Box #7490•Chapel Hill, NC•27599-7490

APPENDIX C

FAMILY AND GENERAL PRACTITIONER SURVEY CARD

☐☐☐☐

Please fill out this card, indicating your county of practice and checking the one box which most accurately describes your current practice situation. Please return this post-paid card in the next two weeks. Thank you for your help.

County of Practice: _____

Please check one box only.

A. I currently DO NOT provide obstetrical services:

- ☐ I have never practiced obstetrics.
- ☐ I stopped providing obstetrical care in: 19_____ (year) and have no plans to restart obstetrical services.
- ☐ I stopped providing obstetrical care in: 19_____ (year) and plan to restart beginning: 19_____ (year).

B. I currently DO provide obstetrical services:

- ☐ I do NOT plan to stop providing obstetrical care.
- ☐ I plan to stop providing obstetrical care in: 19_____ (year).

APPENDIX D

HOUSE BILL 2424

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 1987

HOUSE BILL 2424

Short Title: Rural Obstetrical Care Incentive

Sponsors: Representatives Hunter, E. Warren, Woodard, and Bowman.

Referred to: Appropriations

June 15, 1988

A BILL TO BE ENTITLED

AN ACT TO APPROPRIATE FUNDS TO THE DEPARTMENT OF HUMAN RESOURCES TO ESTABLISH A PROGRAM TO COMPENSATE FAMILY PHYSICIANS AND OBSTETRICIANS WHO AGREE TO PROVIDE PRENATAL AND OBSTETRICAL SERVICES IN COUNTIES THAT ARE UNDERSERVED WITH REGARD TO THESE SERVICES.

Whereas, there are currently 22 counties in the State which have no physicians to provide prenatal or obstetrical care in those counties, most of which are rural counties; and

Whereas, there are 20 counties in the State in which more than half of the expectant mothers must leave the county for obstetrical care because there are not enough physicians in their home county to provide obstetrical care; and

Whereas, prior to 1985 nearly 500 family physicians in North Carolina were providing obstetrical care; and

Whereas, after severe increases in liability insurance premiums, some in excess of three hundred fifty percent (350%), the number of family physicians providing obstetrical care has dropped to 189, and numerous obstetricians have dropped that part of their practice; and

Whereas, it is in the interest of the State to provide quality prenatal and neonatal care and to provide access to health care for all its citizens; Now, therefore, The General Assembly of North Carolina enacts:

Section 1. From the funds appropriated from the General Fund to the Department of Human Resources there is established a reserve of nine hundred and fifty thousand dollars ($950,000) for the 1988-89 fiscal year to fund a new program to compensate family physicians and obstetricians who agree to provide prenatal and obstetrical services in counties that are underserved with regard to these services. The Division of Health Services shall adopt rules determining the counties that are underserved in respect to obstetrical care that are to be part of the program; the scope of the obstetrical

services that are to be provided by a physician for that physician to be eligible to receive assistance under the program; and the amount and nature of the assistance to be provided to eligible physicians. Specific rules issued by the Division of Health Services governing this new program shall include:

1) A physician who provides obstetrical care in a county that is designated as being underserved for prenatal and obstetrical care by the Division of Health Services will be compensated for either the difference between his premiums without obstetrical care coverage, or six thousand five hundred dollars ($6,500), whichever is less;
2) Physicians providing obstetrical care through an arrangement with their local health department shall have the option of providing care at their offices or at the facilities of the health department obstetrical clinic;
3) No physician shall be required to assume management of the care of any obstetrical patient if the level of care required is beyond the professional competence of that physician;
4) Physicians eligible for payment under this program shall be licensed to practice medicine in this State;
5) Participating physicians shall provide complete care for covered patients including prenatal care and delivery; provided, however, physicians in a county without a facility for obstetrical delivery are still eligible if they provide only prenatal care;
6) The liability insurance rates for obstetrical care to be used to determine compensation under this program shall be based on obstetrical premiums of $1,000,000/$1,000,000 coverage at a mature rate; and
7) Any physician compensated under this program shall not refuse to provide obstetrical care for any patient based on the patient's economic status or ability to pay.

Sec. 2. This act shall become effective July 1, 1988.

APPENDIX E

SENATE BILL 257

SENATE BILL 257, CHAPTER 1086

APPROPRIATIONS

Requested by: Representative Hunter, Senators Walker, Plyler

RURAL OBSTETRICAL CARE INCENTIVE

Sec. 39.3. (a) From the funds appropriated from the General Fund to the Department of Human Resources in Section 3 of Chapter 1086, Session Laws of 1987, there is established a reserve of two hundred and forty thousand dollars ($240,000) for the 1988-89 fiscal year to fund a new pilot program to compensate family physicians and obstetricians who agree to provide prenatal and obstetrical services in counties that are underserved with regard to these services. The Commission for Health Services shall adopt rules determining the counties that are underserved with respect to obstetrical care that are to be part of the program, the scope of the obstetrical services that are to be provided by a physician for that physician to be eligible to receive assistance under the program, and the amount and nature of the assistance to be provided to eligible physicians. Specific rules issued by the Commission for Health Services governing this new program shall include:

1) A physician who provides obstetrical care in a county that is designated as being underserved for prenatal and obstetrical care by the Commission for Health Services will be compensated for coverage and his premiums without obstetrical care coverage, or six thousand five hundred dollars ($6,500) whichever is less;
2) Physicians providing obstetrical care through an arrangement with their local health department shall have the option of providing the care at their offices or at the facilities of the health department obstetrical clinic;
3) No physician shall be required to assume management of the care of any obstetrical patient if the level of care required for that patient is beyond the professional competence of that physician;
4) Physicians eligible for payment under this program shall be licensed to practice medicine in this State;
5) Participating physicians shall provide complete obstetrical for covered patients including prenatal care and delivery; provided, however, physicians in a county without a facility for obstetrical delivery are still eligible if they provide only prenatal care;
6) The liability insurance rates for obstetrical care to be used to determine compensation under this program shall be based on obstetrical premiums of $1,000,000/$1,000,000 coverage at a mature rate; and

7) Any physician compensated under this program shall not refuse to provide obstetrical care for any patient based on the patient's economic status or ability to pay.

The Division of Health Services shall establish the pilot program provided by subsection (a) of this section. The Division of Health Services shall report, by April 1, 1989, to the chairmen of the House and Senate Appropriations Committees and to the Chairmen of the Appropriations Subcommittees on Human Resources on the progress in implementing and operating the pilot program mandated by this section.