Access to Obstetrical Services In Rural Communities: A Response to the Liability Crisis in North Carolina

Richard Langholz, M.S.P.H.
Thomas C. Ricketts, Ph.D., M.P.H.

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ABSTRACT

This paper analyzes the current medical malpractice crisis by focusing on a policy initiative by the State of North Carolina designed to alleviate the problem. Particular emphasis is given to its effects on family physicians and the delivery of obstetrical services. Rising malpractice premiums are causing many family physicians and obstetricians to find it financially impossible to provide obstetrical care. 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 this growing trend, 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 these 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 paper outlines the context of that program in North Carolina and suggests approaches for its evaluation and application in other states.

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INTRODUCTION

The medical malpractice crisis of the 1970s caused widespread public concern, prompting numerous states and the federal government to consider proposals to rectify the situation. As the crisis subsided, however, so did public concern. Now the nation finds itself in the midst of another malpractice crisis, different from the crisis of the 1970s, and posing a greater threat to the practicing physician.[1] In the 1970s, the crux of the problem was availability of insurance, as many insurance companies withdrew from the market because of losses due to the increase in malpractice claims.[2] The threat posed by the 1980s malpractice situation, however, is one of affordability of liability insurance, rather than its availability; policies are now available but premiums have increased at a very rapid pace since 1980.[3] Especially hard hit have been rural physicians who, in many areas, provide the only available source of medical and obstetrical care and for whom the marginal effect of an increase in malpractice rates is greater than for their suburban or urban counterparts.

The immediate impact of the most recent malpractice crisis has been in its influence on the costs of care. Costs of malpractice premiums are often passed on to patients through increased fees. Between 1980 and 1982, 7.4 percent of physicians nationwide had their premiums increase by 30 percent or more,[4] and the rate of increase has remained steady, with a slight acceleration for obstetrics and gynecology.[5] The total costs of malpractice to physicians was estimated to be $15.4 billion in 1985 or 17 percent of the $82.8 total paid to physicians in that year.[6] Higher premiums are only one side of the picture relating to patient costs, however. To protect themselves against lawsuits, physicians are ordering numerous and varied tests, which not only add additional costs to the patient's bill, but often carry risks to the

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[1]Welch C. "Medical Malpractice." *New England Journal of Medicine* 292(June 1975):1372.

[2]Breen J. "What Was, What Is, and What May Be." *Obstetrics and Gynecology* 62(October 1983):407.

[3]Sloan FA, Bovbjerg RR. Medical Malpractice: Crisis, Response and Effects. Washington, DC: Health Insurance Institute of America, 1989. (Research Bulletin).

[4]Strunk A. "Malpractice Symposium," *Perinatal Practice and Malpractice.* University of Dentistry and Medicine, New Jersey. Academy of Professional Information Services, New York, NY. December 1983:12.

[5]Sloan and Bovbjerg, 1987, p.5.

[6]American Medical Association. *Trends in Health Care.* Chicago: 1987.

life of the patient as well.[7] The costs related to defensive medicine have been estimated to be $12.4 billion in 1984 according to an estimate published in the Journal of the American Medical Association.[8]

There is a strong argument that access to care for people who are poor and without insurance coverage becomes less available as costs of medical treatment increase. Of growing concern is the threat posed to the availability of perinatal care by the high cost of malpractice.[9] In rural areas, of which there are many in North Carolina, lack of care poses a significant problem. To address this problem, the North Carolina General Assembly passed the Rural Obstetrical Care Incentive Act in the summer of 1988. This legislation was designed to increase rural patients' access to obstetrical services by providing compensation to family physicians and obstetricians for their malpractice costs. To understand the prospects of this law for addressing North Carolina's obstetrical needs, it is important to analyze the relationship between liability insurance and the provision of obstetrical services in rural areas. This paper presents the background of the malpractice crisis by describing the current structure of obstetrical delivery in the United States and North Carolina with special focus on the role of family practitioners in rural obstetrical care. We describe the process whereby the Rural Obstetrical Care Incentive was passed and how it has been implemented during its first year. We conclude by offering a suggested method for evaluating the effectiveness of this initiative and discuss its broader applicability.

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[7]Kaminetzky H. "The Effects of Litigation on Perinatal Practice and Malpractice." University of Medicine and Dentistry, New Jersey. Academy of Professional Information Services, New York, NY. December 1986:45.

[8]Reynolds RA, Rizzo JA, Gonzalez ML. "The Cost of Medical Professional Liability." *Journal of the American Medical Association* 257(20):2776-81.

[9]Cassel-Berry E. "Forum on Malpractice Issues in Childbirth." *Public Health Reports* 100(November-December 1985):631.

CURRENT DELIVERY OF OBSTETRICAL SERVICES

Availability of Obstetrical Services

Since the beginning of the 1980s there has been a steady decline in the numbers of obstetricians and family physicians who are delivering babies. The American College of Obstetricians and Gynecologists have surveyed their membership in 1983, 1985 and 1987 and, based on sample surveys, found that 9 percent of their members quit obstetrics in 1983, 12.3 percent in 1985 and 12.4 percent in 1987 or approximately 4,100 OBG physicians for the last year.[10] The rate at which obstetrician/gynecologists are leaving obstetrical care is much greater than the number being trained for practice; only 1,500 new residency positions were offered in obstetrics/gynecology in 1989.[11] There are differences in the rate at which OBG physicians are leaving obstetrics. In Florida in 1983, 25 percent of the respondents to a survey by the State OB/Gyn Society had quit obstetrics in the previous year, and of those continuing deliveries, 30 percent were considering stopping; most cited medical malpractice problems as their major reason.[12]

Family physicians are an important part of the obstetrical delivery system, especially in rural areas of the nation. National studies indicate that family physicians contributed 25 percent of pre- and post-natal care during 1977-78; that rate dropped to 21 percent during the 1980-81 period.[13, 14] The Graduate Medical Education National Advisory Committee, based on trends up to 1979, predicted that family physicians would provide 37 percent of all deliveries in the United States by 1990, yet it appears that the proportion is as low as 15 percent. Still, the debate over whether family physicians should be involved in obstetrical care remains open.[15] To counter this, family practitioners have

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[10]Changes in the Practice of Obstetrics-Gynecologists, AMA Professional Liability Update. Chicago, American College of Obstetricians and Gynecologists, 1988.

[11]Statement of the American College of Obstetricians and Gynecologists Submitted to the Council on Graduate Medical Education, November 5, 1987, in: Council on Graduate Medical Education. Public Hearing, November 19-20, 1987, Bethesda Maryland. Washington, DC, Government Printing Office, n.d. (Bureau of Health Professions publication HRP-0907157), pp 363-368.

[12]Selander GT. A Survey on Effects of Malpractice Premiums on Delivery of Health Care in Family Practice. *Journal of the Florida Medical Association* 70(4) 1983:293-296.

[13]Rosenblatt R, et al. "Content of Ambulatory Medical Care in the United States." *New England Journal of Medicine* 309(1983):892-7.

[14]National Center for Health Statistics. "Patterns of Ambulatory Care in Obstetrics and Gynecology: National Ambulatory Medical Care Survey, January 1980 through December 1981." United States Government Printing Office. 1984.

[15]Culpepper L. Obstetrics and Family Practice: Report of the Expert Panel, on the Content of Prenatal Care. *Family Medicine* 21(3):333-335.

conducted studies demonstrating that their colleagues provide equal or better quality care in practice.[16] Several reports indicate that the participation of family practitioners in obstetrics has dropped sharply over the past several years. One-half of the 84 percent of family practitioners who at one time practiced obstetrics in Washington State had given it up in one survey.[17] In Arizona, 18 percent of family physicians practicing obstetrics in that state in 1985 stopped deliveries in the three year period 1982-1985.[18] Increasing numbers of younger physicians who at one time practiced obstetrics until well into their careers are giving it up before age 45.[19] The national pattern described in a study by the American Academy of Family Practice supports the conclusion that this is a lasting trend but it varies across the United States; more family practitioners in the Midwest are delivering babies in practice and fewer quitting than in other regions.[20] One study found that the attrition to obstetrics among rural family practitioners was largely absent in Minnesota and Wisconsin.[21] Outside the Midwest, the decline in the practice of obstetrics is apparent in both rural and urban areas. This decline is posing significant problems for women in rural areas; with fewer obstetrical care providers available, some women must travel relatively long distances for care, reducing the choices available to them for routine care.

Financial trends

Rosenblatt and Detering feel that, for some patients, "the current access crisis is not as much geographical as it is financial, as poor patients are having difficulty obtaining obstetrical care no matter where they live."[22] Of fees charged to patients, liability insurance represents about 30 percent

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[16]Kreibel SH, Pitts JP. Obstetric Outcomes in a Rural Family Practice: An Eight Year Experience. *Journal of Family Practice* 27(4):377-384. is an example one of several such studies; others include: Rosenthal TC, Holden DM, Woodward W. Primary Care Obstetrics in Rural New York State: A Multi-Center Case Review, unpublished manuscript, Buffalo, NY, Department of Family Medicine, State University of New York at Buffalo; Rosenberg EE, Klein M. Is Maternity Care Different in Family Practice? A Pilot Matched Pair Study, *Journal of Family Practice* 25:237-42.

[17]Rosenblatt R, Detering B. "Changing Patterns of Obstetric Practice in Washington State: The Impact of Tort Reform." *Family Medicine* 20(March-April 1988):105.

[18]Gordon RJ, McMullen G, Weiss BD, Nichols AW. The Effect of Malpractice Liability on the Delivery of Rural Obstetrical Care. *Journal of Rural Health* 3(1):7-13.

[19]Riffer J. "Malpractice Crisis Threatens Obstetric Care." *Hospitals* 60(February 86):60.

[20]Bredfeldt RC, Colliver JA, Wesley RM. Present Status of Obstetrics in Family Practice and the Effects of Malpractice Issues. *Journal of Family Practice* 28(3):294-297.

[21]Crouse BJ. Family Physicians' Involvement in Obstetric Care in Rural Northeast Minnesota and Northwest Wisconsin. *Journal of Family Practice* 28(6):724-727.

[22]Rosenblatt R, Detering B. "Changing Patterns," 106.

of a typical family physician bill. These rising insurance costs are causing some physicians to decrease the amount of free obstetrical care they provide, as well as causing an increase in the number of women dependent upon Medicaid.[23, 24] Many physicians, in response to these changes, have chosen to drop the Medicaid portion of their practice to make up for the increase in liability costs since Medicaid reimbursement only covers approximately 50 percent of the average fees charged. For example, in 1988, the North Carolina Medicaid reimbursement for a normal delivery by a family physician was $650; this amount generally covers only the overhead of providing obstetrical services.[25]

Obstetrical Care And Rural America

Rural hospitals are affected disproportionately by the loss of obstetrical manpower, not only because of the loss of patients, but of rising malpractice costs which they must bear as well. Hospitals in the South appear to have been especially hard hit. As an example, only 38 percent of Florida's rural hospitals have obstetrical services, and 20 percent of the delivery rooms have closed in Kentucky during the past six years.[26] In North Carolina the number of newborn bassinets set up and staffed in hospitals in non-Metropolitan Standard Areas (MSAs) has declined 14 percent in 5 years.[27]

In North Carolina, a recently conducted survey by the State Division of Maternal and Child Health revealed that physicians in 21 counties had withdrawn from service in prenatal clinics.[28] As a result of this action, four counties had to terminate the physician care services in their prenatal clinic. All of these counties were very rural. Although other factors such as transportation and insurance do exert influence upon measures of access to care, one cannot underestimate the effect of limited availability, especially in the area of obstetrical care. Dependence upon Medicaid in rural communities has increased over the past few years since the rural economy has been especially vulnerable, in part because of the dependency of rural areas upon farming. In an economically depressed area, the number of people dependent on federal or state medical reimbursement increases. In Minnesota, for example, a 1987 report indicated that 46 percent of physicians surveyed had seen an

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[23]Riffer J. "Malpractice Crisis," 60.

[24]Rosenblatt R, Detering B. "Changing Patterns," 105.

[25]Henley D. President, North Carolina Academy of Family Physicians. Personal Interview. December 4, 1988.

[26]Koska M. "Rural Hospitals Face Future Without Obstetrics." *Hospitals* 62(January 1988):102.

[27]American Hospital Association. "Hospital Statistics for the Years 1982-87." Chicago, Illinois: American Hospital Association Printing.

[28]Department of Human Resources, Division of Health Services, Maternal and Child Health Branch. Fact Sheet. Prenatal Care Health Department Surveys. December 1988.

increase in the number of patients lacking insurance, while 61 percent anticipated that they would see a growing number of such patients.[29]

The declining number of family physicians providing obstetrical services is fast becoming the major factor influencing availability of these services in nonmetropolitan America. The eventual disappearance of all obstetric practice in family medicine, especially in rural areas, has changed from the unthinkable to a real possibility.[30] In extremely rural areas, the prospect of a family practitioner dropping obstetrics has severe access implications. A generally accepted population base for family physicians is 3,000 to 4,000 persons, compared to 11,000 for obstetrician/gynecologists; for many small communities the only source of obstetrical care is that provided by family physicians.[31]

The choice made by a physician about location "is one of the most important variables in explaining differences in obstetrical practices of different types of providers."[32] In rural areas, obstetrical care is provided almost entirely by family practice and general practitioners. For those residents and students committed to family practice, pressures of anticipated debt, coupled with concerns about future job security, may cause them to perceive a small community practice as unattractive and therefore a non-viable option, in spite of an original preference for such a setting.[33] These pressures cause physicians to seek out areas that are more populous, have higher population growth rates, better educational opportunities, and greater population density.[34] Furthermore, some family physicians are no longer providing obstetrical services because of the decline in the number of women of childbearing age in rural areas. In the 75 non-Metropolitan Statistical Areas in North Carolina, only 42 percent of white females and 47 percent of nonwhite females were of childbearing age in 1987.[35] This represents a drop from the 43 percent of white females and 50 percent nonwhite females

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[29]Minnesota Medical Association Task Force on Rural Health. "Averting a Crisis in Rural Health Care: A Summary Report by the M.M.A. Task Force on Rural Health." *Minnesota Medical Journal* 70(January 1987):19.

[30]Smucker D. "Obstetrics in Family Practice in the State of Ohio." *Journal of Family Practice* 26(February 1988):168.

[31]Gordon R, McMullen G, Weiss B and Nichols A. "The Effect of Malpractice Liability on the Delivery of Rural Obstetrical Care." *Journal of Rural Health* 3(January 1987):12.

[32]Rosenblatt and Detering. "Changing Patterns," 103.

[33]Hafferty F, Boulger J. "Medical Students View Family Practice." *Family Medicine* 20(July-August 1988):280.

[34]Langwell K, Drabek J, Nelson S and Lenk E. "Effects of Community Characteristics on Young Physicians' Decisions Regarding Rural Practice." *Public Health Reports* 102(May-June 1987):327-28.

[35]Department of Human Resources, Division of Human Services. "Health Highlights for North Carolina." February 1987. Raleigh, North Carolina.

who were of childbearing age in 1977.[36] While these figures represent only a small decline in the total number of women of childbearing age, when combined with other considerations they may well influence a physician's decision not to provide service.

There is growing evidence that obstetrics is becoming less and less of the core curriculum of family practice. In a 1988 study of residents in their third year of family practice training, 55 percent indicated that they intended to practice obstetrics upon entry into practice.[37] A 1986 study of graduates of a family practice residency program found that slightly over 50 percent of the respondents practiced obstetrics at some time after leaving residency but that number had declined to just under thirty percent of the total at the time of survey and that less than 20 percent intended to continue practicing obstetrics.[38] The impact of malpractice issues on the choice of training in obstetrics for family practitioners is being felt in medical schools as well as in residency training. Rodney and Sanderson found a wide spread of perceptions of the costs of malpractice insurance for obstetrics among medical students. Applicants to family medicine residencies who planned to include OB in their training and practice estimated the annual premium costs for basic coverage of low-risk patients to be $116,406; those who did not plan to include obstetrics estimated coverage to cost $25,710.[39] A 1985 study of third-year residents found that of 27 who were not including OB in their practices, 23 cited potential legal liability problems and 15, the malpractice fees.[40]

RELATIONSHIP BETWEEN MALPRACTICE PREMIUMS AND AVAILABILITY OF SERVICES

Claims and Premiums

One aspect of the malpractice crisis involves affordability of liability insurance. Insurers' costs are rising in accordance with the increasing number of malpractice claims and are passed on to physicians. In the ten years between 1974 and 1984, the number of malpractice claims nearly doubled,

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[36]Department of Human Resources, Division of Human Services. "Health Highlights for North Carolina." February 1977. Raleigh, North Carolina.

[37]Smith MA, Howard KP. Choosing to do Obstetrics in Practice: Factors Affecting the Decisions of Third-Year Family Practice Residents. *Family Medicine* 20(6):418-421.

[38]Tietze P, Gaskins S, McGinnis M. "Attrition from Obstetrical Practice Among Family Practice Residency Graduates." *Journal of Family Practice* 26(February 1988):204.

[39]Rodney WM, Sanderson L. "Effect of Perceived Malpractice Insurance Costs on the Family Practice Career Goals of Medical Students." *Family Medicine* 20:6(November-December 1988):418-421.

[40]Smith MA, Howard KP. "Choosing To Do Obstetrics in Practice: Factors Affecting the Decisions of Third-Year Family Practice Residents." *Family Medicine* 19:3(May-June 1987):191-194.

from 8.5 per 100 doctors to 16.4.[41] In that period, there were only 196 malpractice verdicts in the entire United States in the million dollar range, indicating that the problem lies not so much in the size but in the number of awards.[42] Statistics indicate that for family physicians, the likelihood of being sued at least once during a career is 34%, compared to approximately 25 percent for the entire medical profession.[43]

The situation in North Carolina is not quite as grim as in other parts of the United States, but one should not infer that no problem exists in this state. Douglas Phillips, President of Medical Mutual Insurance Company, which insures most physicians in this state, alluded to the increasing number of malpractice claims when he said, "In 1975, less than one out of twenty of our insureds could expect a claim in a given year. Today one out of six physicians can expect a claim and the figures are even worse for obstetrics."[44] While the average settlement for all malpractice claims was around $47,000 in North Carolina (compared to $80,000 nationally), more than half the malpractice claims were settled for less than $10,000 between 1983-1986.[45] Of all claims during that time period only four, all of which are currently under appeal, fell into the million dollar range, with the largest being $6.5 million.[46, 47]

Of the 951 claims settled in North Carolina between 1983-1986, 64 percent occurred in metropolitan areas. Conversely, the non-metropolitan areas, while experiencing a lower occurrence of claims, had slightly higher indemnity losses than those in metropolitan areas ($58,542 versus $53,205).[48]

These trends may affect a family practitioner's decision to provide obstetrical care. While other physicians insured by Medical Mutual can expect that one out of six of their number will experience a claim, the rate for family practitioners is one out of five. Not only are family

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[41]Leak F. "Medical Malpractice...A View From the Family Practice Standpoint." *North Carolina Family Physician* 37(Spring 1988):14.

[42]Jordan L. "Malpractice: Is It a Crisis?," 3.

[43]Bredfeldt R, Ripani A Jr, Cuddleback G. "Emotional Response to Malpractice Suits: Should Residents be Prepared?" *Family Medicine* 19(November-December 1987):465.

[44]Phillips D. "The Family Physician and Obstetric Exposure–An Insurance Company Perspective." *North Carolina Family Physician* 38(Summer 1987):13.

[45]Denton V. "Study Says Malpractice Claims Low; Long Doubts Need for Law Change." *Raleigh News and Observer*, October 5, 1988.

[46]Phillips D. "The Family Physician," 13.

[47]Denton V. "Study Says Malpractice Claims," 4A.

[48]Department of Insurance, Division of Administration. "North Carolina Closed Claims Study." Raleigh, North Carolina. October 3, 1988.

practitioners experiencing more claims in North Carolina, Medical Mutual reports that the average payment (historical severity) of $40,531 is the highest of any specialty (Table 1).[49] These increases are causing many family practitioners, especially in rural areas, to respond by changing their practices.

Table 1

Frequency and Severity of Claims among Family Practitioners Insured by Medical Mutual

Speciality	Frequency of claims	Severity
FP Class I*	.048	$14,145
FP Class II**	.057	$12,522
Obstetricians	.244	$32,284
FP/obstetrics	.200	$40,531

* A family practitioner who does not do minor surgery or obstetrics

** A family practitioner who provides minor surgery but no obstetrics

Source: Douglas Phillips, "The Family Physician and Obstetric Exposure–An Insurance Company Perspective." *North Carolina Family Physician* 38(Summer 1987):13.

Physician Practice Responses

Risk avoidance/reduction

The increase in malpractice claims has prompted physicians to change the way in which they practice medicine. A physician who desires to protect himself from malpractice claims may either refrain from providing care (risk avoidance), or practice in a more defensive manner (risk reduction). Carol Weisman et al., in a study of 400 Maryland physicians, found risk avoidance to be a common response, as "some family or general practitioners in addition to obstetricians/gynecologists are eliminating obstetrics."[50] This trend toward the elimination of services by these physicians indicates potential obstetrical access problems for women in areas already underserved by these specialities.[51]

In addition, risk reduction strategies also have an impact on physicians' practices. To avoid a lawsuit against a potential bad clinical outcome, a physician spends a great deal of time and money

[49]Phillips D. "The Family Physician," 13.

[50]Weisman C, Morlock L, Feitelbaum MA, Klassen A, Celentano D. "Practice Changes in Response to the Malpractice Litigation Climate." *Medical Care* 27:1(January 1989):23.

[51]Weisman, et al. "Practice Changes," 16-24.

doing tests and keeping records that are not necessary for the care of the patient.[52] As a result, physicians may find themselves spending less time with each patient, which may be one reason for the perceived deterioration of the physician/patient relationship. In turn, patients who are annoyed by physicians too busy to spend time with them are more inclined to file suit when a clinical outcome is less than perfect. In a vicious cycle, physicians come to view each patient as a potential litigant, causing further breakdown of the physician/patient relationship. Physicians are trained to handle the professional, moral, and social obligations related to their patients, not to be constantly evaluating the legal implications of everything they do.[53]

Emotional costs

Malpractice suits also exact an emotional cost from the physician. These subjective costs are harder to measure, but are the source of some physical distress a physician may suffer. Emotional responses can be as simple as fatigue, headaches, and social withdrawal, or can be manifested in more serious symptoms such as angina, duodenal ulcers (gastrointestinal disorder), and for some, myocardial infarction.[54] Whatever the response, emotional costs do take their toll, even if the case does not go to court.

What premium level should be considered too high? In a 1985 survey of 419 Washington State family practitioners, nearly half indicated that they would cease obstetric practice if liability premiums (occurrence type of premium, which is an annual charge a physician pays for malpractice coverage) reached $12,000 a year.[55] For physicians with small numbers of obstetrical patients, paying this amount for premiums is not feasible, considering the revenue generated by these patients. Making the decision more difficult for some is that by dropping obstetrics, other aspects of their practice may also suffer. There is a point, however, when the financial strains of liability premiums and indigent care leave the physician with little choice other than to abandon obstetrics.

One interesting way in which physicians are coping with the malpractice climate includes the blackballing of litigious people, or people who fit a litigious profile. In some states information banks which flag people who have previously filed claims have been set up and allow physicians the chance to screen new patients depending upon their past record of litigation. This approach has not spread

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[52]Denton. "Study Says Malpractice Claims," 4A.

[53]Breen. "What Was, What Is," 407.

[54]Bredfeldt, Rippani and Cuddleback. "Emotional Response to Malpractice," 465.

[55]Rosenblatt R, Wright C. "Rising Malpractice Premiums and Obstetric Practice Patterns: The Impact on Family Physicians in Washington State." *Western Journal of Medicine* 146(February 1987):247.

beyond high-litigation states and in itself adds yet another cost to physicians as they attempt to protect themselves.

Situation in North Carolina

In 1987 there were 1249 licensed family practitioners in North Carolina.[56] Two of the state's three liability providers report that 132 out of the 1083 family practitioners they insured had coverage enabling them to provide obstetrical care.[57, 58] The North Carolina General Assembly has accepted an estimate of 189 family practitioners providing OB care in the state in early 1988 (see Appendix 1).[59] More recent estimates by the North Carolina Academy of Family Physicians indicate that of those family physicians who do provide obstetrical care, about 60 practice in a non-academic (rural) setting.[60] This number, if accurate, implies limited access to obstetrical services in areas traditionally served by these physicians.

Insurance types

There are two types of liability insurance available to family practitioners: the "occurrence" and the "claims made" policy. With an "occurrence" policy, the physician pays a yearly premium for a policy which provides liability coverage against any suit brought against the physician, even if s/he is no longer practicing. The premium for an occurrence policy is higher than that for the claims made type of policy. Currently only one company, which happens to be located in North Carolina, offers occurrence policies.

The other kind of policy is a "claims made" policy. The claims made policy is by far the more common policy. The basic difference between an occurrence and a claims made policy is that in the latter liability premiums start off at a low rate and increase over a 3-5 year period, after which they are considered to be mature. With this type of policy, physicians are insured only during the time they are paying the premium. If they change insurers or discontinue providing medical services, they must either go without insurance or purchase a new policy, referred to as a "tail coverage." Tail policies

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[56]Health Services Research Center. North Carolina Health Manpower Databook. University of North Carolina at Chapel Hill. October 1987.

[57]Harnish M. Information Services, St. Paul Insurance Company. Personal Interview. October 26, 1988.

[58]Pope B. Medical Mutual Insurance Company. Personal Interview. November 1, 1988.

[59]North Carolina House. "Rural Obstetrical Care Incentive Bill." 99th Congressional, 2nd Session HB2424. June 1988.

[60]Murphy M. Department of Family Medicine, East Carolina University. Personal Interview with Thomas C. Ricketts, Ph.D. August, 1988.

enable physicians to be covered against malpractice suits from former cases; (the statute of limitations for bringing suit in North Carolina is 18 years for guardians, plus an additional year for the adolescent). These policies are currently very expensive, as their cost is based on the current legal environment when the coverage is purchased and on the amount of time for which the physician needs to be covered.[61]

Insurance costs in North Carolina

In North Carolina, the current cost for an occurrence policy runs around $13,000 annually for a family physician who provides obstetrical care.[62] For a claims made policy ($1 million per occurrence, $3 million aggregate during the year, coverage) different companies charge different amounts, ranging from a low of $5,733 for a family practitioner who does not provide Caesarean-sections, to a high of $28,618 (mature rate) for a family practitioner providing obstetrics care.[63, 64] The primary difference between the two figures is that the latter premium is from a company which places family practitioners practicing obstetrics in the same class as obstetricians. If one ignores this outlier premium, the range is from $5,733 to $10,259. Tail coverage can cost a physician in the range of $30,000 to $100,000, depending on the length of time for which the coverage needs to be extended. A promising development occurred in 1989 when St. Paul's Fire and Marine announced that they were lowering malpractice premiums by $4500 for OB/GYNs and by $1500 for family practitioners.[65] It is still too early to judge, however, if this is an abatement of the malpractice crisis, or just a single atypical event. Whatever the reasons, these reductions are a welcome relief to the ever-increasing insurance costs experienced by North Carolina physicians.

While these costs may appear low to some, to the family physician the out-of-pocket cost is around $4,500-$7,900.[66] It is this additional out-of-pocket expense which is causing many family practitioners to consider dropping obstetrics.

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[61]Mitchelson S. Medical Protective Insurance Company. Personal Interview. November 16, 1988.

[62]Mitchelson. Medical Protective, November 1988.

[63]Johnson B. St. Paul Fire and Marine Insurance Company. Personal Interview. November 16, 1988.

[64]Lamprose J. Medical Mutual Insurance Company. Personal Interview. November 16, 1988.

[65]Wells B. "Insurer to Reduce Malpractice Rates." *News and Observer*. Raleigh, NC: May 9, 1989.

[66]Mitchelson. Medical Protective. November 1988.

The costs of insurance and access to obstetrical care

The growing number of lawsuits and the related emotional turmoil, plus the large increases in malpractice premiums, are causing the family practitioner to redefine the scope and content of his/her obstetric practice.[67] Increasingly, many physicians are dropping services in obstetrics because they cannot see their continued provision of care as economically feasible.[68] Rosenblatt and colleagues' survey of 266 Washington State family practitioners providing obstetrics showed that 79 percent had discontinued practice, and half of these had done so due to issues related to professional liability.[69] In 1986 alone, 23.3 percent of the members of the American Academy of Family Physicians had stopped delivering babies.[70] These results have been echoed in Maine[71], Arizona[72], and in North Carolina.[73]

For North Carolina family physicians, despite the fact that they pay some of the lowest liability premiums in the nation, "high" insurance costs are a reality. The North Carolina Academy of Family Practitioners has estimated that approximately 40 percent of family practitioners have dropped obstetrics because of the high cost of liability premiums.[74] In North Carolina this trend has direct consequences for public health, especially for those who need obstetrical care in rural areas.[75] In response to these concerns, the North Carolina legislature passed the North Carolina Rural Obstetrical Care Incentive Bill.

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[67]Rosenblatt and Detering. "Changing Patterns," 103.

[68]DeFriese G. "Needed Research on the Impact of the Liability Insurance Crisis." *Family Medicine* 20(March-April 1988):85.

[69]Rosenblatt and Wright. "Rising Malpractice Premiums," 246.

[70]Robertson W. "Access to Obstetric Care: A Growing Crisis." *The Journal of Family Practice* 27(1988):361.

[71]Final Report: Medical Malpractice Liability Study. Submitted to the Legislative Council. Portland, Maine: Public Health Resource Group, 1989.

[72]Gordon RJ, Higgins BA, Walters JB. Declining Availability of Physician Obstetric Service in Rural Arizona and Medical Malpractice Issues. Unpublished Manuscript, University of Arizona Family and Community Medicine Rural Health Office, Phoenix, Arizona, 1989.

[73]Ricketts TC. Interim Results of A Study of North Carolina Obstetrical Manpower. Chapel Hill, NC: North Carolina Rural Health Research Program, Health Services Research Center, 1989.

[74]North Carolina House, HB2424; (Figure obtained by taking figure of those providing service in the present and dividing by figure of those who practiced before 1985).

[75]"Legal System Not to Blame," Editorial. *News and Observer*, Raleigh, NC: October 10, 1988.

THE NORTH CAROLINA RURAL OBSTETRICAL CARE INCENTIVE ACT

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 1).[76] The concept of the bill originated in 1985, after the Academy of Family Physicians lost appeals over high malpractice premiums, both to Medical Mutual and to the North Carolina Insurance Commission.[77]

After formulating the concept, the idea was given to Southern Strategy, a North Carolina lobbying group which represents the Academy'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 like the fact that he was close to 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 is 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 money to $240,000 from the $960,000 specified in the original bill.[78] The bill was folded into a larger appropriations bill, Senate Bill 257, Chapter 1086; the relevant text is found in Appendix 2.[79]

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."[80] 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

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[76]North Carolina House, HB2424.

[77]Henley D. President, North Carolina Academy of Family Physicians. Personal Interview. December 4, 1988.

[78]Wright K. Lobbyist, Southern Strategies. Personal Interview. November 22, 1988.

[79]North Carolina Senate. "Rural Obstetrical Care Incentive Appropriations." 99th Congress, 2nd Session. Chapter 1086 of Senate Bill 257 (S257). August 1988.

[80]North Carolina Senate, (S257), August 1988.

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 1 and 2), 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.[81] Sections 8B.0900 to 8B.0906 of these codes contain the rules regulating Rural Obstetrical Care Incentive Funds.[82] Of specific interest are the definitions regarding underserved counties with regard to obstetrical care:

> 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:
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> 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.

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[81]Koetzy J. Health Liaison, Institute of Government. Personal Interview. December 1988.

[82]North Carolina Commission for Health Services. "Temporary Rules–Rural Obstetrical Care Incentive Funds." North Carolina Administrative Code .0900. North Carolina Office of Administrative Hearings. Raleigh, North Carolina. October 1988.

Rules limit the amount of compensation for liability premiums any one underserved county can receive to $19,500.

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.

Estimated Impact of the Rural Obstetrical Care Bill

Malpractice costs

Can the North Carolina Rural Obstetrical Care bill decrease the impact of malpractice costs on obstetrics? The bill 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 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.[83]

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

[83]Mitchelson. Medical Protective, November 1988.

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.[84] 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 bill was intended to address.

Estimated impact on the extent of obstetrical service

Currently there are twenty-two counties in North Carolina that have no physicians to provide care and another twenty in which half the expectant mothers must leave the county for obstetrical care.[85] 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.[86] Another consideration is the diversification of the physician's patient base. As the mix of payer types

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[84]Rosenblatt and Detering. "Changing Patterns," 106.

[85]North Carolina House, HB2424.

[86]Tietze, Gaskins and McGinnis. "Attrition From Obstetrical," 204.

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.[87]

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.[88] 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.[89]

A final characteristic which might influence physicians is the commitment of the state to continue the ROCI program. If the state drops this program, physicians will have to assume the cost of increasing malpractice premiums (claims made policies), and also provide more obstetrical care for low income patients. In addition, if the state does drop this program, physicians who decide to drop obstetrical care again will be saddled with the more expensive tail insurance.

IMPLEMENTATION OF THE RURAL OBSTETRICAL CARE INCENTIVE PROGRAM

Application process

The temporary Administrative rules, adopted as permanent rules in November of 1988, provided application guidelines for county health departments to follow. These guidelines included formal notification requesting applications and were mailed to all county health departments in October. The departments were requested to return the completed application to one of four regional health departments within 45 days (see Appendix 3 for the complete implementation schedule). The health departments then notified physicians who were potential participants. Any physician requesting program funds was required to apply to his/her local health department which had responsibility for the local administration of the program. Upon receipt of the application, regional office staff reviewed it to ensure that the application was complete and that all criteria were met.

Initial problems encountered in the application process included physicians requesting the maximum amount of compensation stipulated in the legislation ($6500 per physician) when the difference between their OB and non-OB coverages did not reach that level. The compensation a physician was eligible to receive was individually calculated from information provided by their

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[87]Gordon, McMullen, Weiss, and Nichols. "The Effect of Malpractice Liability," 10.

[88]Henley. Academy of Family Physicians, December 1988.

[89]Rosenblatt and Wright. "Rising Malpractice Premiums," 247.

liability insurers. The compensation could be only for the cost difference between a premium which covered obstetrical care and one which did not, up to the maximum compensation allowed a physician in the legislation. Applications which were complete and met program guidelines were sent to the Maternal and Child Health Branch of the Division of Health Services by December 5, 1988 to qualify for funding. The Maternal and Child Health Branch then reviewed each application to determine the degree of underservice, a measure which provided the basis for funding recommendations. All funding recommendations were discussed with the Section chief, whose decision established the amount of money to be awarded in each case. Local Health Departments were notified of the funding decisions on January 3, 1989, and were given 45 days to return physician contracts to the Maternal and Child Health Division. These contracts indicate the terms which each physician must meet to receive program funds (details of which are found in the North Carolina Administrative Code).[90] After reviewing physician contracts, the Maternal and Child Health Division distributed the funds to the local health departments during the month of February, 1989.

Priority Grouping

Key in helping determine which counties would receive funding were the criteria used to establish the priority of underservice in regard to obstetrical care. Criteria used by the Maternal and Child Health Branch in determining underservice were derived from the North Carolina Administrative Code definition of underservice in terms of obstetrical care.[91] Grouping counties by priority of underservice provided the Maternal and Child Health Branch with a method of deciding how to distribute the limited amount of money provided by the General Assembly.

The priorities used to establish the degree of underservice by the Maternal and Child Health Branch were interpreted from the Statute by the North Carolina Medical Care Commission and were intended to meet the following criteria, ranked from highest to lowest in priority:

(1) To ensure that each county has access to public or private prenatal services and a public prenatal clinic.

(2) To ensure that these public prenatal clinics have physicians to staff or backup the current providers in these clinics.

(3) To ensure that counties have adequate obstetrical coverage. The two measures chosen as indicating inadequate coverage were: (a) a waiting period of 28 days or more

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[90]North Carolina Commission for Health Services. "Permanent Rules—Rural Obstetrical Care Incentive Funds." 10 North Carolina Administrative Code 8B.0900. North Carolina Office of Administrative Hearings. Raleigh, North Carolina. November 30, 1988.

[91]North Carolina Commission. "Permanent Rules", November 30, 1988.

(established through an informal telephone survey conducted by the Maternal and Child Health Branch), and (b) the occurrence of 50 percent or more of resident live births in another county.

(4) To preserve obstetrical services in counties where physicians had threatened to discontinue these services.

Local health departments were required to document reasons why they qualified as an underserved county in terms of obstetrical care using these criteria. The Maternal and Child Health Branch used local health department descriptions to categorize each county into one of the above listed priority groupings. If a county qualified in more than one grouping, its need was determined by its highest priority grouping. Counties were not ranked within priority groupings except in group four, where counties were ranked by order of importance based on the actual threat of discontinuation of service by physicians. Local health departments documenting this fact received a higher rank in priority grouping 4.

While these priority groupings provided a guideline in determining which counties would receive assistance, they did not guarantee that a county in a high priority category would be funded. The Maternal and Child Health Branch wanted to fund those counties with the highest priority, but in order to receive the funds, a physician and the corresponding county had to agree to certain reporting requirements and to meeting the provisions of the program. Two of the counties which qualified for funding were disqualified on the basis of not meeting program requirements. In one of these cases, the physician applied for funding through two separate health departments, and had already received funding through one health department. In the other case, the physician did not plan to provide service in the health department from which the application was received.

In addition, where feasible, funding was targeted according to state-designated prenatal districts, where physicians who agreed to serve residents in multi-county districts received funds. Prenatal districts are established for two or more adjacent counties in isolated rural areas, in order to consolidate health services for a region. Two groups of counties, three in the northeast and three in the west, received funding as prenatal districts.

Distribution of Funds

The Maternal and Child Health Branch received 28 applications from local health departments, representing 63 physicians in 31 counties. These 28 applications requested $362,729, or $113,000 more than program funding allowed. Sixteen of these applications came from the eastern part of the state, and another nine from the western part. This distribution was expected, as these two more rural areas of the state traditionally have had problems with access to pre-and post-natal care. Of

the counties represented, 4 were classified in priority group one, 2 in priority group two, 16 in priority group three, and 9 in priority group four.

Of the 28 applications received, 21 were funded, representing 52 physicians in 22 counties. Of the 52 physicians receiving funding through the program 31 were Family Practitioners and 21 were Obstetricians-Gynecologists. Geographically, 12 eastern, 5 western and 5 central counties were represented in the final funding decision. Funded counties fell into priority areas as follows: 3 from priority grouping one and two, 1 from priority three, 16 from priority four, and 2 from priority five.

Since payment was based on the premium differential of participating physicians it is important to look at the ranges of payments. Funding of the premium differential for obstetricians/gynecologists ranged from $2,296 to the $6,500 allowed by the program. The applications received by the Maternal and Child Health Branch revealed that the average annual premium differential for these physicians was $13,396. The premium differentials were less for family practice physicians, running from a low of $802 to a high of $6,348. The average premium difference for these physicians, by contrast, was only $4,460.

Of the 22 counties funded, 6 received the maximum amount allowed by the legislation ($19,500 per county), and 16 of these counties received the total amount which they requested in their application. The range of grants was from a low of $802 to a high of $19,500, with the average for all twenty-two counties being $10,909. Funds were sent to the county health departments for distribution to the participating physicians between January 31 and February 28, 1989, although the program officially started January 1 and is scheduled to run through December 31, 1989.

Initially, the program was designed to provide financial incentive 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. Of the applications funded, approximately four went to preserve obstetrical care, as physicians in these counties had threatened to withdraw service if funding was not received.

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. To this end, the ROCI program funded 15 counties in the hope of providing increased obstetrical coverage in rural counties.

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.

Current Legislative efforts

The effort to expand the ROCI program began well before its first year of operation. A bill to expand the ROCI program, HB989, was introduced into the 1989 session of the General Assembly by the original bill's sponsor, Representative Robert Hunter. The expansion bill sought to expand the funding level to $1,000,000 for fiscal year 1989-90, and to $2,000,000 in fiscal year 1990-91.

The hope of the Maternal and Child Health Branch was that this added money would induce physicians who have quit obstetrics to once again provide these services. In addition, some advocates in the General Assembly sought an increase in the reimbursement rate for Medicaid deliveries from $650 to $950, and rules to increase the eligibility for Medicaid funds to pregnant women. These attempts succeeded in the 1989 Session of the Assembly. However, the General Assembly did not consider the ROCI expansion bill.

The problem of obstetrical access was receiving high visibility throughout the State as North Carolina's infant mortality rate increased for the second successive year, a trend which Dr. Richard Nugent, Director of the Maternal and Child Health Division, believes is tied to both the shrinking provision of obstetrical care and the increasing number of women dependent upon health departments for their prenatal care.[92] Many observers feel that with the increasing rise in infant mortality in North Carolina, additional money will be allocated for expansion of the ROCI program (or similar bills to increase prenatal access), although the specific amount will probably be modified in times of fiscal restraint.

PROGRAM EVALUATION

The ROCI program represents one of a number of interventions aimed at improving perinatal outcomes in the State of North Carolina. It can serve as a model for other states concerned with the pressures medical malpractice insurance costs have placed on an already shrinking supply of obstetrical providers in rural areas. But malpractice is only one of several concerns physicians have about providing prenatal care and deliveries outside of metropolitan hospitals, and there remains a significant trend away from including obstetrics as part of family medicine. How then can we assess the ability of the ROCI program to make a difference?

The evaluation of the success of the ROCI program in improving access to obstetrical care is dependent upon selecting appropriate outcome measures. The ROCI program is intended to improve

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[92]Alvarado D. "N.C. Infant Death Rate Up 4.3%; Figures Show Blacks Suffer Most." *News and Observer* Raleigh NC: October 6, 1988.

access to obstetrical services by subsidizing the liability insurance costs to providers in underserved counties and thus improving access to obstetrical care. The main study question is: does this subsidy result in an increase in availability, thus improving utilization of these services?

Information traditionally found on either discharge or birth records has been used to examine utilization patterns and has provided a broader understanding of North Carolina residents' utilization of prenatal services. By itself, however, these data fail to take into account specifics important to effective evaluation of the ROCI program such as participating physician characteristics, maternal characteristics, and birth outcomes. Utilization and outcome measures combined can provide measures which help determine whether access is realized in rural areas.

Physician Characteristics

Since the ROCI program seeks to increase access for all county residents, regardless of ability to pay, measurements of participating physicians' case loads would also provide a broad evaluative measure. Included in physician case load measurements should be the number of deliveries to county residents, and the number of each participating physician's patients needing to be referred to outside counties. While the first is a crude measure of access, it would allow for a pre-and post-implementation snapshot, to see if the ROCI program has increased access in real numbers. The second measure would allow comparisons of county residents who utilize services out-of-county due to actual need of services beyond what the physician or county could supply.

Measurement of county residents' awareness and opinion of prenatal services could easily be obtained either through the use of a written survey or telephone survey of women of child bearing age. In addition, this survey should seek to identify any cultural or social barriers (education, occupation, general health care beliefs) which would inhibit women of child bearing age from utilizing the services which are available. Ideally, a pre-ROCI program survey would have been instrumental in determining the extent of these barriers (whether real or imagined) and providing a baseline from which to later measure the success of the ROCI program in removing mutable barriers. Since the program is already operating, a survey would only identify the barriers which now exist, and suggest how the ROCI program could be modified to remove currently perceived barriers.

Finally, maternal compliance with a physician-prescribed regime needs to be considered in determining if providing access to prenatal care in rural counties through the ROCI program can improve perinatal outcomes. One measure of maternal compliance can be constructed using a Kessner Index or other standard of prenatal care.[93] In addition, requiring pregnant women to keep a record of

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[93]Kessner DM, Singer J, Kalk CE, Schlesinger ER. Infant Death: An Analysis by Maternal Risk and Health Care. In Contrasts in Health Status, Vol. 1. Washington, DC: National Academy of Sciences. And Kotelchuck M. The Mis-measurement of Prenatal Care Adequacy in the U.S. and a Proposed Alternative Two-Part Index. Paper presented at the American Public Health Association Annual Meeting, New Orleans, LA, 1987.

their personal habits would lead to a greater understanding of maternal risk factors and their role in adverse outcomes. Delineation of these factors would aid in the identification of those which are beyond the control or scope of the ROCI program.

Birth Outcomes

Understanding the impact that the use of out-of-county prenatal services has on perinatal outcome is important in determining how current patterns of utilization can or need to be changed, and if the ROCI program is the appropriate intervention for improving access. Birth data is usually available from state health departments and some states have unified databases that describe hospitalizations. North Carolina has recently implemented a statewide discharge summary data collection and reporting system, and this could provide the basic material for outcome measures if the birth is linked to subsequent hospitalizations. Nesbitt and colleagues at the WAMI Rural Health Research Center have suggested using birth complications as a measure of comparative outcomes.[94] Another method is to obtain the medical record of the infant, selecting appropriate criteria for measuring the outcome. Studying outcomes could aid in evaluation of the cost effectiveness of the ROCI intervention. Although the ROCI program may not improve perinatal outcomes measured by infant mortality because of the lack of sensitivity in that measure, there could be an incurred economic benefit, as infants from ROCI counties might require fewer high-cost medical interventions. If this benefit does exist, North Carolina might consider expansion of the ROCI program as a cost-effective intervention.

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[94]Nesbitt T, Rosenblatt R, Connell F, Hart LG. "Access to Obstetrical Care in Rural Areas: Effect on Birth Outcomes." WAMI Rural Health Research Center Rural Health Working Paper Series Vol. 1, No. 4 July 1989.

CONCLUSION

Summary

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.

Recommendations

Addressing the problem of availability of obstetrical care in North Carolina will require an innovative and cooperative effort. The Rural Obstetrical Care Incentive Bill, while being an innovative idea, is only a first step toward solving the problem of access in rural areas.

In addition to compensation, therefore, the state should approach the medical community about ways to improve practice standards, which, in theory, should help reduce the number of malpractice lawsuits. Granted, physicians cannot guarantee the perfect outcomes of birth expected by patients, but they can work on improving the physician-patient relationship, as well as supporting higher practice standards for their colleagues. Model programs for addressing these aspects of the crisis exist.[95]

Problems fostered within the insurance industry also need to be addressed, as higher standards for investments through increased regulation might help. Part of the cyclic nature of malpractice is encouraged by the insurance industry, which "on a whole ignored the gradual normal increase in malpractice losses since 1977 and instead based its premiums on competitive considerations rather than

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[95]Calonge N. "Colorado Obstetrical Care Malpractice Study Report." *Colorado Medicine* 85:4(February 15, 1988):63-65.

sound underwriting principles."[96] While the problem of competitive underwriting currently might not exist, the state might want to examine some preventive action to prevent it from happening.

One last consideration is that the state might take further legislative approaches, in addition to what it has already done. For instance, it could set up a compensation fund for babies who are severely damaged at birth; Virginia has recently enacted a bill along these lines.[97] Another possibility could be to have state funding for family practice residencies tied to providing obstetrical care in underserved counties upon graduation.[98] Finally, the state could enact tort reform, such as the bill recently introduced which proposes limiting the statute of limitations (Senate Bill 241).[99] These are just some of the possibilities the state can take into account when approaching this complex situation. North Carolina is fortunate that its problem is not as great as that being experienced by some other areas. However, the trends described earlier continue, and the central question remains—can limited responses meet multifaceted problems.

The ROCI program should be examined in the light of the system-wide forces that it faces. Serious consideration must be granted to what access to obstetrics in rural North Carolina will look like in the next decade given the phasing out of the National Health Service Corps, a primary care system that is evolving away from solo practice even in rural areas, trends to make obstetrics a referral specialty heavily dependent upon tertiary care centers, and a malpractice climate that appears unstable at best and out-of-control at worst.

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[96]Kendellen. "The Medical Malpractice Insurance," 7.

[97]Framme L. "Cinderella: The Story of HB1216." *Virginia Journal of Medicine* 114(May 1987):284-288.

[98]Harmon R. "New Laws Ameliorate OB Crisis in Missouri," Editorial. *American Journal of Public Health* 78(January 1988):96.

[99]North Carolina Senate. "A Bill to Reduce the Statute of Limitations." 99th Congress, 2nd Session. (S241). June 1988.

APPENDIX 1

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 2

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.

Appendix 3
Rural Obstetrical Care Incentive Program Implementation Schedule

SEPTEMBER 28, 1988	Proposed Administrative Rules (10 NCAC 8B.0900) were adopted as temporary rules by the Commission for Health Services.
OCTOBER 19, 1988	Requests for proposals, including application guidelines, were mailed to all Health Departments
NOVEMBER 16, 1988	Public hearing was held to consider adoption of 10 NCAC 8B.0900 as permanent rules.
NOVEMBER 22, 1988	Deadline for local health departments to submit applications to ensure completeness.
NOVEMBER 23-DECEMBER 4, 1988	DHR Regional Office staff reviewed Health Department applications to ensure completeness.
NOVEMBER 30, 1988	The Commission for Health Services adopted 10 NCAC 8B.0900 as permanent rules.
DECEMBER 5, 1988	Deadline for DHR Regional Office staff to submit applications to the Maternal and Child Health Branch, Division of Health Services.

DECEMBER 6-22, 1988	Maternal and Child Health Branch reviewed applications to determine priority category and made funding recommendations to the Maternal and Child Care Section Chief.
JANUARY 3, 1989	The Division of Health Services notified applicant Health Departments of projects selected for funding.
JANUARY 20-FEBRUARY 20, 1989	Deadline for the Division to receive signed contracts, budgets and physician agreements from participating Health Departments.
JANUARY 31-FEBRUARY 28, 1989	Division sends payments to participating Health Departments for distribution to participating physicians.

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