INTERIM REPORT OF THE
JOINT SUBCOMMITTEE STUDYING

The Definition Of Compensable Injury And The Funding Mechanism Of The Virginia Birth-Related Neurological Injury Compensation Act

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

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INTERIM REPORT OF THE JOINT SUBCOMMITTEE STUDYING THE DEFINITION OF COMPENSABLE INJURY AND THE FUNDING MECHANISM OF THE VIRGINIA BIRTH-RELATED NEUROLOGICAL INJURY COMPENSATION ACT

to

The Governor and the General Assembly of Virginia

Richmond, Virginia

February 1990

To: The Honorable L. Douglas Wilder, Governor of Virginia,
and
The General Assembly of Virginia

I. EXECUTIVE SUMMARY

A. Authority for Study

House Joint Resolution 297 of 1989 (Appendix A) established a joint subcommittee to study the current definition of "birth-related neurological injury" under the Virginia Birth-Related Neurological Injury Compensation Act and to study its existing funding mechanism to determine whether any modification is necessary or desirable.

The subcommittee consisted of eight members as follows: five members of the House of Delegates that were appointed by the Speaker of the House; and three members of the Senate that were appointed by the Senate Committee on Privileges and Elections.

B. Overview

In 1987, the General Assembly enacted the Virginia Birth-Related Neurological Injury Compensation Act ("the Act") in response to an apparent malpractice insurance availability crisis. This law effectively removed from the tort system a narrowly defined class of infants with severe birth-related injuries who presented severe and unpredictable risks to malpractice carriers. The immediate crisis was averted when a major malpractice carrier lifted its moratorium on writing new obstetrical policies soon after enactment of the bill.

This law established a state-administered, privately generated compensation fund ("the Fund") from which claimants may receive payment for lifetime medical, hospital, and other expenses. There have been no claims filed since the Act's January 1, 1988 effective date. Largely as a result of the absence of claims, this joint subcommittee was established to examine (i) whether the definition of injury is meeting the intent of the Act and (ii) whether any adjustment to the funding mechanism is needed.

The joint subcommittee made important progress toward strengthening the existing law by isolating aspects of the Act that may merit closer scrutiny. This report will review the subcommittee's work and will identify possible areas of study for future consideration.

II. BACKGROUND

A. History and Purpose of the Act

In 1986, a joint subcommittee was established to study "The Liability Insurance Crisis and the Need for Tort Reform." In its report to the Governor and the General Assembly (Senate Document 11, 1987), the subcommittee noted that problems of malpractice insurance availability facing obstetricians had "truly reached a crisis level." The report indicated that St. Paul's Insurance Company and the Virginia Insurance Reciprocal had placed a moratorium on new business for obstetricians, and a third insurer, PHICO, announced on November 1, 1986, a national policy that effectively cancelled the renewals of the policies of 1,100 of its insured physicians, including approximately 140 obstetricians in Virginia.

One legislative response to the insurance availability crisis during the 1987 Session of the General Assembly was the enactment of the Virginia Birth-Related Neurological Injury Compensation Act.

This legislation was proposed by the Medical Society of Virginia, a professional association of Virginia physicians. This association's intention was to remove infants with catastrophic birth-related injuries from the tort system by placing them in a statutory compensation program in order to increase the availability of medical malpractice insurance. The Act's sponsors also hoped that malpractice insurance premiums for participating physicians and hospitals would be reduced to reflect the risk reduction achieved by insurers through the Act.

The Act was passed by the General Assembly and apparently achieved its purpose. The Reciprocal lifted its obstetrical malpractice underwriting moratorium, and other Virginia carriers resumed writing obstetrical policies, as well. Moreover, in May of 1988, the Virginia Commissioner of Insurance directed malpractice carriers in the Commonwealth to reduce malpractice premiums to the extent actuarially justified. The Medical Society of Virginia reported in September of 1989 that participating physicians could obtain premium discounts from at least two major carriers.

B. The Program in Operation

Eligibility criteria. The Act created the Virginia Birth-Related Neurological Injury Compensation Program ("the Program") which is charged with carrying out the provisions set forth in §§ 38.2-5000 through 38.2-5021 of the Code of Virginia. Effective January 1, 1988, the Act applies to live births where infants sustain brain or spinal cord injuries caused by oxygen deprivation or mechanical injuries that occur in labor, delivery, or the immediate post-delivery period. In addition, the infants must be permanently in need of assistance in all phases of daily living. Injury or death caused by genetic or congenital abnormalities is excluded from the Act's coverage.

As a further eligibility requirement, the birth must occur in a participating hospital, and the obstetrical services must be provided by a participating physician. Eligibility for an award pursuant to the Act is not dependent on fault; the Program operates much like Workers' Compensation (i.e., as a no-fault system). Moreover, awards from the Fund are the exclusive remedy afforded to injured infants falling under the Act. Thus, the claimants are precluded from seeking recourse through the court system.

Funding the Program. The Fund is maintained through assessments on both hospitals and physicians. Currently, participating hospitals contribute $50 per live birth, not to exceed $150,000 per year, based on the hospital's number of births during the previous year. Participating physicians and licensed nurse-midwives are assessed $5,000 per year, and all other physicians licensed in the Commonwealth of Virginia pay $250 annually.

If the above sources are judged to be inadequate to maintain the Fund on an actuarially sound basis, all insurance companies that write liability insurance in the Commonwealth can be assessed up to one-quarter of one percent of their net direct liability premiums.

The Commission hearing and award. Claims brought pursuant to the Act must be filed with the Industrial Commission within ten years of an eligible infant's birth and the Commission must conduct a hearing within 120 days after a claim is filed. The Commission first determines whether the claimant has sustained a birth-related neurological injury. In addition, the Commission must also find that obstetrical services were rendered to the claimant by a participating physician in a participating hospital.

If a claimant satisfies the three-part eligibility criteria, the Commission makes a compensatory reward. Medical, hospital, rehabilitative, residential, and custodial care expenses are paid from the Fund as they are incurred. The claimant is also compensated for loss of earnings after he reaches the age of eighteen. Additionally, the claimant may recover for reasonable expenses incurred in filing the claim, including attorneys' fees. The claimant's award is subject to coordination of benefits with private insurance and other governmental programs. Further, the Program is secondary with respect to such other sources, except where prohibited by federal law.

Claims experience. During the Act's drafting stage, the Medical Society of Virginia ("the Medical Society") advocated an injury definition that attempted to capture severe cerebral palsy cases. Medical literature had indicated that the incidence of such cases in Virginia, based upon the annual number of deliveries, would be about forty infants per year, with an estimated $500,000 present value cost per claim. However, the definition of "birth-related neurological injury" was amended in the legislative process in 1987, resulting in a more restrictive definition. To date, no claims have been filed with the Industrial Commission. Program representatives reported a compensation fund balance of nearly $15 million in the fall of 1989.

C. Subcommittee Participants

The subcommittee received materials and testimony on the issues from a wide variety of persons and groups at its meetings, including the Medical Society of Virginia, the Williamson Institute for Health Studies, several physicians, the Virginia Hospital Association, the Virginia Perinatal Association, two actuaries, insurance industry representatives, the Virginia Trial Lawyers Association, and several agencies of the Commonwealth.

Delegate Clifton A. Woodrum served as chairman of the joint subcommittee. Other members appointed to serve from the House of Delegates were J. Samuel Glasscock, J. Paul Councill, Jr., Vincent F. Callahan, Jr., and John G. Dicks.

Senator Elliot S. Schewel served as vice chairman of the joint subcommittee. Other members appointed to serve from the Senate were Robert C. Scott and Clarence A. Holland.

Mark C. Pratt, research analyst, and Arlen K. Bolstad, staff attorney, both from the Division of Legislative Services, served as research and legal staff for the joint subcommittee.

III. WORK OF THE SUBCOMMITTEE

Due to the absence of claims since the Act's inception, the subcommittee's focus at its first meeting centered on examination of the definition of "birth-related neurological injury." To a lesser extent, the subcommittee initially addressed the mechanism for funding the Program. This was also a result of the claims experience, since some parties maintained that assessments were too large, or perhaps unnecessary, because there had been no outlays from the Fund.

The direction of the subcommittee's work was significantly altered prior to its second meeting when the Bureau of Insurance's actuarial investigation of the Program was completed [note: a provision in the Act requires that an actuarial review was to be conducted based upon the Fund's experience in the first year of operation, and thereafter, an actuarial valuation of the Program's assets and liabilities is to be made no less frequently than biennially]. The analyses indicated that the Program was underfunded, despite the fact that no claims have been filed.

Consequently, the two primary issues addressed by the subcommittee were: (i) possible modifications to the definition of "birth-related neurological injury" and (ii) examination of the compensation fund. These issues, along with the other topics considered by the subcommittee, will be discussed separately in this report. Clearly, though, there is a significant degree of interplay between all of the issues that the subcommittee addressed, and no specific issue can be, or was, viewed in isolation.

A. Testimony

(1) DEFINITION OF INJURY

Key testimony: Dr. Barbara S. Brown, PhD., Williamson Institute for Health Studies, Medical College of Virginia, Virginia Commonwealth University.

The joint subcommittee heard from several persons who asserted that the current definition of birth-related neurological injury (§ 38.2-5001) is drawn so narrowly that it is not effectively meeting the objectives of the Act. The subcommittee learned that the definition was amended in the legislative process whereby the phrase "results in permanent physical or mental impairments and which will render the infant unable to engage in substantial gainful activity upon reaching maturity, assuming a sufficient life expectancy," was replaced with the phrase "renders the infant permanently nonambulatory, aphasic, incontinent, and in need of assistance in all phases of daily living."

It was pointed out that the legislature purposely structured the definition restrictively to alleviate some concerns about the uncertainty of the Program's costs and to ensure that coverage would not be extended to infants with less severe injuries, such as learning disabilities.

Several witnesses testified that the Act's effectiveness is limited because it is unlikely that high payout cases will be removed from the tort system. They maintained that the definition of injury requires the infant to be so severely injured that the chance of survival is minimal. Indeed, Dr. Brown stated that the current legal injury definition is principally "one that is incompatible with life." According to some parties, this impedes the ability of the Act to be an effective measure because the Program's success, to a certain extent, depends on its ability to provide coverage for those children likely to bring lawsuits.

Some witnesses asserted that the current definition could be improved to better capture the cases that were intended to be covered by the original legislation. Dr. Brown told the subcommittee about three interrelated studies she conducted in coordination with the Medical Society and its examination of the Act's injury definition. A portion of her work is annexed to this report as Appendix B. This analysis evolved into the injury definition eventually advocated by both Dr. Brown and the Medical Society (see III B., p. 9, "Recommendations").

Testimony indicated that the proposed definition does not represent an expansion of the current injury definition. Rather, medical and actuarial experts appearing before the subcommittee maintained that it clarifies the current definition by articulating more precisely the type of injury that the original definition was intended to capture.

Representatives from the Virginia Trial Lawyers Association expressed the Association's opposition to changing the injury definition. They maintained that the proposed definition will expand coverage to additional infants, which would serve to deny claimants the potential for larger recoveries offered by the tort system.

(ii) SOUNDNESS OF THE FUND

Key testimony: Mr. Frank J. Karlinski III, Principal Actuary, William M. Mercer Meidinger Hansen, Inc., consultant for the State Corporation Commission's Bureau of Insurance.

At the second meeting of the subcommittee, Mr. Karlinski reviewed the results of his firms's actuarial investigation of the Virginia Birth-Related Neurological Injury Compensation Fund. That analysis, and its subsequent revision, are attached to this report as Appendices C and C1.

This study assessed the soundness of the Fund for the three-year period 1988-1990 by comparing estimates of assessment income to be generated by the Program with the present value of estimated claims costs over the same period. Necessarily, many assumptions were made because the Program has not had any claims experience from which to draw data. Mr. Karlinski noted in his testimony and report that the actuarial findings are subject to a great deal of variability due to the absence of claims.

Using the criteria for actuarial soundness set forth by the study, the analyses indicated that the Fund is not actuarially sound. As a result, on November 3, 1989, the State Corporation Commission issued an assessment order directing a one-tenth-of-one-percent assessment of the net direct written premiums written in the Commonwealth by liability insurance carriers on the classes of insurance authorized by the Act. The assessment order and a listing of the top ten assessments by insurance company group, as provided by the Bureau of Insurance, are included as Appendix D of this report.

A summary of Mr. Karlinski's estimates for 1990 is provided below:

Actuarial Estimates for Program Year 1990

Assessment Income:			
Participating physicians @ $5,000/ea.		$1,898,000	
Participating hospitals @ $50/live birth		2,931,000	
Non-participating physicians @ $250/ea.		1,932,000	
Liability premiums assessment of 0.1%		2,800,000	
Total Assessment Income			$ 9,600,000
Present Value of Estimated Claims Costs (intermediate estimate):			
Present value of costs per claim		$ 428,000	
[Less: Offsets]			
Number of claimants:			
Injury frequency	.00035		
Est. # of covered births	70,300		
Total number of claimants		25	
Total Present Value of Estimated Claims Costs			$10,700,000
FUND DEFICIT			$(1,100,000)

According to Mr. Karlinski's analyses, the Program is underfunded because the present value of estimated claims costs for the three-year period exceeds the income from assessments (by $4.8 million). The SCC directed the assessment order to certain classes of liability insurers to eliminate a portion of the Fund's "deficit."

Testimony revealed that an actuarial review of the Program necessarily requires estimates of "incurred but not reported" (IBNR) cases. IBNR's factor into the analysis the probability that injuries which have already occurred, but have not been reported, will eventually result in claims against the Program. Testimony indicated that reasons for IBNR's include a lack of universal knowledge of the nature and purpose of the Program and the prospect that potential claimants may explore other legal alternatives before filing a claim.

The subcommittee heard considerable testimony on assumptions involving perhaps the most critical components of any actuarial review of the Fund--injury frequency and mortality rate of claimants. Mr. Karlinski's frequency estimate was revised after consultation with Dr. Brown from a median number of twenty-eight downward to twenty-five. Dr. Brown testified that Mr. Karlinski's estimate of twenty-five claimants per year was significantly higher than the range of ten to eighteen per year which she estimated. Both, however, maintained that the proposed injury definition would not increase the number of claims.

In her testimony, Dr. Brown estimated that fifty percent of those infants fitting the current injury definition would not survive past the age of four. Mr. Karlinski's actuarial cost projections were based on a mortality rate twice the mortality rate of cystic fibrosis cases. He told the subcommittee that, based on this assumption, roughly fifty percent of the claimants would not live past the age of ten and less than one-third would survive until the age of eighteen.

Another actuarial study of the Fund was conducted by Tillinghast Co. on behalf of the Medical Society. The subcommittee learned that its yearly cost per claim estimates were quite similar to those of Mercer et al. A portion of the Tillinghast study is included as Appendix E.

One issue left unresolved at the conclusion of the subcommittee's work concerns whether Medicaid should be an offset to the Program's claims costs, pursuant to § 38.2-5009 of the Act. Mr. Karlinski's study estimated that fifteen percent of all claimants to the Program will be uninsured, five percent of which will be eligible for Medicaid. No allowance for Medicaid payments was made in the Mercer Meidinger Hansen study, however, because Mr. Karlinski's research had indicated that Medicaid would not be a primary source of benefits. The subcommittee requested, and received, an opinion letter from the Attorney General regarding the issue of Medicaid benefits as an offset to claims costs pursuant to the Act. The Attorney General's opinion (Appendix F) is that Medicaid should be considered primary coverage for those eligible under the provisions of the Act.

Some subcommittee members questioned whether only five percent of claimants to the Fund will be eligible for Medicaid. They asserted that a poor level of prenatal care would be more likely among indigent mothers, which could lead to an higher percentage of Medicaid-eligible

claimants. Mr. Karlinski told the subcommittee that some evidence suggests that pregnant women who have not had proper levels of prenatal health care have "a higher incidence of problematic births," and stated that the five percent estimate of Medicaid-eligible claimants in his report was adjusted slightly upward to recognize that fact. He maintained, though, that including Medicaid in the offset estimates would result in a relatively minor adjustment to his figures.

The Funding Mechanism. The actuarial study performed on behalf of the Bureau of Insurance which indicated that the Program is underfunded served to sideline efforts to reduce or eliminate any of the assessments originally required by the Act, particularly those required of non-participating physicians. The Medical Society of Virginia stated its support for a suspension of the $250 non-participating physician assessment, but did not vigorously pursue it after the actuarial findings by the Bureau led to the assessment order directed by the State Corporation Commission at certain liability insurers.

Representatives of the insurance industry testified before the subcommittee to state their concern about assessments on motor vehicle, homeowners, commercial casualty, and other liability insurance premiums specified in the Act. They maintained that the liability insurance purchasing public is unfairly involved because the net effect of the assessment is a charge that will be passed on to consumers. Discussion indicated that the per policy effect of these assessments would be less than one dollar per year.

(iii) ACCESS TO OBSTETRICAL CARE

Key testimony: Sandra L. Kramer, Esq., general counsel, The Medical Society of Virginia.

The subcommittee heard testimony which indicated that the Birth-Related Neurological Injury Compensation Act has enhanced the ability of physicians to provide obstetrical care because it has effectively re-opened the malpractice insurance market to Virginia's obstetricians. Ms. Kramer told the subcommittee that problems of access to obstetrical care can be further reduced by "refining and improving" the Act.

According to the results from a statewide survey of family practice physicians and obstetrician/gynecologists, one-third of Virginia's family physicians and obstetricians who have ever provided obstetrical services have stopped providing such services. In her testimony before the subcommittee, Ms. Kramer stated that the primary reasons given by these individuals for leaving their obstetrical practices are high insurance premiums and the risk of a medical malpractice suit. The Medical Society report of the survey results is attached to this report as Appendix G.

Ms. Kramer indicated that one of the best ways to achieve optimal use of the existing physicians who are trained to provide obstetrical care is to develop alternatives to the tort system. She said that the Medical Society continues to endorse the Birth-Related Neurological Injury Compensation Act as such an alternative. Ms. Kramer pointed out that the definition proposed by the Medical Society is an improvement over the current definition because it would better meet the original objectives of the Act and would lead to greater access to obstetrical care.

B. Recommendations

1. TO AMEND THE DEFINITION OF BIRTH-RELATED NEUROLOGICAL INJURY

The joint subcommittee recommends that legislation be enacted which amends the definition of "birth-related neurological injury" in § 38.2-5001 of the Virginia Birth-Related Neurological Injury Compensation Act. A copy of the draft legislation agreed to by the subcommittee is attached as Appendix H.

Basing its opinion on the testimony it received and the lack of claims to date, the subcommittee believes that the definition should be amended to better capture the intent of the original legislation. Testimony from Dr. Brown, Ms. Kramer, and Mr. Karlinski indicated that the definition proposed by the Medical Society of Virginia, and recommended by the joint subcommittee, will clarify rather than expand the current definition.

The subcommittee believes that the proposed injury definition will strengthen the Act because it will more effectively remove surviving children with severe physical handicaps and mental retardation from the tort system. It also believes that enabling those infants that were originally intended to be covered by the Act the opportunity to receive the benefits of the Program will improve the Virginia Birth-Related Neurological Injury Compensation Act.

2. TO CONTINUE THE STUDY

The joint subcommittee recommends that the study be continued for another year. A draft resolution to continue the joint subcommittee is attached as Appendix I. The subcommittee believes that uncertainty concerning the number of claims expected to be made and a related concern about the soundness of the Fund necessitate that the Program be closely monitored once again in the interim.

The subcommittee also believes that a number of important issues arose from its work that require further attention. The initial actuarial investigation of the Fund provided some answers, but many more questions. Despite the absence of claims, the Program was deemed to be underfunded by the Bureau of Insurance's actuary. The assessment order directed by the State Corporation Commission as a result of that actuarial review served to intensify debate about the Program's funding mechanism.

The actuarial investigation of the Fund also led to questions about the potential effect of Medicaid as an offset to claims costs. According to some subcommittee participants, the percentage of Medicaid-eligible claimants could be higher than the five percent estimate made by the actuary. Further, some subcommittee members maintained that the potential financial impact of Medicaid as primary coverage for those eligible under the Program was not adequately resolved. The joint subcommittee believes that issues such as these merit continued attention.

IV. CONCLUSION

The members of the joint subcommittee established pursuant to House Joint Resolution 297 believe that its study of the Virginia Birth-Related Neurological Injury Compensation Act was insightful and worthwhile.

The subcommittee received materials and testimony from a great number of groups and individuals and the process educated all involved. While a tremendous amount of progress was made toward strengthening the Act, the absence of claims thus far and the actuarial investigation of the Fund both serve to illustrate the point that the Act should be monitored and can be improved. The subcommittee recognizes that a functional and sound Program is to the benefit of all the citizens of the Commonwealth.

The joint subcommittee would like to express its gratitude to all participants, especially to Dr. Brown and Mr. Karlinski for their work and dedication.

Respectfully submitted,

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A P P E N D I C E S

Birth-Injured Infants: Claims Frequency and Costs in Virginia 1980-1988

Executive Summary

When the Birth-Related Neurological Injury Compensation Act was passed in 1987 little more than anecdotal reports on the frequency and costs of injured infant claims was available. For this reason, a descriptive study of open and closed malpractice claims for Virginia occurring between January 1, 1980 and December 31, 1988 were reviewed to provide an understanding of the costs in the tort system that would be transferred to the fund. The inquiry also studied the consequences of broadening the enacted definition because of concerns that it did not cover the majority of cases found in the tort system.

Within the nine year period, 71 claims were filed that would have been covered by at least one of four definitions of injury. The definitions were those enacted in Virginia's and Florida's Birth Related Injury Acts and two alternatives proposed by the Medical Society of Virginia's Task Force on the Act. Thirty two of the claims are now closed. High payouts were associated with claims that involved living children having both physical and mental disabilities. Payouts for living children were 430% higher than those for deceased infants. Payouts for children with multiple injuries were about twice the settlements for children with single injuries. Single injuries encompassed cases involving physical disability without mental retardation or mental retardation only.

Unlike a previous study, prematurity was not a significant factor in predicting high payouts. A twin birth was the only obstetric complication likely to be associated with high payouts.

All payouts and over half of the claims occurred in the last three years. Since the enactment of the legislation, the number of claims filed has dropped by two thirds.

Of the four possible definitions, Virginia's was most often associated with death of the child; almost half of the children meeting the definition died. Unless the definition is revised to cover surviving children with severe physical handicaps and mental retardation, the Act's effectiveness as tort reform is quite limited.

Birth-Injured Infants: Claims Frequency and Costs in Virginia 1980-1988

In 1987, when Virginia faced a crisis in availability of obstetric malpractice insurance, the legislature broke new ground by passing the Birth-Related Neurological Injury Compensation Act. The act created a workers' compensation-like program for neurologically injured infants. However, the Act was passed with little more than anecdotal reports on the frequency and costs of such claims. For these reasons, legislators defined entry criteria for the fund that were purposely restrictive.[1] Otherwise, the approach was doomed for failure if the compensation fund could not support the claims from its inception.

A descriptive study of open and closed malpractice claims for Virginia occurring between January 1, 1980 to December 31, 1988 was undertaken to provide a basis for understanding the costs in the tort system that would be transferred to the fund for injuries covered by the Act. The consequences of broadening the enacted definition was also studied because of criticism that it was unlikely to cover the majority of cases found in the tort system.[2] If the children suing for damages differed markedly from those found to meet the definition, the ability of the Act to preempt litigation would be weak.

Materials and Methods

Birth injury claims filed between January 1, 1980 to December 31, 1988 were requested from medical malpractice insurers operating in the state. This

included insurers who had left the state recently but who were insurers of record in the earlier years. The list provided by the Medical Society of Virginia's Task Force on the Injured Infant Act was verified with the State's Bureau of Insurance. The Bureau could confirm the list from 1984 to the present. Prior to 1984 no records were kept. Firms contacted had at least one percent of the market share and reported losses of $300,000 or more for any year since 1984.

All physician liability carriers contacted agreed to participate in the study and allow review of open and closed claims. The five insurers meeting the criteria represented 94 percent of the market share. (The remaining six percent of the market was shared among 63 companies.) From their management information systems lists of obstetric claims were complied and records retrieved from claims handlers. The insurers provided access to their files to the research team on their premises.

The records were abstracted to identify infants fitting the Act's definition and three proposed definitions tested in the previous study.[2] Figure 1 shows the enacted and proposed definitions studied.

To characterize the infants and gain insight to predisposing or accompanying events associated with severe neurologic damage, the following information was collected on each infant: Apgar score, sex, survival, diagnoses, history of obstetric or delivery complications, findings on admission, developmental level and handicaps, age at time of claim and age at settlement, settlement costs and type of settlement.

Although claims are registered by physician policy number, the unit of analysis for this study was individual infant claimants. Cases involving more than one company and/or more than one physician or a physician and hospital

were combined to represent one case. Also, the analysis did not consider successful claims for damages by the mother of the infants.

The number of claims was also reduced by eliminating claimants who did not fit the basic eligibility criteria in the four test definitions. This included children with congenital anomalies and genetic defects, children not suffering from severe anoxia at birth and stillbirths.

Only closed claims were used to generate the cost analysis. Although open cases were reviewed to understand the incidence of such claims, the reserve amount set for each open claim was found to be a fluid number that fluctuated up and down until just prior to settlement. The open reserves appeared to serve as accounting mechanisms rather than clear predictors of the eventual loss payout. For example, at one company it is administrative policy to assign a reserve of $5,000 for loss indemnity and $5000 for expense indemnity to open an injured infant claim. As the case develops the reserve amount fluctuates depending on the company's assessment of its exposure. The amount in the reserve was likely to approximate the settlement only if the settlement was imminent.

To allow comparison of costs across years, dollar amounts were adjusted by year to reflect the effect of inflation and current worth in 1988 dollars. A combination of consumer price index and medical inflation index was used because awards encompassed retribution for more than medical expenses. Figures for loss payouts made in 1989 were not adjusted because they occurred within the first quarter of 1989.

Results

In the 9 years, 78 infant claims against physicians were made. Of these, 52 were against a physician only, and 26 involved a physician and a hospital.

Seven of the 78 were infants whose degree of disability was too mild for inclusion in any of the definitions. These children were dropped from the cost analysis because they did not represent an injury that would be compensated under the current definition or any of the alternative definitions of neurological birth-injured. The most common legal reason for seeking retribution was "failure to do a timely cesarean section."

As of July 1, 1989, 45 of the 71 claims had closed. Thirteen (29%) of these had been abandoned for lack of evidence to support the claimant's assertion of malpractice. One claim was settled with no monetary outlay by the defendant. Thus, 31 claims were available for the cost analysis.

Year of occurrence and frequency are shown in Table 1. The children's birth years ranged from 1978 to 1988. Incidence of injured infants per year is so low that the rate of severely injured infant claims per thousand births is too small to be meaningful. As can be seen from the table, these cases occur very rarely when compared the total live births for the state. Although the birth rate in the state rose 23% between 1980 and 1988, the claims did increase with the birth rate. Approximately thirty percent (29.4%) of the claims arose from premature infants. As a group premature births comprise 7% of all births.

The impetus for the liability crisis can be seen from the frequency of reporting the claims by year. Fifty-five percent of the cases were filed between January 1985 and December 1987. Prior to 1985, relatively few cases were filed. The first payouts for claims entering the system after January 1, 1980 occurred in 1985. The year the Act went into effect, the number of claims reported to insurers dropped by two-thirds ending a three year climb in number of claims filed with insurers. Since 1985, more than eleven million

dollars in loss payouts has accrued. The specific payouts made during the period varied from $37,500 to $966,649.

Given the wide range, the question arises as to what predicts a large loss? Regression analysis of the effect of infant characteristics (survival, Apgar scores, disability, obstetric complications such as prematurity, breech delivery, placental dysfunction and twin birth) and insurance characteristics (type of claim, time to settle) found only three factors to influence loss payout (Table 2). The most significant factor is survival.

Of the 31 cases, 11 died prior to settlement. The median age at the time of death was one month or younger. Seventy five percent of the infants died within 4.25 months of birth.

As shown in Table 3, survival influences the loss payout as well as when claims enter the system. For the deceased infants, claims were made on the average of 9.3 months from birth and approximately 9 months after their deaths. For surviving children, the median age for making a claim was 23.5 months. In both instances, it took 3 years on the average for the claims to clear the tort system. Loss payouts for living children were 430% higher than those for deceased infants. The full life value of the settled claims on living children was about twice the loss payout because of annuity agreements and structured settlements. Families of deceased children received lump sums. The median full-life value of the settled claims for living children approximated one million dollars but ranged from 191,824 to over six million dollars. (Medians are used to evaluate the payouts because extremely large settlements skewed the distribution so that the mean is an unreliable gauge of payout amount.) The method of loss payout was predominantly cash (67.7%).

The second factor to influence the amount of loss payout was the type of injury incurred by the child. Claims of children with both physical and mental disabilities were more likely to incur higher losses than claims of children having a singular disability such as a plexus injury (4), physical disability with normal mental capacity (2), or mental disability with normal physical functioning (1). As can be seen from Table 4, the median payout was about twice the amount for multiple injury as it was for single injury.

The third factor to influence the loss payout was the claimant being a twin. Infant morbidity and mortality are higher in multiple births than single live births,[3] but a twin birth generates two claims. A twin was also likely to have higher settlements than to a single birth if the other twin was normal. Prematurity, breech delivery and placental problems did not significantly influence the amount of the payout.

Of the 31 closed claims, 15 were claims involving a physician and a hospital and 16 involved a physician only. Loss payouts for cases involving a physician only did not differ significantly from those involving both a physician and hospital

Table 5 gives the expenses incurred for attorney representation. The costs vary widely for deceased and surviving children as well as within each category of survival. Financial incentives to file suit on behalf of a surviving child by a plaintiff's attorney exist given the median recovery is $140,151 for representing such a case where settlement is made. This figure does not include expenses which would be an additional amount paid to the plaintiff's counsel out of the settlement money ascribed to the family.

At the same time it appears to be difficult to predict what a case will cost to defend. The median cost is high for both deceased and living children

and varies tremendously. For living children the cost varied by a factor of 24!

Given the large amounts of money involved in these cases, the next question is how much of the loss payout goes to cover medical and living expenses? Table 6 gives the proportion of the loss payout assigned to attorneys (fees), parents and children. The amount received by the parents is expected to cover expenses incurred for the care of the child in the past and for the future. Attorney's expenses are deducted from the amount set aside for the infant.

The final question is, "Which category of definition is associated with the largest payouts?" Based on the regression analysis, the answer is the one with the most survivors and those with physical and mental disabilities. As can be seen from Table 7, the largest payouts are found in the Florida definition. This occurs because it excludes premature infants which makes it the most exclusive category. Premature infants accounted for one third of the cases and were more likely to be deceased. The costs in the Virginia definition are the lowest because 48% of the children in this category died. Median loss payouts are lower in MSVI than in the Florida group even though prematures are not excluded because of the presence of claims for single injuries (plexus injury, physical disability only, or mental retardation only) in this category. MSVII's median payout is lower than Florida category overall because of the presence of deceased children in this group.

Discussion

Several authors have noted that injured infant cases represent the type of case in which the tort system is most likely to fail.[4,5] The fundamental

premise of the tort alternative is that compensation should be based on finding fault on the part of the provider. However, in these cases the extreme sympathy that jurors have toward the injured infants, coupled with the difficulty of assessing the appropriateness of obstetric conduct and the changing theories on the etiology of cerebral palsy prevent the cases from being settled on factual information only.[3-6] The Birth-Related Neurological Birth Injury Act acknowledges the complexities as well as the difficulties of birthing and removes destructive "blaming" that occurs with these claims.

Tort reforms aim to reduce the number of claims filed and reduce the amount paid per paid claims - all of which should ultimately make insurance more affordable and hence help health care providers to keep the costs of care low. The Injured Infant Act reduces legal costs by eliminating the contingency fee arrangements as well as large fees incurred by insurers to defend the suits. Under the act, all compensation is directed specifically to the child's well-being and needs. The child is not at risk for lack of future care because of mismanagement of settlement awards by guardians. Aid is available early in the child 's life rather than beginning at six years, which was the case for surviving children in this sample. In addition, aid is available to all children meeting the definition rather than only those who "win" in the tort system.

Given the random low frequency but large losses, it is difficult for an insurer to predict coverage for these injuries. Discrete predictors of loss payouts are necessary. From the information available in current files, however, the predictors of large payments are global indicators: survival, physical and mental disability, and twin birth. Thus, removing these cases from the tort system should reduce the risk in insuring obstetricians.

For the program to be successful it must also cover those children likely to sue. From this review of claims it appears that the definition is restrictive. Almost half of the children fitting the Virginia definition are deceased. Broadening the definition increases the number of claims. But, the total number of children qualifying for the fund remains low considering the reported incidence of severe cerebral palsy is 2 to 5 per 1000 live births.[3] A large number of deaths also influences the payout to the fund making the actual payments less than projected per case.

Expanding the definition appears a reasonable option given the findings of this study and its predecessor study.[2] Recent human development studies indicate that when damage to a child occurs as a consequence of oxygen deprivation at birth, the impairment is both physical and mental in the form of cerebral palsy exhibited through spastic quadriplegia with mental retardation.[7,8,9] Thus, a definition to meet the intent of the Act should stipulate physical and mental disability as entry criteria. A relaxed definition, but one with explicit constraints or standards of mental and physical functioning, however, may be the prudent choice to eliminate gaming by all parties and provide coverage to those children likely to be part of extraordinary settlements.

It also seems appropriate to continue the option of entering the fund to premature infants. Although they represent a small percentage of births overall, they represented 30% of the claims. Low birth weight infants are significantly more likely to have cerebral palsy than full term infants. However, the majority of cases of cerebral palsy arise in babies of normal weight, delivered near or at term.[6] Since many very sick premature babies who

previously would have died now survive because of medical technologies, increasing handicap levels among these survivors are predicted. [10]

Summary

Over the last ten years, malpractice claims for severely birth-injured infants have been rare. Loss payouts were influenced by survival of the infant and the presence of physical and mental disabilities. Another characteristic of the payouts was their high variability. Singular very high awards made predictions of average payouts unreliable. Under the tort system, recovery for living children was unlikely to occur before six years of age.

The current legal definition of compensable birth-related injury is unlikely to remove high payout cases because it requires a degree of disability likely to be associated with death. If the definition was revised to cover surviving children with severe mental and physical disabilities, the Act's effectiveness as a tort reform would be enhanced.

Fig. 1. Enacted, Proposed Definitions of Birth-Related Neurological Injury.

VIRGINIA DEFINITION

"Birth-related neurological injury" means injury to the brain or spinal cord of an infant caused by oxygen deprivation 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, asphasic, incontinent, and in need of assistance in all phases of daily living. This definition shall apply in live births only.

FLORIDA DEFINITION

"Birth-related neurological injury" means injury to the brain or spinal cord of an infant of term gestation caused by oxygen deprivation 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 and substantially mentally and physically impaired. This definition shall apply to live births only and shall not include disability or death caused by genetic or congenital abnormality.

MEDICAL SOCIETY OF VIRGINIA ALTERNATIVE DEFINITION I

"Birth-related neurological injury" means injury to the brain, spinal cord, or peripheral nervous system of an infant caused by oxygen deprivation 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 or substantially mentally or physically impaired. This definition shall apply to live births only and shall not include disability or death caused by genetic or congenital abnormality.

MEDICAL SOCIETY OF VIRGINIA ALTERNATIVE DEFINITION II

"Birth-related neurological injury" means injury to the brain or spinal cord of an infant caused by oxygen deprivation 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 and substantially mentally and physically impaired. This definition shall apply to live births only and shall not include disability or death caused by genetic or congenital abnormality.

Table 1. Cases Reported and Settled by Year with Payout 1980-1989[1]

YEAR	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total
Total Births	73349	76899	78423	79278	81098	80779	82662	85984	87125	90314	-	-	+23%
Claims Report	0	0	1	1	4	7	4	13	12	17	6	2	67[2]
Birth-year of injured infant	2	2	10	10	9	5	9	13	9	8	1	0	78
Claims settled with payout	0	0	0	0	0	0	0	3	5	5	12	6	31
Birth year of settled claimant	-	-	-	-	-	-	-	1978 1981 1982	1980 1981(2) 1982 1984	1983(3) 1984 1986	1980 1981 1982(3) 1983 1984(4) 1985(5)	1985(3) 1986 1987(2)	31
Loss Payout	-	-	-	-	-	-	-	572,500	2,042,154	2,237,585	4,126,509	2,316,649	11,295,897[3]
Average payout per case								190,833	408,431	447,517	343,876	386,108	-

1 Numbers for 1989 reflect First quarter only
2 Report dates missing for 11 cases
3 Inflation adjusted to 1988; 1989 unadjusted

Table 2. Regression Analysis of Relationship Between Case Characteristics and Loss Payout

Characteristics	Amount in Thousands of Dollars	T statistics
Intercept	$321	1.53
Apgar at 1 minute	-30	-1.09
Apgar at 5 minutes	7	0.26
Survival	468	5.66*
Single injury	-273	-2.90*
Time between birth and settlement	-4	-1.57
Obstetric complications involving placenta	7	0.06
Twin	455	2.38**
Prematurity	-28	-0.29
Breach delivery	-67	0.48
Claims against physician only	124	1.67

N = 28
R^2 = .78

*p < 0.01
**p < 0.05

Table 3. Effect of Survival on Payment and Settlement[1]

Settled Claims	Survived N=20	Deceased N=11
Median loss payout	527,353	121,954
Range of settlement	158,475-966,649	37,500-471,912
Median full life value of settlement	988,268	81,878.80
Range of full life value	191,824-6,396,967	37,500-970,642
Loss paid out from 1980-1989	10,373,653	1,859,555
Mean age from birth when claim made	23.5 mo.	9.3 mo.
Mean age from birth when claim settled	55.6 mo.	43.4 mo.

[1] All dollar amounts awarded before 1988 adjusted to 1988 figures

Table 4. Comparison of Loss Payout and Full Life Value of Closed Claims for Infants with Single and Multiple Injury

	Multiple Injury N=13	Single Injury[1] N=7
Median Payout	653,225	340,500
Range	227,167-1,217,649	214,452-644,810
Total Loss Payout 1980-1989	8,068,572	2,707,131
Median Full Life Value	800,00	1,113,617
Range	165,000-6,396,967	252,199-3,054,048
Total Over Expected Life Time	23,353,926	9,217,665

[1] Injuries were in this group:
four cases of brachial plexus injuries; 2 cases of severe motor disability (paralysis) without accompanying mental retardation, 1 case of mental retardation without motor disabilities

Table 5. Defense and Recovery Amounts for Legal Counsel Incurred in Injured Infants Suits

	Survive N=20	Deceased N=11
Median insurer's defense attorney fee per case	49,390	32,402
Range	10,159-251,000	13,295-113,191
Total	1,322.772	545,027
Median plaintiff attorney fee per case	140,151	38,601
Range	41,639-310,019	4,215-155,731
Total	2,940,984	604,405

Table 6. Proportion of Loss payment Paid to Attorneys, Injured Infant and Parents for Surviving and Deceased Infants

Recipient of Payment	Surviving Infants % of Payment N=20	Deceased Infants % of Payment N=11
Attorneys	38%	52%
Infants	62% → 27%[2]	48% → 22%[1,2]
Parents	62% → 35%[3]	48% → 26%

[1]Paid to estate of infant
[2]Plaintiff attorneys' expenses are subtracted from amount paid to infant. Percentage set aside for expenses is part of the contract between the family and attorney and are not part of the public record
[3]Amount paid to parents is to cover previous and future expenses incurred by the child

Table 7. Loss Payout and Full Life Value of Settled Claims by Definition of Injury

	VA N=19	FLA N=14	MSVI N=31	MSVII N=24
Median loss payment	305,689	539,472	378,085	368,702
Range	92,254-940,214	102,807-826,569	92,254-1,217,649	92,254-1,217,649
Median full life value	456,339	485,796	618,403	485,796
Range	33,285-4,799,673	53,567-4,799,673	33,285-6,396,967	33,285-6,396,967

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MERCER MEIDINGER HANSEN

Commonwealth of Virginia

Virginia Birth-Related Neurological

Injury Compensation Program

Funding Study for Years 1988, 1989 and 1990

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October 13, 1989

Commonwealth of Virginia

Virginia Birth-Related Neurological Injury Compensation Program

Funding Study for Years 1988, 1989 and 1990

This is the report of William M. Mercer Meidinger Hansen, Inc. to the Commonwealth of Virginia State Corporation Commission Bureau of Insurance on the adequacy of funding for the years 1988 and 1989 and the projected funding requirements for 1990 of the Virginia Birth-Related Neurological Injury Compensation Program. The report is presented in the following sections:

Section 1

Background

Chapter 50 of Title 38.2 of the Code of Virginia was enacted by the 1987 General Assembly. This Chapter established the Virginia Birth-Related Neurological Injury Compensation Program (the Program) and required the Program to file a plan of operation with the State Corporation Commission. The original plan of operation for the Program was approved by the Virginia State Corporation Commission on November 20, 1987. An amended plan of operation was approved by the Commission on July 13, 1989, and is currently in effect. It is this latter plan under which this report is produced.

Among the stated purposes of the Program is to assure the lifetime care of infants born with birth-related neurological injuries. To achieve this purpose, the Program is empowered to establish the Virginia Birth-related Neurological Injury Compensation Fund (the Fund) to collect assessments according to an assessment schedule and to disburse funds to injured claimants. Those claimants receiving payments from the Fund are barred from seeking compensation through other means, such as law suits.

The Program began collecting assessments in late 1987 and the compensation mechanism became effective for births as of January 1, 1988. Participation in the Program is optional for both hospitals and physicians. Participating doctors and hospitals receive the benefit of the exclusive remedy provision of he law; and doctors who participate are eligible for lower medical malpractice premiums.

Funding for the program comes from both physicians and hospitals. The current schedule of funding assessments is as follows:

Participating physicians and licensed nurse-midwives pay an annual assessment of $5,000.

Participating hospitals pay an annual assessment equal to $50 per live birth in the previous year, subject to a maximum assessment of $150,000. In addition, hospitals with accredited residency training programs may pay $5,000 per residency position per year.

All physicians licensed in the Commonwealth of Virginia, with certain exceptions, are required to pay $250 per year to the program.

If the above sources are judged to be inadequate to maintain the Fund on an actuarially sound basis, all insurance companies that write liability insurance in Virginia can be assessed up to one quarter of one per cent of their net direct liability premiums written. (Currently, companies are not being assessed.)

To be eligible to receive payments from the Fund, a claimant must file a claim with the Industrial Commission of the Commonwealth of Virginia. The Commission must then determine that the claim meets all of the following criteria:

The injuries claimed are birth-related neurological injuries as defined in the law,

Obstetrical services were performed by a participating physician,

The birth occurred in a participating hospital.

If all three criteria are met, the Commission then makes an award to the claimant based on actual expenses incurred subject to "prevailing rate" maximums. The Program compensates claimants for the following:

Expenses of medical, hospital, rehabilitative, residential and custodial care and service, special equipment or facilities, and travel related to the birth injury, net of reimbursements from governmental programs and private insurance plans;

Loss of earnings, from the age of eighteen through the age of sixty-five, at a rate equal to one half the average weekly wage in the Commonwealth of workers in the private, non-farm sector;

Reasonable expenses of filing a claim.

The Program is subject to coordination of benefits with private insurance and other governmental programs. The Program is secondary with respect to such other sources, except where prohibited by federal law.

Section 2

Comment on the Variability of Results

The estimated annual costs of the Program are subject to a substantial degree of variability, and depend to a large extent on values chosen for several of the Program parameters. Among those parameters are:

Nature and duration of short and long term medical care required by claimants,

Amount and frequency of other insurance,

Frequency of claims presented to the Program,

Program participation rate of doctors and hospitals,

Mortality rate of claimants,

Interest rate earned by the Fund,

Medical inflation rate,

Wage inflation rate.

Of these parameters, two influence the result to a high degree and also have substantial uncertainty associated with their estimated values. They are the nature and duration of medical care and the frequency of claims. There are several reasons for the uncertainty associated with these two variables, the most significant is that no claims have as yet begun to be paid by the Fund. (To date, the Program administrator reports three incidents under investigation as possible claims.)

Variability of Claim Frequency Estimates

Claim frequency was estimated from studies conducted on various samples of newborns. The three studies ultimately relied upon are outlined in Exhibit 4. Of the three, only the study contracted by the Medical Society of Virginia deals specifically with birth-related neurological injury as defined in the Virginia statute. The sample size of that study (9000 births) is not large enough, given the very low expected frequency of claims, to be fully credible.

In the other two studies, the sample sizes are much larger than in the Virginia study. However, the frequency of birth-related neurologically injured infants must be estimated from data that is classified in other ways, such as by Diagnosis-Related Groups (DRGs). The Virginia definition of neurologically injured does not correspond directly to the DRG classification definitions. Therefore, assumptions were necessary which increase the variability of the associated frequency estimates.

Variability of Costs Per Claim Estimates

Because no claims have yet been paid by the Fund, no direct information was available on the degree and duration of utilization of medical services by claimants who meet the definition of neurologically injured. Therefore, assumptions on the length and nature of hospital confinement and the nature of required long term care were made. These assumptions are subject to a great deal of variability. For example, the daily cost in a neonatal Intensive Care Unit can be as much as $3,000[1]; the cost for the level of care

[1]According to Cost Care, Inc., Huntington Beach California, hospital charges for neonatal ICU for the most seriously injured can be $2,500 per day. We added $500 per day for doctor charges.

of newborns just below Intensive Care is about $600 per day. Therefore the cost of a sixty day initial hospital stay for a neurologically injured newborn can vary by nearly $150,000 based on this parameter alone.

In recognition of these uncertainties, high, low and intermediate values have been selected for these two parameters, and a range of results is given for the total costs of the Program for each of the years under evaluation. However, it is quite possible that the ultimate actual liabilities of the Program will fall outside these ranges for any or all of the Program years.

In addition to the two discussed above, three other variables were tested to determine the sensitivity of the results to deviations from their selected values. Those variables are:

The participation rate of hospitals and doctors in the Program,

The rate at which interest is earned on Fund assets, and

The medical services inflation rate.

Results of these tests are detailed in Section 4.

Section 3

Summary of Results & Recommendations

The adequacy of current funding of the Program was estimated by comparing assessment income for each of the Program years 1988, 1989 and 1990 under current assessment levels with the present value of estimated payments to claimants born in each of those years.

The results of the study are summarized on Exhibit 1. For Program year 1988, the range of the present value of the estimated total claims costs is from $6.2 million to $19.0 million, with an intermediate value of $9.9 million. For Program year 1989, the range is from $6.6 million to $20.7 million, with an intermediate value of $10.7 million. For both years, assessments already collected, though below the intermediate value of estimated claims payments, are within the range of estimated costs for injured claimants born in each of those years.

For Program year 1990, unlike 1988 and 1989, participation rates of doctors and hospitals are not yet known. Based on our assumption that the same proportion of doctors and hospitals will participate in the program in 1990 as participated in 1989, the range of present values of claims payments is estimated to be from $7.4 million to $23.1 million, with an intermediate value of $12.0 million. Unlike 1988 and 1989, the estimated assessment income for 1990, based on current assessment levels, is below the range of estimated claims costs.

Discussion

Section 38.2-5021 of Chapter 50 of the Virginia statutes states that "if required to maintain the Fund on an

actuarially sound basis, all insurance carriers licensed t' write...liability insurance in the Commonwealth...shall pa_ into the Fund an assessment" based on their liability premiums in the Commonwealth in the previous year. The statute identifies, by reference, the types of insurance subject to the assessment, and it limits the assessment to one quarter of one per cent of liability written premiums. Based on that reference and the actual written premiums for the referenced lines of insurance in prior years, we estimate that $2.8 billion of premiums will be available for assessment in 1990. Therefore, the maximum possible assessment income from insurers in 1990 is approximately $7.0 million. Details are shown on Exhibit 8.

In considering the actuarial soundness of the Program, we note that the estimated assessment income for 1990, given no assessment on liability premiums, is below the estimated low end of the range of total claims costs for 1990. On the other hand, the total estimated assessment income for the three years combined remains within the range of total costs for the combined years. In addition, our estimates indica' an increase in Program costs of approximately 12% per yea in the period under review as compared with assessment income which is approximately constant.

An absolute minimum interpretation of actuarial soundness would require that the assessment income for any year be sufficient to maintain the total Fund at an amount higher than the low estimate of total claims costs for all years combined. That low estimate, displayed on Exhibit 1, is $20.2 million. Assessment income for the three year period is estimated to be $20.7 million. Therefore, current assessment levels are sufficient by our estimates to meet that minimum criteria. A maximum level of actuarial soundness would require the maintenance of the total Fund at a level equal to the high estimate of total costs for all years. Current law precludes assessments at a level sufficient to meet that strict standard. We do not recommend either the absolute minimum or the maximum approach.

To meet a reasonable definition of actuarial soundness, we believe the assessment income in any year should be sufficient to meet the following two criteria:

1. Assessment income for the year should at least equal the low estimate of the present value of estimated claims costs for that year, and

2. If the assessment level indicated by criteria 1. leaves the total Fund below the estimated intermediate value for all years combined, the assessment for that year should be raised to eliminate at least a portion of the deficit.

Criteria 1. indicates that a minimum actuarially sound assessment for 1990 would be $7.4 million, $600,000 more than the $6.8 million we estimate will come from current assessment levels. This would boost the total assessment income of the Fund to $21.3 million, and would leave a deficit for the total Fund, based on the intermediate value for all years combined, of $11.3 million. Elimination of a portion of this remaining deficit will require additional assessments on liability premiums. For example, to reduce the deficit by 20% (leaving a deficit of $9.0 million) would require a total 1990 assessment of $9.7. This is $2.9 million more than current assessment levels are expected to produce and would come entirely from assessments on liability premiums. This additional assessment represents a charge to the Virginia liability premiums of approximately 0.1%.

There is precedent for such a deficit reduction procedure. The Michigan Catastrophic Claims Association (MCCA) has used such a procedure almost since its inception. The MCCA is an association of private passenger automobile insurers in Michigan which was created in conjunction with the implementation of the Michigan no-fault law in the 1970's. The law provides unlimited medical benefits on a first party basis to covered claimants in the state.

The MCCA was created to reimburse insurers for no-fault claims payments in excess of $250,000. Funding is through a flat surcharge per car on all automobile policies subject to the law. Parallels between the MCCA and the Virginia Program include:

- Low frequency and high severity of claims

- Payments on a no-fault basis without limit over extended periods of time

- High degree of variability possible between initial estimates of liabilities and ultimate actual liabilities

- Significant time lags between the occurrence of accidents and the initial claim report. (It is not unusual for MCCA claim counts for a given accident year to continu to develop beyond eight years.)

- Funding through insurers with costs passed on to consumers of insurance.

The Actuarial Committee of the MCCA is responsible for recommending annual changes in the per car assessment to the MCCA Board of Directors. On several occasions, the estimated liabilities of the MCCA indicated that assessments for some prior years had not been sufficient, given the updated estimates, to fund the liabilities for those years. The Committee's responsibility was to recommend an assessment sufficient to fund the liabilities of the current year and to eliminate the deficit of prior years. In recognition of the inherent variability of their estimates, the Actuarial Committee each year recommended, and the Board approved, an assessment sufficient to cover the estimated liabilities of the current year and a portion of the current estimate of the deficit of prior years.

Recommendation

In recognition of the above, we recommend an assessment on Virginia liability premiums for the 1990 program year of 0.1%. This assessment, based on 1989 Virginia liability written premiums, would produce income to the fund estimated at $2.8 million. This, combined with income from the continued assessment of participating doctors, non-participating doctors and participating hospitals, will produce estimated total assessment income in 1990 of $9.6 million.

Section 4

Commentary on the Actuarial Analysis

The present value of the estimated claims costs for each of the years is produced by combining the estimated number of claimants in each year with the present value of the estimated costs per claim in each year. The calculations are shown on Exhibit 2. High, low and intermediate estimates are given for both claims costs and frequencies. The high estimated present value of total claims costs for each year is produced by combining the high estimate of number of claimants with the high estimate of costs per claim; and similarly for the intermediate and low total claims costs estimates.

The derivation of the estimated low, intermediate and high number of claimants for each year is shown on Exhibit 3. The low and high estimates are derived from the intermediate estimate by reducing and increasing, respectively, the intermediate estimate by 25%. The intermediate estimate of number of claimants is produced as the product of the estimated injury frequency and the estimated number of covered births in each year.

Estimation of accident frequency

As of October 1, 1989, the Program had three birth incidents reported to it. Of those, two of the three infants are still living. None of the three has been pursued beyond the initial report. Therefore, in view of the lack of claims within the Program, we based the estimated claim frequency for the Program on available medical studies of bir

injuries. In our review of the applicable medical literature, we consulted several sources. Among them were the following:

- The Centers for Disease Control
- College of Medicine and Department of Statistics, University of Florida
- The Commonwealth of Virginia, Virginia Birth-Related Neurological Injury Compensation Program
- Department of Health Services Management and Policy, School of Public Health, University of Michigan
- The March of Dimes
- National Center for Health Statistics, United States Department of Health and Human Services
- National Center for Clinical Infant Programs
- The National Multiple Sclerosis Society
- Social Pediatric and Obstetric Research Unit, University of Glasgow, Glasgow, Scotland
- Virginia Law Review Association, University of Virginia School of Law
- Williamson Institute for Health Studies, Department of Health Administration, Medical College of Virginia, Virginia Commonwealth University

Of the several studies uncovered by our research, three were judged to be most applicable to the project. The results of the analysis of those studies are displayed on Exhibit 4, and a discussion of that analysis follows.

The study labeled "Medical College of Virginia" on Exhibit 4 was sent to us by the administrator of the Program. The study sampled 9,000 births in Virginia in 1986 and 1987. Based on birth medical records, the study attempted to determine the number of infants that would meet the Virginia definition of neurologically injured. Three were found that qualified (and who lived) and three others may qualify, pending further study. Based on our assumption that one half of the pending cases qualify, the study produced 4.5 claims in 9,000 births for a frequency of .0005.

The Michigan study was published in the June, 1987 volume of Pediatrics, a periodical published by the American Academy of Pediatrics. The study was one of several we found that classified newborns by Diagnosis Related Groups (DRG), a widely accepted classification system that groups patients with similar medical diagnoses. The study examined the medical records of 47,776 births in 1981 in Maryland. In our analysis, we assumed DRG 389, defined as full term infants with major problems, contained (among many others) all significantly neurologically injured newborns. DRG 389 comprised 7.3% of the total sample. The study also provided data on total hospital charges and length of hospital stay by DRG. Based on that information, we estimated that 0.5% of those in DRG 389 could meet the Virginia definition of neurologically injured. The product of 7.3% and 0.5% produced a frequency estimate of .0004.

The University of Glasgow study was published in the November, 1988 issue of Medical Care. The study presents a latent class analysis on a database of 55,395 births from the Scottish Morbidity Record, available for analysis in 1982. Births were divided into 5 major groupings based on physical characteristics at birth and further classified by diagnosis. In our analysis, we assumed that group D, defined as full term infants with normal birth weight and gestation that had low APGAR scores and a variety of health problems, contained the applicable Virginia claimants. Approximately 1.7% of the total sample fell into group D. Of those, we assumed those cases that meet the Virginia definition would require "assisted ventilation at 30 minutes after birth". This constituted 4.6% of group D. The product of 1.7% and 4.6% produced the frequency of .0008. Since we expect the category "assisted ventilation at 30 minutes after birth" would also contain infants that do not meet the Virginia definition of neurologically injured, the .0008 frequency is considered an upper bound on the frequency of injuries in the Program, rather than an estimate of the frequency itself.

The lack of claim activity in the Program to date was a consideration in our final choice of claim frequency. Because of the nature of claims covered by the program, there is no directly applicable data from which to estimate a pattern for the emergence of Program claims. The most relevant data we found was for claims made medical malpractice insurance. According to data filed with the Virginia State Corporation Commission, Bureau of Insurance in support of a rate filing of the St. Paul Group, medical malpractice claims paid by them are reported over a ten year period including the year of coverage. Their data shows that, on a countrywide basis, 27% of claims are reported by the end of year two. In Virginia, 31% of claims are reported through year two. St. Paul is the largest writer of medical malpractice insurance with 20% of countrywide premiums written in 1987.

However, there are several aspects of the Program which may tend to slow the claim reporting process relative to that of medical malpractice, including:

- The average severity of Program claims is expected to be much higher than the severity of medical malpractice claims.

- The nature and purpose of the Program may not be universally known and understood by prospective claimants.

- Claims filing procedures may not be known.

- Prospective claimants may find it judicious to explore other legal alternatives before filing a claim.

Therefore, we believe our estimates of the number of claims that will ultimately be presented to the Program for 1988 and 1989 are not inconsistent with the lack of reported claims to date. However, as the experience of these years emerges, adjustments to our ultimate claim count estimates will almost surely be appropriate.

Estimation of costs per claim

Estimates of total costs per claim were produced by assuming the consumption of specific medical services at specific times in the medical life of each claimant and by pricing each service based on current medical costs. Those assumed costs were adjusted for inflation and mortality and discounted to a present value basis as of January 1 of each Program year. Costs were considered in four categories, as detailed below.

- Initial Medical and Hospital - including all expenses from birth through discharge from the hospital.

- Ongoing Medical Rehabilitation and Custodial Care - including all medical procedures, other medical services, daily nursing care in home or institutions, rehabilitation costs, medical equipment, etc. from the time of initial discharge from the hospital throughout life.

- Loss of Earnings - from the claimants 18th birthday through age 65.

- Claim Filing Expenses - including attorney's fees and costs of medical evaluations.

Expenses paid by the Fund, on a present value basis, were estimated in the following manner:

- Individual costs associated with each category were estimated based on the expected level of consumption of services within each category and at the prevailing cost levels as of July 1, 1989. Low, intermediate and high levels of consumption were assumed for some categories of medical services; which produced low, intermediate and high total costs. For example, in the Initial Medical

and Hospital category, the low estimated costs were derived assuming a 60 day initial hospital stay, including 10 days in a neonatal Intensive Care Unit (ICU) and one major operation. For the high estimate, we assumed a 90 day initial hospital stay with 20 days in ICU and 2 major operations.

- Total costs were then reduced to account for reimbursements from private insurance and government programs.

- Remaining costs were then assigned to an appropriate time period and increased or reduced to account for the difference in costs between the time period assigned and July 1, 1989. Costs were then adjusted to bring them to a present value basis as of January 1 of the Program year being valued and to account for the mortality of the claimant.

In this series of calculations, the following rates were assumed:

- Medical, hospital, custodial and rehabilitation expenses - 7.5% inflation per year.
- Virginia private non-farm wages - 5% increase per year.
- Interest earned on assets in the Fund (used to convert costs to a present value basis) - 8% per year.
- Mortality of claimants - twice the mortality rate of cystic fibrosis victims.

Details of the results of these calculations are shown for the 1989 Program year on Exhibit 5. Assumed Program offsets are displayed on Exhibit 6. Further details on the assumptions underlying the estimation of costs per claim can be found in Section 6.

Assessment Income

Income of the Fund from assessments for Program years 1988,

1989 and 1990 are shown on Exhibit 7. Amounts for 1988 and 1989 are actual collected amounts through September 30, 1989 as reported by the Program administrator. Amounts for 1990 are estimated based on no change from the 1989 level of participation of doctors and hospitals, and further assuming no assessment of insurers.

Results of Sensitivity Analysis

Tests were conducted to determine the effect on study results of variations from the assumed values for three of the study parameters. Those parameters and the alternate values tested are given in the following table.

Parameter	Value Used In Study	Alternate Values Tested High	Low
Interest	8%	10%	6%
Medical Inflation	7.5%	9%	6%
Participation In Program	74%	90%	60%

Significant variations in the interest rates available to the Fund and in the inflation rate of medical services paid for by the Fund can be expected over time. A significant increase in the medical inflation rate or a substantial decrease in the interest rate (all other things being held constant) would cause a reduction in the adequacy of Fund income. However, we consider it very unlikely that a significant movement in one would not be accompanied by an offsetting change in the other. Therefore, we have tested the sensitivity of our results in a relatively narrow range of possible interest rate and medical inflation values. The results of those tests are displayed on Exhibit 9. The

exhibit shows that movement in either one of the variables without movement in the other causes a significant change in the estimated liabilities of the Fund. However, when the two variables move together, a condition which is the historical norm, Fund liabilities are virtually unaffected.

We have also tested our results for sensitivity to the participation rate of doctors and hospitals in the Program. We have measured the participation rate in any year by the percentage of Virginia births that are covered by the Program in that year. That rate dropped from 80% in 1988 to 74% in 1989, and we have assumed a rate of 74% for 1990. If the actual participation rate proves to be higher than 74%, both the assessment income of the Fund and the estimated number of claimants will rise. Results are displayed on Exhibit 10. The exhibit shows that, as the participation rate rises, Fund liabilities rise more quickly than Fund income, reducing the adequacy of the Fund.

Sections 5

Exhibits

Exhibit 1

Commonwealth of Virginia
Birth-Related Neurological Injury
Compensation Program

Results Summary

Program Year	Present Value of Estimated Claims Costs ($ Millions)			Assessment Income ($ Millions)
	Low	Interm.	High	
	(1)	(2)	(3)	(4)
1988	$6.2	$9.9	$19.0	$7.2
1989	6.6	10.7	20.7	6 7
1990	7 4	12.0	23.1	6.8
Total	$20.2	$32.6	$62.8	$20 7

Notes:

(1), (2), and (3) are derived on Exhibit 2. Present value calulations assume an 8% annual return on invested assets, 7.5% annual increase in medical costs and a 5% annual increase in average wages; and are valued as of January 1 of the year indicated

(4) Assessment Income is actual collected for 1988 and 1989, and estimated for 1990 based on no change to current assessment levels.

Exhibit 2

Commonwealth of Virginia
Birth-Related Neurological Injury
Compensation Program

Estimated Claims Costs

Program Year	Parameter Values	Estimated Present Value Cost Per Claim (in thousands)	Estimated # of Claimants	Estimated Total Present Value Claims Costs [(1)*(2)] (in millions)
		(1)	(2)	(3)
1988	High	$527	36	$19.0
	Interm.	340	29	9.9
	Low	281	22	6.2
1989	High	$592	35	$20.7
	Interm.	381	28	10.7
	Low	315	21	6.6
1990	High	$661	35	$23.1
	Interm.	428	28	12.0
	Low	352	21	7.4

Notes:

(1) Estimated costs per claim, detailed further on Exhibit 5, represent the present value of all expenses payable under the law and reflect offsets for private insurance and government programs.

(2) The "high" estimated number of claimants is 25% above the intermediate number. The "low" estimate is 25% below the intermediate number.

Exhibit 3

Commonwealth of Virginia
Birth-Related Neurological Injury
Compensation Program

Estimated Number of Claimants

Program Year	Estimated Total Virginia Births	Estimated % of Va. Births Covered by Program	Estimated Number of Covered Births [(1)*(2)]
	(1)	(2)	(3)
1988	90,314	80%	72,251
1989	93,000	74%	68,820
1990	95,000	74%	70,300

Program Year	Estimated Injury Frequency (Intermediate)	Estimated Number of Claimants		
		Low (6)*0.75	Interm. (3)*(4)	High (6)*1.25
	(4)	(5)	(6)	(7)
1988	0 0004	22	29	36
1989	0.0004	21	28	35
1990	0.0004	21	28	35

Notes:

(1) The 1988 figure is actual, provided by the Progam administrator; the 1989 and 1990 figures are projected estimates based on the upward trend of total births in Virginia.

(2) The 1988 and 1989 percentages are based on actual participation of hospitals in the program. For 1990 it is assumed that the 1989 participation rate will repeat.

(4) Estimated based on sources detailed on Exhibit 4.

Exhibit 4

Commonwealth of Virginia
Birth-Related Neurological Injury
Compensation Program

Frequency Data Sources

Study	Sample Size	Implied Estimated Frequency
1. Medical College of Virginia	9,000	0.0005
2. University of Michigan	47,776	0.0004
3. University of Glasgow	55,395	0.0008 *

1. From the Williamson Institute for Health Studies, Department of Health Administration, Medical College of Virginia, Virginia Commonwealth University Study conducted by Barbara S. Brown, PhD and Tamara E. Faulkner, BS.

2. From the Department of Health Services Management and Policy, School of Public Health, University of Michigan, Ann Arbor Study conducted by S.E. Berki, MA and Nancy B. Schneier, MSc.

3. From the Social Pediatric and Obstetric Research Unit, University of Glasgow, Glasgow, Scotland. Study conducted by John F Forbes, MSc and Ruth M. Pickering, PhD.

* Due to data limitations, this result is considered an upper bound on the frequency rather than an estimate of the actual frequency

Exhibit 5

Commonwealth of Virginia
Birth-Related Neurological Injury
Compensation Program

Costs Per Claim for Program Year 1988
($000's)

	Estimated Present Value Costs Per Claim Before Offsets for Private and Government Progams			Estimated Present Value Costs Per Claim Including Offsets		
	High	Interm.	Low	High	Interm.	Low
Initial Medical and Hospital	$107	$72	$63	$16	$11	$9
Ongoing Medical Rehabilitation and Custodial Care	997	757	661	496	314	257
Loss of Earnings	5	5	5	5	5	5
Claim Filing Expenses	10	10	10	10	10	10
Total Cost Per Claim	$1,119	$844	$739	$527	$340	$281

Exhibit 6

Commonwealth of Virginia
Birth-Related Neurological Injury
Compensation Program

Offsets to Program
For Private Insurance and Governmental Programs

	Estimated Percentage of Covered Newborns	Estimated Average Maximum Payout
Insured Through Group Plans	70%	$1,000,000
Insured With HMO's	10%	Unlimited
Insured With Individual Plans	5%	$250,000
Eligible for Medicaid	5%	----
Uninsured	10%	----

Exhibit 7

Commonwealth of Virginia
Birth-Related Neurological Injury
Compensation Program

Assessment Income
($000's)

	Program Year		
	1988	1989	1990
Participating Physicians	$2,034	$1,898	$1,898
Participating Hospitals	3,028	2,861	2,931
Non-Participating Physicians	2,116	1,932	1,932
Total Assessments	$7,178	$6,691	$6,761

Notes:

* The 1988 and 1989 figures include all assessments collected as of August 1, 1989 and assume no further collections.

* The 1990 assessments are estimated based on no change from the participation rates of doctors or hospitals and an increase in the number of births in Virginia per Exhibit 3

Exhibit 8
Revised

Commonwealth of Virginia
Birth-Related Neurological Injury
Compensation Program

1990 Assessment Income Available from Insurers
(in $ thousands)

Line of Business	1988 Net Direct Written Premium	Estimated 1989 Net Direct Written Premium	Percentage of Liability Premiums	Assessible Premiums (2)*(3)
	(1)	(2)	(3)	(4)
Aircraft	$12,194	$13,000	50%	$6,500
Commercial Multiple Peril	374,211	393,000	35%	137,550
Farmowners Multiple Peril	14,175	14,500	35%	5,075
Homeowners	331,676	358,000	35%	125,300
PP Auto No Fault	14,159	15,000	100%	15,000
PP Auto Liability	1,010,594	1,091,000	100%	1,091,000
Commercial Auto No Fault	80	100	100%	100
Commercial Auto Liability	304,120	319,000	100%	319,000
Medical Malpractice	112,351	118,000	100%	118,000
Workers' Compensation	508,693	534,000	100%	534,000
Other Liability	426,638	448,000	100%	448,000
Total	$3,108,891	$3,303,600		$2,799,525

Note:
Net Direct written premium, as defined in the Virginia statute, means gross direct premiums written in the Commonwealth less: 1) all return premiums, 2) dividends to policyholders, and 3) unabsorbed premium deposits. Premiums for 1986 through 1988 were obtained from Best's Executive Data Service.

Exhibit 9

Commonwealth of Virginia
Birth-Related Neurological Injury
Compensation Program

Sensitivity Analysis of Medical Inflation and Investment Interest (in $ millions)

Parameter	Present Value of Estimated Claims Costs 1990 Intermediate Costs		
	Lower Value	Value Used in Study	Higher Value
A - Interest	$14 7	- $12.0	S9 9
B - Medical Inflation	10.0	12.0	14 4
A and B Combined	12.1	12.0	11 8

Exhibit 10

Commonwealth of Virginia
Birth-Related Neurological Injury
Compensation Program

Sensitivity Analysis of Participation Rates (in $ millions)

Participation Rate	Estimated Number of Claimants	Present Value Of Estimated Claims Costs 1990 Intermediate Cost Level	Estimated 1990 Assessment Income	Difference [(3)-(4)]
(1)	(2)	(3)	(4)	
90%	34	$14.6	$7.8	$6.8
74%	28	12.0	6.8	5.2
60%	23	9.8	5.9	3.9

Assumptions

Assumptions associated with the estimation of Program Income

For Program years 1988 and 1989, no assessments beyond those recorded by the Program administrator as of September 30, 1989 will be collected.

All income from assessments for a given year will be available for investment on January 1 of that year.

The level of Program participation of doctors and hospitals in 1990 will equal that in 1989.

The same number of non-participating doctors will pay the required $250 assessment in 1990 as in 1989.

Investment income will be earned by the Fund at a rate of 8% per year, net of investment expenses, on all assets held by the Fund.

All assets held by the Fund will be fully invested at all times.

No taxes will be paid by the Fund.

Of the total Virginia premiums for homeowners and farmowners multiple peril, 20% is liability.

Of the total Virginia premiums for aircraft and commercial multiple peril, 50% is liability.

Assumptions associated with the estimation of costs per claim

The inflation rate on medical, surgical, rehabilitation and hospital costs will be 7.5% per year.

The rate of increase of private non-farm wages in Virginia will be 5.0% per year.

The mortality rate of claimants in the Fund will be twice the rate for victims of cystic fibrosis.

For each Program year, the average birth date of claimants will be July 1.

Applicable primary insurance plans will pay claims on a timely basis up to the maximum payout stipulated by the plan.

Private group health insurance plans will cover 70% of claimants and will pay, on average, the first $1,000,000 of expenses.

Health Maintenance Organizations will cover 10% of claimants and will pay all expenses.

Private individual health insurance plans will cover 5% of claimants and will pay, on average, the first $250,000 of expenses.

Fifteen per cent of claimants will be uninsured.

The Virginia Medical Services Assistance Plan (Medicare) will not reimburse for any costs covered under the Program.

Assumptions associated with the estimation of number of claimants

The frequency of claims in the Program will be constant over the 1988 to 1990 period.

The percentage of total births in Virginia covered under the Program in 1990 will equal the percentage covered in 1989.

The total number of births in Virginia in 1989 will exceed the number in 1988 by 3%.

The total number of births in Virginia in 1990 will exceed the number in 1988 by 5%.

Limitations and Caveats

Entire Document

The study conclusions are developed in the accompanying text and exhibits, which together comprise the report.

Data Reliance

The data for this study were gathered from several sources which are detailed in the report. In the study, we relied on the accuracy and completeness of the data without independent audit. If the data are incomplete or inaccurate, our findings and conclusions may need to be revised.

Underlying Assumptions

In addition to the assumptions stated in the report, numerous other assumptions underlie the calculations and results presented herein.

Study Foundations

The study conclusions were based on analysis of th available data and on the estimation of many contingent

events. Future costs were developed from the historical record and from estimated covered exposures.

Assets

We have assumed that the reserves are supported by valid assets, which have appropriate maturities and sufficient liquidity to meet the cash flow requirements of the Fund.

Uncertainty

The conclusions contained in this report are projections of the financial consequences of future contingent events and are subject to uncertainty. There may have been abnormal statistical fluctuations in the past, and there may be such fluctuations in the future. Due to the uncertainties inherent in the estimation of future costs, it cannot be guaranteed that the estimates set forth in the report will not prove to be inadequate or excessive, and actual costs may vary significantly from our estimates.

Unanticipated Changes

Unanticipated changes in factors such as judicial decisions, legislative actions, claim consciousness, claim management, claim settlement practices, and economic conditions may significantly alter the conclusions.

Best Estimates

These caveats and limitations notwithstanding, the conclusions represent our best estimate of the actuarial status and funding requirements of the program at this time.

WILLIAM M
MERCER MEIDINGER HANSEN

Commonwealth of Virginia

Virginia Birth-Related Neurological Injury Compensation Program

Funding Study for Years 1988, 1989 and 1990

Supplemental Report: December 22, 1989

On November 20, 1989, the Joint Subcommittee of the Virginia Legislature studying the Definition of a Compensable Injury and the Funding Mechanism of the Virginia Birth-Related Neurological Injury Compensation Act met. At that meeting, William M. Mercer Meidinger Hansen, Inc. presented its report on the estimated assets and liabilities of the fund established by the act to pay claims brought under it. At that meeting, others were invited to address the Subcommittee. Among the speakers was Barbara S. Brown, PhD, Co-ordinator, Project Hope/HCFA Research Center, the Williamson Institute for Health Studies of the Medical College of Virginia, Virginia Commonwealth University. Dr. Brown is the author of several articles on the Fund, including one of the three articles cited in Mercer's report as the basis for the estimation of the annual number of claimants expected in the Fund.

Dr. Brown expressed to the Subcommittee her opinion that the annual number of claimants would be less than that estimated in Mercer's report. The Subcommittee asked that the Mercer actuary and Dr. Brown confer to consider Dr. Brown's criticisms and to consider whether revision to the Mercer report might be appropriate in light of them. The requested conference took place by telephone between December 10 and December 22 and this is Mercer's report of the results.

****

In its original report dated October 13, 1989, Mercer estimated that the number of claimants in the Fund in 1990 would fall in the range of 21 to 35, with an intermediate estimate of 28. Dr. Brown stated that she felt the number would fall in the range of 10 to 15. She based her opinion on the following three observations:

1. The study by Dr. Brown that was cited in the Mercer report was conducted on a sample of newborn infants in Virginia that is biased relative to the expected incidence of adverse birth outcome as compared to the total of newborns in Virginia.

2. Recent widespread use of technological advances in fetal monitoring and delivery have not significantly reduced the proportion of newborns that develop conditions compensable by the Fund, indicating that such injuries are related more often to the condition of the fetus prior to delivery and less often to birth trauma than was previously believed.

3. Recent studies show a decline in the number of Virginia newborns with low Apgar scores despite an increase in the total number of births in the state. Low Apgar score has been shown to be a reliable predictor of the types of birth injury covered by the Fund.

In considering Dr. Brown's assertion that the sample of newborns that comprised her study was biased toward a higher proportion of newborns that were likely to be claimants to the Fund (item 1, above), we determined, with Dr. Brown's help, that the sample contained 16% newborns with low birth weight (less than 2500 grams). The proportion of low birth weight infants in the Virginia population generally is approximately 7%[1]. Low birth weight has been shown to be highly correlated with the incidence of the type of injury covered by the Fund.

In considering point 2, above, Dr. Brown cites an article titled "Perspective on the role of perinatal asphyxia in neurologic outcome" by Karin B. Nelson of the Neuroepidemiology Branch, National Institute of Neurological Disorders and Stroke, Bethesda, Maryland. In her study of cerebral palsy (CP), Dr. Nelson states that "CP has a low prevalence. There are about 2 cases of CP per 1000 births, and only a small percentage of that 0.2% is related to perinatal asphyxia." In attempting to quantify the proportion of CP cases related to birth asphyxia, Dr. Nelson refers to two studies, one performed in North America, the other in Australia. Again quoting from Dr. Nelson's article:

---

[1]National Center for Clinical Infant Programs. "Infants Can't Wait"

> Clinical indicators of asphyxia must be severely abnormal to be associated with an increase in the risk of CP and may be misleading in "explaining" the outcome. In the study ... from North America, three methods were used to estimate the proportion of CP related to birth asphyxia; the range was from 3% to 13%. In the other relatively large study of a defined population, from Western Australia, the estimate was 8%. Since the Australian and the higher of the North American estimates did not take into account important risk factors present before the onset of labor, they are likely to be overestimates. The proportion of CP that is related to events in the delivery room is probably considerably smaller than most of us were trained to suppose.

The Mercer report estimates a claim frequency of .0004 for the Fund. If one assumes those claimants are a subset of all CP cases, the frequency represents 20% of the "2 in 1000" cited in the Nelson article. This is a higher proportion than is indicated by either of the studies cited by Dr. Nelson. However, Dr. Nelson devotes considerable space in the article to the issue of the degree of certainty with which medical science can determine the cause of CP. She states:

> The recognition of causes from associated but noncausal factors is difficult in many areas of medicine; in the field of obstetric events and neurologic outcomes the level of uncertainty about causation is enormously high.

Mercer feels that, absent a high degree of medical certainty regarding the cause of the neurological injury in a newborn infant, our implied estimate that 20% of CP type injuries in newborns will be deemed to be the result of the birth process and therefore payable by the Fund is not inappropriate.

Dr. Brown asserts that the Mercer report, because it relies on data from 1981 (the University of Michigan study), does not account for the trend reported in her study toward healthier babies, as indicated by the fact that fewer babies are being delivered with low Apgar scores.

Dr. Brown states in her report that statewide Virginia data shows that between 1986 and 1987, the number of babies born with low Apgar scores decreased 9%, while the total number of births increased by 3%, a 12% drop in the proportion of

babies with low Apgars. In addition, according to Dr. Brown, a decrease of 10% in babies with low Apgar scores was observed in Virginia between 1980 and 1989 despite an increase in total births over the period of 30%.

We offer two cautions to the application of this observed trend to the estimation of claim frequency in the Fund. First, given the uncertainty of the relationship between low Apgar score and neurological injury, as discussed above, we hesitate to equate a trend in Apgar scores directly with a change in claim frequency. Second, the data also shows that the proliferation of advanced medical technology has resulted in an increasing survival rate among very low birth weight babies; and ,as a group, they have approximately 22 times the rate of significant neurological problems of full term infants. Of course, low birth weight is not an indication of birth accident, and Dr. Brown correctly points out in her study of medical malpractice claims files that the preponderance of claims are on behalf of full term infants[2]. However, the no-fault environment created by the Fund is fundamentally different from the tort environment of medical malpractice. In the no-fault environment, there is no defendant to counter the understandable tendency to pay a claim where there is obvious need and there are funds available, especially where the causative relationships are so uncertain.

In consideration of the above, we have adjusted the Medical College of Virginia data to account for the higher proportion of low birth weight infants found in Dr. Brown's sample. The results are displayed on Exhibit 1. The resulting revised frequency for the Virginia study of 2.9 claims for every 10,000 births, when considered in conjunction with the Michigan and Glasgow studies, results in a revision to our selected ultimate frequency from 4 per 10,000 births to 3.5.

The estimated frequency of 3.5 produces an estimated number of claims in 1990 of 25, three less than the intermediate estimate of 28 in our original report. The revised estimated claim counts for 1988 and 1989 are 25 and 24, respectively. These revised claims counts produce a total estimated present value liability of $28.3, within the range of estimated total liabilities in the original Mercer report

[2]Barbara S. Brown, PhD, "Birth Injured Infants: Legal Definitions, Claims Frequency in Virginia". Virginia Medical, November, 1989

and above the $23.5 million expected revenues of the Fund through 1990 (see Exhibit 2). The $23.5 million estimated revenues include $2.8 million from the 0.1% assessment of liability premiums recommended by Mercer.

****

We also consulted with Dr. Brown on the effect that a proposed revised definition of birth-related neurological injury would be likely to have on the number of claims paid by the Fund. The text of the revised definition provided to us by the Virginia Bureau of Insurance is shown in Exhibit 2. Dr. Brown and Mercer agree that the revision represents a clarification rather than an expansion and that the revision would not be likely to increase the number of claims payable by the Fund.

Exhibit 1

Commonwealth of Virginia
Birth-Related Neurological Injury
Compensation Program

Frequency Data Sources

Study	Sample Size	Implied Estimated Frequency: Original Mercer Report	Implied Estimated Frequency: Revised Analysis
1. Medical College of Virginia	9,000	0.0005	0.00029
2. University of Michigan	47,776	0.0004	0.0004
3. University of Glasgow	55,395	0.0008*	0.0008*
Selected Frequency		0.0004	.00035

1. From the Williamson Institute for Health Studies, Department of Health Administration, Medical College of Virginia, Virginia Commonwealth University Study conducted by Barbara S. Brown, PhD and Tamara E. Faulkner, BS.

2. From the Department of Health Services Management and Policy, School of Public Health, University of Michigan, Ann Arbor. Study conducted by S.E. Berki, MA and Nancy B. Schneier, MSc.

3. From the Social Pediatric and Obstetric Research Unit, University of Glasgow, Glasgow, Scotland. Study conducted by John F Forbes, MSc and Ruth M. Pickering, PhD.

* Due to data limitations, this result is considered an upper bound on the frequency rather than an estimate of the actual frequency.

Exhibit 2

Commonwealth of Virginia
Birth-Related Neurological Injury
Compensation Program

Results Summary

Program Year	Present Value of Estimated Claims Costs ($ Millions) Intermediate Estimates		Assessment Income ($ Millions)
	Original Mercer Report	Revised Analysis	
	(1)	(2)	(3)
1988	$9.9	$8.5	$7.2
1989	10.7	9.1	6.7
1990	12.0	10.7	9.6
Total	$32.6	$28.3	$23.5

Notes:

Present value calculations assume an 8% annual return on invested assets, 7.5% annual increase in medical costs and a 5% annual increase in average wages; and are valued as of January 1 of the year indicated.

Assessment Income is actual collected for 1988 and 1989, and estimated for 1990 based on no change to current assessment levels for participating doctors, non-participating doctors and participating hospitals, and including an assessment on Virginia liability premiums of 0.1% ($2.8 million).

STATE CORPORATION COMMISSION

AT RICHMOND, NOVEMBER 3, 1989

COMMONWEALTH OF VIRGINIA

At the relation of the

STATE CORPORATION COMMISSION

v. CASE NO. INS890478

Ex Parte, in re: Assessment upon certain insurance companies to maintain the Virginia Birth-Related Neurological Injury Compensation Fund for calendar year 1989

ASSESSMENT ORDER

WHEREAS, Virginia Code § 38.2-5021 requires the Bureau of Insurance (Bureau) to conduct an actuarial investigation of the requirements of the Virginia Birth-Related Neurological Injury Compensation Fund ("the Fund") based on the Fund's experience i the first year of operation, including without limitation the assets and liabilities of the Fund;

WHEREAS, Virginia Code § 38.2-5020 authorizes the Commissi to assess all insurers licensed to write and engaged in writing the classes of insurance defined in Virginia Code §§ 38.2-117 through 38.2-119 and the liability portions of the insurance defined in Virginia Code §§ 38.2-124, 38.2-125 and 38.2-130 through 38.2-132 if required to maintain the Fund on an actuarially sound basis;

WHEREAS, based on the Bureau's actuarial study, the Bureau has recommended to the Commission that the aforementioned insurers be assessed at 1/10 of 1% of the assessable portion of insurer's net direct liability insurance premiums written in th Commonwealth of Virginia for calendar year 1988, in order to maintain the Fund on an actuarially sound basis;

THE COMMISSION, having considered the Bureau's actuarial report and its recommendation, is of the opinion and finds that an assessment of 1/10 of 1% is required to maintain the Fund on an actuarially sound basis,

THEREFORE, IT IS ORDERED that all insurers licensed to write and engaged in writing the classes of insurance defined in Virginia Code §§ 38.2-117 through 38.2-119 and the liability portions of the insurance defined in Virginia Code §§ 38.2-124, 38.2-125 and 38.2-130 through 38.2-132 be, and they are hereby, assessed 1/10 of 1% of their net direct liability insurance premiums written in the Commonwealth of Virginia for calendar year 1988, for the maintenance of the Virginia Birth-Related Neurological Injury Compensation Fund.

AN ATTESTED COPY hereof will be sent by the Clerk of the Commission to the Bureau of Insurance in care of David S. Bordner who shall forthwith cause a copy of this order to be mailed to each insurer affected by the assessment; and Elinor J. Pyles, Administrator, Virginia Birth-Related Neurological Injury Compensation Fund, P.O. Box C-32632, Richmond, Virginia 23292.

A True Copy
Teste: George W. Bryant, Jr.
Clerk of the
State Corporation Commission

VIRGINIA BIRTH-RELATED NEUROLOGICAL INJURED INFANT COMPENSATION ACT

TOP 10 ASSESSMENTS BY INSURANCE COMPANY GROUP

State Farm Mutual	$186,107
State Farm Fire & Casualty	66,212
State Farm General	3,326
	$255,645
Nationwide Mutual	$119,921
Nationwide Mutual Fire	21,094
Nationwide General	1,339
National Casualty	1,736
Colonial Insurance Co. of CA	37,306
	$181,396
Allstate Insurance	$113,045
Allstate Indemnity	43,883
Northbrook National	2,300
Northbrook Indemnity	86
Northbrook P&C	2,313
	$161,627
Liberty Mutual Insurance	$ 72,305
Liberty Mutual Fire	50,773
Liberty Insurance	7,628
	$130,706
Travelers Indemnity	49,938
Travelers Indemnity of America	1,175
Travelers Indemnity of Illinois	33,787
Travelers Indemnity of Rhode Island	1,240
Travelers Insurance Company	21,155
Bankers & Shippers	6,718
Charter Oak	$ 10,667
Phoenix Insurance	5,903
	$130,583
Aetna Casualty & Surety	$103,059
Aetna Casualty & Surety of Illinois	7,716
Standard Fire Insurance	9,072
Automobile Ins. Co. of Hartford	1,822
	$121,669
Hartford Accident	$ 47,192
Hartford Casualty	7,497
Hartford Fire	16,311
Hartford Insurance	8,951
Hartford Underwriters	1,163
New England	177
Twin City	15,023
	$ 96,314

USF&G	$ 66,777
Fidelity & Guaranty	3,586
Fidelity & Guaranty Underwriters	12,315
	$ 82,678
USAA Casualty	$ 20,045
United Services Auto Association	59,646
	$ 79,689
GEICO Indemnity	7,633
GEICO General	4,082
Criterion	$ 2,571
Government Employees	65,389
	$ 79,675

Appendix E

950 East Paces Ferry Road
Atlanta, GA 30326-1119
404 261-5420
Facsimile: 404 365-1662

Management Consultants
and Actuaries

Tillinghast

a Towers Perrin company

November 15, 1989

Ms. Sandra L. Kramer
Medical Society of Virginia
General Counsel Office
700 East Main Street, Ste. 1612
Richmond, Virginia 23219

Re: Virginia Birth-Related Neurological
Injury Compensation Act (Act)

Dear Ms. Kramer:

In our September 5, 1989 letter, we provided updated estimates of the average cost of compensating injured infants under the provisions of the Act. In making these estimates, we did not explicitly consider savings to average costs if collateral sources of recovery were available to reduce payments under the Act. In addition, these estimates reflected all custodial care rather than only "medically necessary" custodial care. Therefore, the purpose of this supplemental letter is to amend our September 5, 1989 estimates to reflect collateral source reductions and reductions associated with non-medical related custodial care. We have also prepared a five year financial projection for the fund established to cover the liabilities under the Act.

As was true of our initial work, this letter is intended to assist Medical Society of Virginia representatives in discussing the potential costs of claims under the Act and we understand Medical Society of Virginia representatives may use this document as the basis for more specific discussions with other interested parties. We have assumed a reader of this report is familiar with the Act and its history and has access to our prior work. It must be reiterated that these projections are subject to significant uncertainty and, therefore, actual results will differ, perhaps materially, from those projected.

TYPES OF COLLATERAL SOURCES

In our work, we have considered two categories of collateral source recoveries - private health plans available through parents of the injured infant and public healthcare programs. The former are private individual or group health insurance coverage which provide coverage to the infant. The scope of coverage under these programs will vary from program to program. We have tried to consider the "average coverage" based on discussions with benefits/healthcare consultants. Two primary sources of public coverage which might serve as an offset to costs under the Act are Medicare and Medicaid, if eligibility requirements are satisfied.

We would expect that most private plans would cover infants who are the subject of the Act. Under Medicare, it appears either the family must be receiving benefits under AFD provisions or the infant must have achieved age 18 for cover age to apply. For Medicaid to respond, the family must satisfy "medically needy" criteria under the "spending down" definition applicable in Virginia. Given the eligibility requirements, it would appear private plans represent the most likely source for reductions associated with other coverages.

In general, private and public programs cover (and exclude) many of the same services with variations existing in deductible, coinsurance and limitations of coverage. In particular, both will cover a significant portion of the initial and subsequent medical care costs. Both will also cover costs of skilled nursing (SNF)/extended care (ECF) facilities to the extent there is a "medically necessary" basis for their use. However, both programs generally include restrictions as to number of SNF inpatient days covered. With the pending repeal of the Medicare Catastrophic Coverage Act of 1988, it appears that Medicare will cover 100 SNF days (down from 150 under the noted 1988 Act). Many private plans also contain a 100 day SNF limitation. Under both programs, coverage provisions indicate that custodial care does not fulfill the requirement of "medically necessary" and, therefore, coverage would not be provided.

Home aide care appears more specifically addressed unde public than private programs and coverage appears available

for medically indicated intermittent visits (with some restrictions). Private plans tend to vary in this regard. Some include a "large case management", or extended care, provision which gives some flexibility in response to home aide care. Generally, routine private duty nurses are not covered under either program.

Private plans appear to be less responsive to types of therapy (speech, physical, etc.) than do public programs. However, it is likely there are some public facilities unrelated to Medicare/Medicaid which offer some services in these areas. In addition, some private plans do cover such services but usually with restrictions regarding number of visits.

Both programs will cover medical equipment which is deemed necessary. "Luxury" or "non-proven" items are generally not covered.

Neither of the coverage programs address the issues of vocational and/or educational costs. Cost estimates in our initial work did reflect an expectation that some educational needs would be provided for in the public system and supplemented to a modest degree through private sources.

ADJUSTMENTS TO ESTIMATED COSTS

Considering the above and assuming these coverages (particularly the private plans) can be made primary to coverage under the Act, we have made judgmental adjustments to the average costs. The adjustments are detailed in the attached exhibits which are in the same format as those provided in our initial work.

By way of overview, the average cost under the Act should reflect a significant savings on the initial medical costs but the savings will decline somewhat in subsequent years. On average, facility/home care costs are reduced reflecting restrictions on number of covered days and medically necessary custodial care. School/therapy costs should be reduced somewhat with slightly greater savings in the therapy area rather than schooling since the latter was already expected to be accommodated, in some part, through public educational facilities.

Results of the recalculated average costs are compared to our initial estimates in the table below:

Injury Type	Estimated Initial	Adjusted Average Costs
1. Severely Anoxic	$ 818,000	$ 495,000
2. Moderately Anoxic	1,011,000	528,000
3. Spinal Cord - Major	1,088,000	756,000
4. Spinal Cord - Minor	949,000	506,000

PROJECTION OF FUNDING LEVEL

We were also requested to make a five year financial projection of the payments and accumulated liability for cases covered under the Act. Because insufficient data is available to estimate frequency, this projection should be viewed as a guide to potential financial results, given the assumed number of claims. This approach has been taken due to unsettled questions regarding number of covered incidents and the definitions of a covered injury.

Therefore, we have selected a number of covered incidents per year (10 incidents, 3 and 7 of the severely and moderately anoxic injury types, respectively) expected to be covered under the Act and made the further assumption that all 10 infants survive the full projection period. This represents a simplifying assumption regarding a likely higher initial number of qualifying incidents reduced for high initial mortality.

The projections have been made using a combination of the "severely anoxic" and "moderately anoxic" injury types. This assumption seems reasonable given the interest in reflecting the Florida definition of qualifying injury with the prematurity exclusion removed. We have assumed a 7% annual inflationary trend relative to 1989 costs; a blend of wage and medical care cost inflationary expectations. Unpaid amounts represent the discounted (at 6% interest) amounts left to pay on all cases at each year-end, adjusted for future expected mortality.

The projection can be re-run easily for different assumptions for the mix and/or number of claims. If you would like to test alternatives please let us know.

[redacted]

In the meantime, if we can answer any questions, please feel free to contact us.

Sincerely,

James D. Hurley, ACAS, MAAA

JDH/km

Attachments

BIRTH-RELATED NEUROLOGICAL INJURY COMPENSATION ACT

PURPOSE: ESTIMATE AVERAGE COST

1. DOLLAR COMPONENTS

   A. CATEGORIZE COSTS - MEDICAL, FACILITY CARE, WAGE, SCHOOLING/THERAPY

   B. 1989 COST LEVEL ESTIMATES

   C. "INFLATION" LEVELS - MEDICAL/FACILITY COSTS - 7.5%/YEAR
      - WAGES - 3%/YEAR

   D. COLLATERAL SOURCES - PRIVATE/GOVERNMENT PLANS
      - ACT SECONDARY TO ALL

2. MORTALITY

   A. HIGH INITIAL MORTALITY - ABOUT 40% LOST BY YEAR 2

   B. SUBSEQUENT MORTALITY - SLIGHTLY ABOVE NORMAL

3. INVESTMENT INCOME - 6% INTEREST PER ANNUM

4. RESULTS

   A. CURRENT DEFINITION - $495,000 (@6%)

   B. ALTERNATES

      a. SPINAL MAJOR - $750,000 (@6%)
      b. MINOR - $500,000 (@6%)

*

MEDICAL SOCIETY OF VIRGINIA

Analysis of Expected Costs per Case
Neurologically Damaged Infants

Scenario: Severely Anoxic

Assumption Sheet

A. Expectation of life 14.94
[Sheet 3c]

B. Annual costs at 1989 level (Exhibit 5)

Number of Years Covered	Year 1	2 - 5	Next 10	Next 10	Balance
1. Medical (incl equipment)	62,000	12,000	9,500	9,500	9,500
2. Wage compensation	0	0	0	125	125
3. Cost of care					
a. Facility	37,500	37,500	22,500	22,500	22,500
b. Schooling/Therapy	2,500	2,500	2,500	2,500	2,500

C. Collateral Source Recovery Percentages

Number of Years Covered	Year 1	2 - 5	Next 10	Next 10	Balance
1. Medical (incl equipment)	60.0%	40.0%	40.0%	40.0%	40.0%
2. Wage compensation	0.0%	0.0%	0.0%	0.0%	0.0%
3. Cost of care					
a. Facility	20.0%	20.0%	20.0%	20.0%	20.0%
b. Schooling/Therapy	25.0%	25.0%	25.0%	25.0%	25.0%

D. Annual costs at 1989 level after Collateral Sources

Number of Years Covered	Year 1	2 - 5	Next 10	Next 10	Balance
1. Medical (incl equipment)	24,800	7,200	5,700	5,700	5,700
2. Wage compensation	0	0	0	125	125
3. Cost of care					
a. Facility	30,000	30,000	18,000	18,000	18,000
b. Schooling/Therapy	1,875	1,875	1,875	1,875	1,875

E. Assumed inflation for:
1. Wages 3.0%
2. Medical Costs 7.5%
3. Cost of Care 7.5%

F Yield rate assumed for discounting unpaid losses 8.0%

G. Discounted Value of One Case $371,264.

* Staff Note: Tillinghast revised its figures to reflect a change in discount rate from 6% to 8% (in order to correspond with Mercer et al assumed discount rate).

Tillinghast

COMMONWEALTH of VIRGINIA

Mary Sue Terry
Attorney General

H. Lane Kneedler
Chief Deputy Attorney General

Office of the Attorney General

December 29, 1989

R. Claire Guthrie
Deputy Attorney General
Human & Natural Resources Division

Gail Starling Marshall
Deputy Attorney General
Judicial Affairs Division

Walter A. McFarlane
Deputy Attorney General
Finance & Transportation Division

Stephen D. Rosenthal
Deputy Attorney General
Public Safety & Economic Development Division

Deborah Love-Bryant
Executive Assistant

The Honorable Clifton A. Woodrum
Member, House of Delegates
P.O. Box 1371
Roanoke, Virginia 24007

My dear Delegate Woodrum:

You ask several questions concerning the Virginia Birth-Related Neurological Injury Compensation Act, §§ 38.2-5000 through 38.2-5021 of the Code of Virginia (the "Act"). You first ask whether any federal statute, regulation or case law exists to contravene what you describe as the Act's "manifest intent to make Medicaid the primary benefits source where a Medicaid-eligible infant is also qualified to receive similar benefits from the . . . Act's compensation fund." You also ask whether the Virginia Department of Medical Assistance Services (the "Department") is authorized to recover from the Virginia Birth-Related Neurological Injury Compensation Fund (the "Fund") funds expended for Medicaid coverage when a Medicaid-eligible infant receiving Medicaid benefits subsequently is determined to be eligible for similar benefits pursuant to the Act.

I. Applicable State and Federal Statutes

The Act was passed by 1987 Session of the General Assembly [1] to create a no-fault procedure for the compensation of severe birth-related injuries to infants. The Virginia Birth-Related Neurological Injury Compensation Program (the "Program") is established in § 38.2-5002. The funds used to administer the Program and to provide compensation pursuant to the Act are obtained from four sources described in § 38.2-5020.

Section 38.2-5009(1) of the Act provides, in part, that an award for a birth-related neurological injury shall not include:

> a. Expenses for items or services that the infant has received, or is entitled to receive, under the laws of any state or the federal government except to the extent prohibited by federal law;
>
> b. Expenses for items or services that the infant has received, or is contractually entitled to receive, from any prepaid health plan, health maintenance organization, or other private insuring entity;

---

[1] Chapter 540, 1987 Va. Acts Reg. Sess. 830 (effective on January 1, 1988).

> c. Expenses for which the infant has received reimbursement, or for which the infant is entitled to receive reimbursement, under the laws of any state or federal government except to the extent prohibited by federal law; and
>
> d. Expenses for which the infant has received reimbursement, or for which the infant is contractually entitled to receive reimbursement, pursuant to the provisions of any health or sickness insurance policy or other private insurance program.

The federal Medicaid statutes comprise Subchapter XIX of the federal Social Security Act. *See* 42 U.S.C.A. §§ 1396 through 1396s (West 1983 & Supp. 1989). Medicaid is a jointly funded, federal-state program that pays for necessary medical care for eligible indigent individuals. *See* 42 U.S.C.A. § 1396 (Supp. 1989). The states administer Medicaid's day-to-day operations, and the federal government pays a portion of this cost pursuant to an arrangement that results in the Secretary of Health and Human Services (the "Secretary") reimbursing the states for expenditures covered by the Medicaid statute. *See* 42 U.S.C.A. § 1396b (Supp. 1989). If the Secretary disallows certain expenditures on audit, the money paid for those expenditures is withheld from subsequent reimbursements. *Id.* The federal Medicaid statute detailing the requirements for state Medicaid plans provides "that the State or local agency administering such plan will take all reasonable measures to ascertain the legal liability of third parties (including health insurers) to pay for care and services available under the plan . . . ." 42 U.S.C.A. § 1396a(a)(25)(A) (Supp. 1989) (emphasis added).

The Department administers the State plan for the delivery of Medicaid services in the Commonwealth. *See* § 32.1-325. Section 32.1-325.2(B) provides that the Department "will be the payer of last resort to any health care insurance carrier which contracts to pay health care costs for persons eligible for medical assistance in the Commonwealth." (emphasis added.)

II. Program is not "Third Party" Within Meaning of Federal Medicaid Statute

Medicaid often is referred to as the "payer of last resort" because of the requirement in 42 U.S.C.A. § 1396a(a)(25)(A), quoted above, that the state agency administering the Medicaid program "take all reasonable measures to ascertain the legal liability of third parties (including health insurers) to pay for care and services available under the plan . . . ." *See also* § 32.1-325.2 (describing the Department as the "payer of last resort to any health insurance carrier"). The term "third parties" is not defined in the federal Medicaid statutes.

The United States Court of Appeals for the First Circuit has held that a Massachusetts Department of Education program designed to provide educational services to mentally retarded persons in intermediate care facilities was not a "third party," as the term is used in 42 U.S.C.A. § 1396a(a)(25)(A), to the Massachusetts Department of Public Welfare, the state agency that administers the Medicaid program in Massachusetts. The Court further held that "[b]oth agencies . . . are subdivisions of the Commonwealth of Massachusetts, which brought them into being to serve complementar

social welfare goals." *Com. of Mass. v. Secretary of H.H.S.*, 816 F.2d 796, 803 (1st Cir. 1987), *aff'd in part, rev'd in part sub nom. Bowen v. Massachusetts*, 487 U.S. ___, 101 L. Ed. 2d 749, 108 S. Ct. 2722 (1988).

Just as the Massachusetts Department of Education and its Department of Public Welfare both are "subdivisions" of that State, "brought . . . into being to serve complementary social welfare goals," the same can be said of the Department and the Program in the Commonwealth. The Department is the State agency established to administer the Medicaid program in the Commonwealth. *See* §§ 32.1-323 through 32.1-330. The Program was enacted by the General Assembly for the complementary purpose of assuring "the lifetime care of infants with birth-related neurological injuries, fostering an environment that will increase the availability of medical malpractice insurance at a reasonable cost for physicians and hospitals providing obstetrical services, and promoting the availability of obstetrical care to indigent and low-income patients." Plan of Operation, Virginia Birth-Related Neurological Injury Compensation Program at 3 (Revised May 1989). *See* §§ 38.2-5000 through 38.2-5021; 1987-1988 Att'y Gen. Ann. Rep. 397, 398.

Based on the above, it is my opinion that the Program is not a "third party" within the meaning of 42 U.S.C.A. § 1396a(a)(25)(A).[2] As a result, I am aware of no federal la that prohibits the exclusions in § 38.2-5009(1)(a) and (c) of the Act. It is further my opi ion, therefore, that Medicaid funds, rather than the Program's Fund, constitute the primary benefits source when a Medicaid-eligible infant also qualifies to receive benefits from the Program's Fund. Since I conclude that Medicaid funds are the primary benefits source for these payments, the Department would have no occasion to seek to recover funds expended for Medicaid benefits from the Program or the Fund.

With kindest regards, I am

Sincerely,

Mary Sue Terry
Attorney General

2:71/333-304

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[2]I am aware that federal regulations adopted pursuant to the Medicaid statutes define the term "third party" as "an individual, entity or program that is or may be liable to pay all or part of the expenditures for medical assistance furnished under a state plan." 42 C.F.R. § 433.136 (1988). This regulation was in effect at the time of the federal appellate court's decision in *Com. of Mass. v. Secretary of H.H.S.* As the first Circuit Co of Appeals noted, no authority exists for a regulatory interpretation that contravenes t federal statute that the regulation is intended to implement. 816 F.2d at 804.

PROBLEMS AND SOLUTIONS TO ACCESS TO OBSTETRICAL CARE

VIRGINIA PHYSICIANS RESPOND

There has been a great deal of interest and attention focused upon problems related to access to obstetrical care both nationally and within Virginia. Much has been said and written about this topic, but there seems to be consensus on one point. There are no simple answers.

Virginia's lawmakers have evidenced a continuing interest and concern about this issue, and they have taken a variety of steps to address the issue. For example, in 1986 the General Assembly increased physicians fees under the Medicaid program for obstetrical procedures to the 25th percentile. In its 1987 Session, the General Assembly adopted the Virginia Birth-Related Neurological Injury Compensation Act, modified the statute of limitations applicable to minors, and provided limited immunity to physicians who deliver patients in emergency setting provided certain conditions are met. In the 1988 Session, the General Assembly adopted the "Babycare" program, which includes expanded eligibility, care coordination, and expanded prenatal services.

While these actions have had some positive effect on access to obstetrical services, and upon the related problems of infant mortality and low birth weight infants, access problems continue to exist. Accordingly, in 1989 the Virginia General Assembly adopted a resolution which expressed concern about the impact of decreasing access to obstetrical care upon infant mortality in Virginia and which requested that the State Health Planning Board study the matter. Specifically, the State Health Planning Board is to isolate the causes of such decreasing access and to identify methods of addressing this serious health policy issue.

While there has been information available in the past from a variety of sources regarding the causes and potential solutions to this difficult problem, there has been limited data available to policymakers regarding the perspective of the practicing physician. Accordingly, believing that input from practicing physicians would be useful in determining the actual causes of declining access to obstetrical services, the Medical Society of Virginia decided to conduct a comprehensive survey of family practice physicians and obstetrician/gynecologists throughout the state.[1] The Medical Society hopes that information from Virginia's

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[1] The Medical Society has been assisted greatly in this effort by Carol Baron, an independent research consultant, and by the Department of Family Practice at the Medical College of Virginia, Virginia Commonwealth University. Indeed, this project would not have been possible without the support and assistance

practicing physicians regarding their views of potential solutions also will prove helpful to lawmakers in their continuing efforts to improve accessibility to obstetrical services.

The survey results demonstrate that liability issues are the primary force driving physicians out of the practice of obstetrics. As increasing numbers of physicians give up this specialty, those remaining develop larger and larger practices. As a result, many of Virginia's practicing obstetricians, particularly those located in smaller and more rural areas, maintain grueling schedules, and are practicing at, or near, capacity. Moreover, as their ranks decline, obstetricians are finding it increasingly necessary to limit the number of Medicaid patients they will accept. Rural areas are finding it particularly difficult to compete with metropolitan areas in attracting and supporting obstetricians.

The physicians who responded to the survey are acting individually to address access problems for Medicaid and indigent patients. It is common for obstetricians and family physicians to have reduced or waived fees for patients who cannot pay. Additionally, a high percentage of obstetricians responding to the survey are currently donating their time to local health departments and local programs to help care for the Medicaid and indigent populations.

Despite the current demands placed upon these physicians, they indicate that they are willing to do more for the financially needy, if some of their legitimate concerns can be addressed. For example, a high percentage of obstetricians surveyed indicated that they would accept, or accept more, Medicaid patients if reimbursement levels were increased, paperwork was reduced, and/or if they received some financial assistance with their malpractice premiums. More would be willing to donate their time to local health departments and programs if they could be assured of having protection from civil liability for such activities. Additionally, some family practice physicians and, to a lesser extent,some gynecologists who have left the practice of obstetrics have indicated a willingness to consider resuming practice if their risk of being sued were reduced, their malpractice premiums were lowered, physician back-up were more available, and/or they received some assistance with malpractice premiums.

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provided by Dr. Robert Williams, Associate Professor of Family Practice at the Medical College of Virginia, Virginia Commonwealth University, and by Dr. Robert Johnson, Associate Professor of Mathematical Sciences, Virginia Commonwealth University. The Medical Society simultaneously conducted a comprehensive survey of primary care physicians (including family practice physicians, primary care internists, and pediatricians) the results of which are the subject of a separate report.

I. PROJECT DESIGN

The sample was drawn from the population of obstetrician/gynecologists and family and/or general practitioners who designated one of these specialties on the list maintained by the Virginia State Board of Medicine. Only licensed physicians between the ages of 30 and 60 with mailing addresses in Virginia were included.

Since there was a strong interest in the experience and opinions of physicians in rural areas and areas where there is a high concentration of indigent people, non-metropolitan and metropolitan areas outside of northern Virginia were oversampled, while physicians in the northern Virginia area were undersampled. Sampling rates also varied across specialty areas depending upon the number of physicians in the specialty. Thus each of the two specialties in each of the three (non-metropolitan, northern Virginia, other metropolitan areas) had its own rate of selection. The final selection rates are given below.

	NON-METRO	METRO	N.VA
OB/GYN	1.000	1.000	.500
FAMILY PRACTICE	.667	.333	.500

For purposes of analysis, generally the responses are divided into two groups, respondents who identified their area of practice as metropolitan[2] and those who identified their area of practice as non-metropolitan.[3] Although the number of responses from obstetricians in jurisdictions identified as "truly rural"

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[2] For purposes of this report, metropolitan areas include the following: the Northern Virginia area (including the counties of Arlington, Fairfax and Prince William, and the cities of Alexandria, Fairfax, Manassas and Manassas Park); the greater Richmond area (including the City of Richmond, and the counties of Chesterfield, Henrico and Hanover); the Tidewater area (including Virginia Beach, Chesapeake, Norfolk, Portsmouth, Hampton and Newport News) and the Roanoke area (including the cities of Roanoke and Salem and Roanoke County).

[3] For purposes of this report, non-metropolitan includes all areas of the Commonwealth that do not fall within areas classified as "metropolitan." See n. 2 supra.

(population of 25,000 or less) is quite limited[4] in some situations it is useful to divide the non-metropolitan category into two groups; rural (jurisdictions with populations of 25,000 or less) and intermediate cities and counties (jurisdictions with populations of 25,001 to 100,000).

A total of 1,102 physicians were selected initially for the sample. A balance of 983 physicians remained after elimination of those who had moved out of state, those classified as military or retired, those for whom there were duplicate addresses, and for questionnaires returned because of no good addresses.[5] A total of 507 questionnaires were completed and returned, resulting in a completed response rate of 52%.[6]

Since the primary purpose of this report is to document the attitudes and experiences of physicians in private practice, those physicians who indicated that their primary practice setting was other than a for-profit, private practice were not included in the analysis. Based upon the survey, an estimated 88% of obstetrician/gynecologists and 81.5% of family physicians are in private practice. In calculating the percentages referred to in this report, the denominator used for each category is based upon how the physicians responding to the questionnaire described their specialty and practice setting. The actual number of responses of physicians describing themselves as obstetrician/gynecologists in private practice was 160. The actual number of responses for physicians describing themselves as gynecologists in private practice was 22, and the actual number of physicians describing themselves as family or general practice physicians in private

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[4] Only ten of the obstetricians who responded to the survey indicated that they practice in a rural area, as defined above. However, since the total number of obstetricians located in rural areas is estimated to be 18, with a standard error of 3.5, these 10 responses are likely to be indicative of the views and experiences of rural obstetricians.

[5] Most of the "no good addresses" were classified as no good address after repeated attempts to find a good address and mail to the forwarding address. Some (particularly for family physicians) had no complete address in the state board listing. Some of the "moved out of state" may have always had their practices out of state, but were simply licensed in Virginia with a Virginia mailing address.

[6] The response rate for obstetricians as a group was 54%. The response rate for family practice physicians as a group was 50%. Unfortunately, although additional questionnaires have been received from family physicians and obstetricians, due to time constraints, these have not been included in the analysis for this report.

practice was 212[7]. These percentages were then weighted using the survey selection rates and response rates to provide an estimate of the percentage response one could anticipate in the population at large. A copy of the survey questionnaire is attached as Appendix I to this report.

II. ACCESS TO OBSTETRICAL SERVICES IS A CRITICAL PROBLEM IN VIRGINIA

A. Obstetricians and Family Practice Physicians Are Leaving the Practice of Obstetrics Due to Liability Concerns

Based upon the survey responses, nearly one third of the obstetrician/gynecologists and family practice physicians who have at some point in their careers practiced obstetrics have given up the practice of that specialty (32%). The median reported age of survey respondents who had given up the practice of obstetrics was 40.5. The two reasons given most frequently for giving up the practice of obstetrics were high insurance premiums (81% of family practice physicians and 66% of obstetrician/ gynecologists) and the risk of a medical malpractice action (63% of family practice physicians and 64% of obstetrician/ gynecologists). In contrast, although the survey indicates that lack of physician back-up can be a pressing problem, a much smaller percentage (22% of family practice and 22% of obstetrician/gynecologists) considered the lack of physician backup a major factor in the decision to retire early from the practice of obstetrics. See Figure 1.

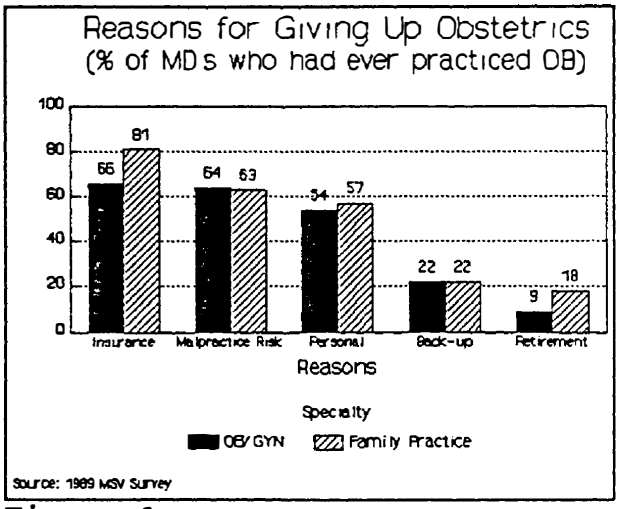

Figure 1

In addition to pointing out that liability concerns have contributed significantly to decreasing the ranks of Virginia's family practice physicians and obstetrician/gynecologists willing

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[7] Where appropriate, i.e., Sections II.A. 1, II.D.1., and IV.A, the responses of physicians who identified themselves as obstetricians/gynecologists and as gynecologists only were combined. All references to "obstetricians", and all other references to "obstetrician/gynecologists" in the report include only the responses of physicians who identified themselves as "obstetrician/gynecologists."

to provide obstetrics care, the Society's survey indicates that Virginia is at risk to lose substantially more of its existing obstetrical providers due to liability concerns. See Figure 2. Based upon the survey responses, over one half of the family practice physicians (54%) and obstetrician/gynecologists (53%), respectively, who currently provide obstetrics services consider it very likely that they will stop practicing obstetrics sooner than they would ordinarily because of the risk of malpractice suits and/or high insurance premiums. See Figure 3. In contrast, only about 17% of the family practice physicians and 12% of obstetricians consider the lack of physician backup as something very likely to prompt early retirement from the practice of obstetrics. See Figure 4. It is difficult to fault physicians for leaving the practice of obstetrics due to liability concerns when, based upon the survey, nearly one half (48%) of Virginia's private practicing obstetricians have been named at least once as a defendant in a medical malpractice action by an obstetrical patient.

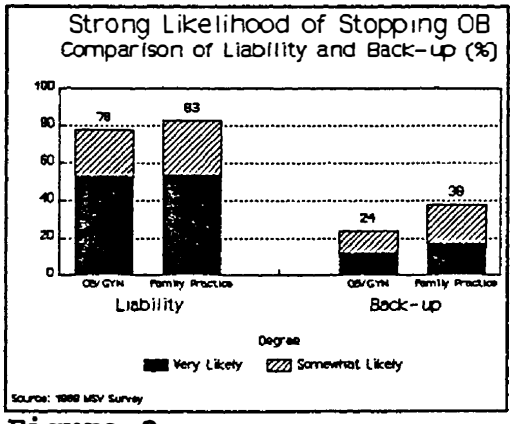

Figure 2

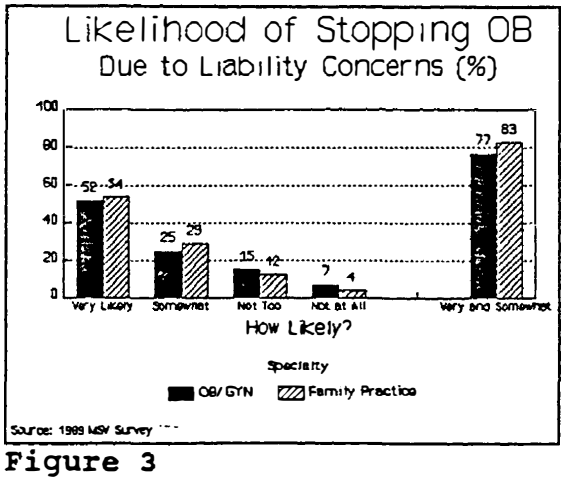

Figure 3

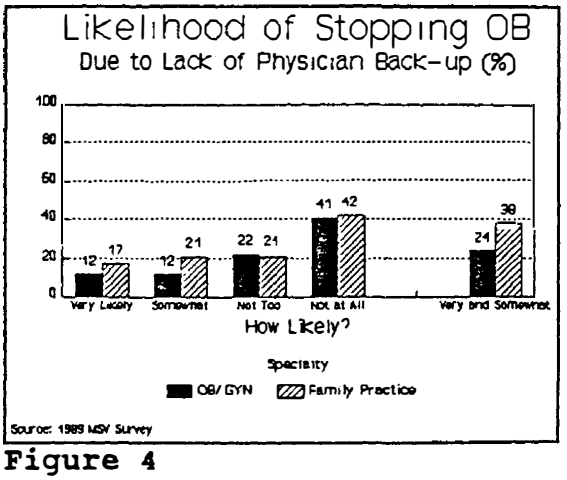

Figure 4

B. Existing Obstetricians are Practicing at, or Near, Capacity

According to information received from the Virginia Obstetrical and Gynecological Society, the number of deliveries typically performed by Virginia obstetricians ranges from 180 per year (15 per month; 3.75 per week) to 216 per year (18 per month; 4.5 per week). The Medical Society's survey indicates that Virginia's obstetricians are currently performing at or near capacity based on this information. According to a survey conducted by the American College of Obstetricians and Gynecologists which was released in March of 1988, (ACOG Professional Liabilities Survey) the average number of deliveries per month nationally was 13.8, or about 166 per year. The mean number of deliveries performed by Virginia's obstetricians is well above this national average. See Figure 5. Obstetricians in Virginia's non-metropolitan areas report a mean of 210 deliveries per year (17.5 per month; 4.4 per week), and those in Virginia's metropolitan areas report a mean of 188 per year (15.7 per month; 3.9 per week).[8]

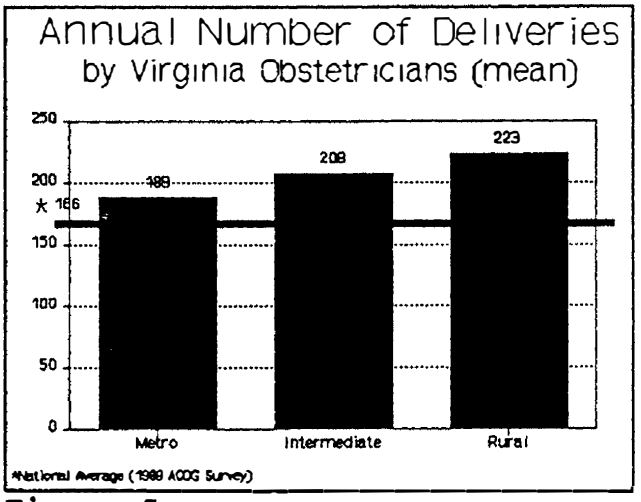

Figure 5

When one considers that a delivery can often involve staying up all night, it is easy to see that moving much beyond four deliveries a week may test the limits of the obstetrician's physical endurance. Additionally, obstetricians report that the mean number of hours per week that they are currently working is around 68 hours.

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[8] Indeed, if one considers the non-metropolitan data in terms of rural and intermediate areas, the difference between the mean number of deliveries and the national average is even more striking. Virginia's rural obstetricians report a mean of 223 deliveries per year, and its intermediate obstetricians report a mean of 208 deliveries per year. See Figure 5. The difference in volume along geographical lines makes sense since one can expect to find more resources available to provide obstetrical care in Virginia's larger communities, both in terms of the number of private practitioners available, as well as in public resources, such as local programs, teaching institutions, etc.

One possibility to expand the pool of available physicians to provide obstetrical services, particularly in rural areas and small counties and cities, may be to encourage more existing family practice physicians to provide some obstetrical services. Based upon the survey, over 30% of family physicians have provided obstetrical, prenatal or delivery services at some point in their careers (32%). At least 1/4th of those who have ever provided such services, now provide delivery services.[9] The mean number of deliveries performed by non-metropolitan family physicians is 5 per month. As would be expected, given the greater availability of obstetricians in metropolitan areas, family physicians in such areas perform substantially fewer deliveries. The mean number of deliveries performed by metropolitan family physicians was 1.8 deliveries per month.

C. Medicaid and Indigent Populations are Particularly Hard Hit by the Shortage of Physicians to Provide Obstetrical Services

Although the survey indicates that 80% of obstetricians have accepted Medicaid patients at some point in their careers, currently only around 63% participate in the Medicaid program. This ranges from 56% of metropolitan obstetricians to 79% of non-metropolitan obstetricians. However, if non-metropolitan obstetricians are divided into rural and intermediate localities, 100% of rural obstetricians and 74% of intermediate obstetricians currently participate in the Medicaid program. See Figure 6.

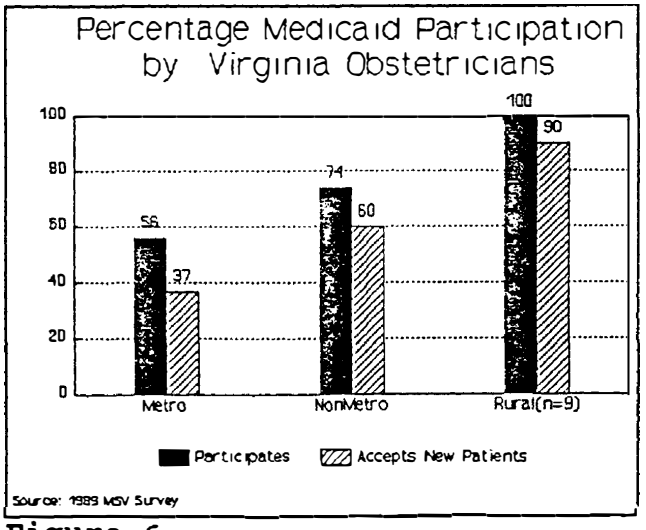

Figure 6

The survey indicates that only around 45% of obstetricians are currently taking new Medicaid patients, and of those taking new Medicaid patients, over 50% are restricting the number

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[9] A total of 81 family physicians responding to the survey indicated that they had at some point in their careers provided obstetrical, prenatal or delivery services. Of these 81, only 27 responded to a question asking whether they currently provide delivery services. Nineteen of these 27 respondents indicated that they currently provide delivery services.

of such patients that they will take. Again there is a substantial difference between rural, intermediate and metropolitan obstetricians which is reflective of the difference in resources available to localities of different sizes. The survey indicates that nearly 90% of rural obstetricians are accepting new Medicaid patients, and none are restricting the number of new Medicaid patients that they will take. In contrast, only 37% of metropolitan obstetricians are accepting new Medicaid patients, and of those 64% are restricting the number of new Medicaid that they will take. Intermediate physicians fall in between these two extremes, with 60% accepting new Medicaid patients, and 42% currently restricting the number of such patients that they will take. See Figure 6.

In addition to the obvious problem of a lack of time to take on additional patients, there are factors associated with the Medicaid program itself which serve as obstacles to physicians' participation with that program. In October of 1988, the Department of Medical Assistance Services released a report which included several plans to increase physicians fees. This report indicated that since 1969 the Medicaid fixed rate fee schedule has been increased only three times. In 1981, fees were increased by 5% for all specialties. In 1986, fees for obstetrical procedures were raised to the 25th percentile of charges and in 1988 primary care procedure rates were increased to the 25th percentile. Department of Medical Assistance Services, Legislative Studies (October 24, 1988) (hereinafter referred to as the "Medicaid Report"), at 20-21. In the 1989 Session, the General Assembly approved the second across the board increase since 1969 to raise all fees for all procedures to the 15th percentile. This increase will go into effect on January 1, 1990.

An additional problem pointed out by the Medicaid Report was that the Medicaid program does not use an automatic escalator for physicians fees (as it does with hospital and nursing home reimbursement) to help such fees keep pace with costs. As a result, it noted that the 1986 increase for obstetrical procedures had fallen from the 25th to the 10th percentile in just two years.[10] The current global fee under Medicaid for obstetrical services (includes pre and postnatal care and delivery) is $625. This will increase to $930 as of January 1st, as a result of the fee increase to the 15th percentile. Obstetrical Physician Fee Schedule, Department of Medical Assistance Services (July 10, 1989).

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[10] The Medicaid report contains a good illustration of just how depressed Medicaid payments to physicians were in 1988 and 1989. It points out that whereas Medicaid reimbursement for most physician fees had risen only 5% since 1969, the Medical Component of the Consumer Price Index (MCPI) had risen more than 300%. Thus, an $8.00 fee in 1969 was $33.00 in 1988. However, Medicaid's allowance in 1988 was only $8.40. Medicaid Report at 21.

According to Blue Cross and Blue Shield data for the first 6 months of 1989, depending upon location, even with this increase, Medicaid fees will still be substantially lower than current average global charges for obstetric care. Blue Cross and Blue Shield of Virginia Obstetrical Charge History Sample as Provided by Letter to Ms. Kay Brooks from Joan M. Gardner (September 8, 1989). See Appendix II.

Not surprisingly, the survey indicates that nearly 85% of obstetricians consider low reimbursement a major obstacle to physician participation in the Medicaid program. Paperwork (70%), slow payment (64%), post service denials of reimbursement (57%) and changes in patient eligibility (37%) are also considered major barriers to physician participation by Virginia's obstetricians. When one combines the percentage responses of physicians identifying these variables as either major or moderate barriers to Medicaid participation, it is apparent that from the obstetrician's perspective, all five factors represent significant areas of concern. See Figure 7.

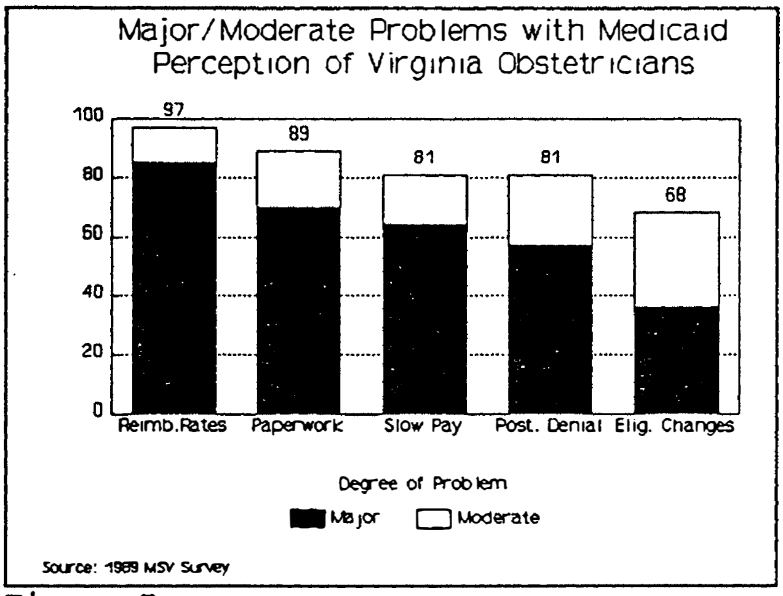

Figure 7

Obstetricians also have some common perceptions regarding characteristics of the Medicaid patient population which serve as disincentives for such physicians to assume responsibility for their medical care. For example, based upon the survey, nearly 95% of obstetricians perceive their Medicaid patients as being medically higher risk and less likely to seek preventive care than their average patients. Additionally, over 70% of obstetricians perceive their Medicaid patients as being more likely to be non-compliant than their average patients. Given this scenario, it is no wonder that 44% of obstetricians perceive their Medicaid patients as involving a greater threat of litigation than their average patients.

The obstetricians surveyed were asked their perception as to whether there is a shortage of medical services for the Medicaid and indigent populations in their specialty in the area in which they currently practice. The survey results tend to confirm that there is a moderate to serious access to care problem for Medicaid and indigent patients seeking obstetrical services in both metropolitan and non-metropolitan areas of the Commonwealth.

However, there is some good news. Those obstetricians surveyed report a small net improvement in access to obstetrical care over the last year and a substantial net improvement over the last three years. This result suggests that the legislative initiatives undertaken in the last three years are having some positive effect.

D. Obstetricians Tend to Locate in Urban Areas

1. There is a Substantial Shortage of Obstetricians Located in Rural Areas

As pointed out above, lists maintained by the Virginia State Board of Medicine were used in determining the sampling frame for this survey. According to these lists, and including only physicians identified as obstetrician/gynecologists who were between 30 and 60 years of age, the distribution of obstetrician/gynecologists was as follows:

NON-METROPOLITAN	139
METROPOLITAN	246
NORTHERN VIRGINIA	187
TOTAL	572

Using the Board of Medicine list, it is apparent that several jurisdictions are served by only one or two obstetricians, and that others do not have a single obstetrician within their boundaries. A map which illustrates the distribution of Virginia's obstetricians according to the Board of Medicine listing is included as Appendix III to this report.

Obstetricians may prefer to practice in metropolitan areas for several reasons. For example, the birth rate in sparsely populated areas may not be sufficient to support even one or two obstetricians. Also, perhaps in part due to concerns about potential liability, obstetricians generally prefer to practice within close proximity to a medical center or hospital. See Section V. infra. Additionally, larger areas can better support larger numbers of obstetricians available to provide medical back-up for one another. Obstetrics is a demanding specialty which may require long and unpredictable hours. It is an enormous burden for

one obstetrician to practice alone. Finally, the more urban areas of Virginia tend to have better economies and lower unemployment. As a result, more patients have some source of payment for their medical expenses than in economically depressed areas. Obstetricians paying off substantial medical school loans will find that metropolitan areas offer a more stable source of revenue than will economically depressed rural areas. See Section II.D.2. infra.

2. There are Significant Economic Disincentives For Obstetricians to Set Up Practices In Non-Metropolitan Areas

In order to become an obstetrician, following 4 years of undergraduate training, one must undergo 4 years of medical school, and 4-5 years of post medical training in obstetrics. Thus, an obstetrician who goes directly through school will finish at age 30. According to information obtained from the Virginia Obstetrical and Gynecological Society, in the course of 8-9 years of medical schooling, it is not unusual for an obstetrician to incur debts of $50,000 or more. As a result, when an obstetrician sets up practice, from a business perspective, he/she must consider what the likely patient mix will be and how much revenue the practice is likely to bring in the first few years.

According to the survey results, there are substantial differences in the patient mix for obstetricians offered by the metropolitan and non-metropolitan areas. In interpreting the significance of the following numbers, one should consider that as third-party reimbursement has evolved in the 80s, managed care (health maintenance organizations, preferred provider organizations, etc.) Medicare and Medicaid will more often than not pay an amount that represents some discount of the physician's charge for his services. While commercial insurance, managed care and Medicare may represent relatively stable sources of income, Medicaid payments are often insufficient to meet the physician's cost of providing the service to his patient. In addition, the physician can expect no payment whatsoever from patients who fall into the charity care category, and patients who do not qualify for third-party reimbursement of any kind may prove to be an unreliable source of income. Keeping this in mind, one can see that an obstetrician setting up a new practice, and trying to pay off extensive loans, will find non-metropolitan settings substantially less inviting than metropolitan areas.

According to the survey results, the mean patient mix for non-metropolitan and metropolitan obstetricians is as follows:

	NON-METRO	METRO
Commercial Insurance	65	71
Self Pay	11	9
Managed Care (HMO, PPO)	1	12
Medicare	5	4
Medicaid	15	3
Charity Care	5	2

The metropolitan obstetrician derives 86% of his/her income from the relatively stable patient populations covered by commercial insurance, Medicare and managed care networks, and is dependent upon self pay, Medicaid and charity care for only about 14%. In contrast, the non-metropolitan obstetrician derives only 70% of his/her income from patients covered by commercial insurance, Medicare and managed care networks. Self Pay, Medicaid and charity care make up 30% of his/her source of revenue.[11]

III. Virginia's Obstetricians Are Acting Individually to Address Access Problems for the Financially Needy

Based upon the survey results, three quarters of Virginia's private practicing obstetricians have waived fees for those who cannot pay, and 90% have reduced fees for those who cannot pay. The survey results indicate that nearly one half of Virginia's

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[11] The difference in patient mix is even more striking for the rural vs. metropolitan obstetrician. For example, the mean patient mix reported by rural and metropolitan obstetricians is:

	RURAL	METRO
Commercial Insurance	52	71
Self Pay	9	9
Managed Care	0	12
Medicare	6	4
Medicaid	28	3
Charity Care	6	2

Thus, the relatively stable sources of commercial insurance, Medicare and managed care make up only 57% of the rural obstetricians patient mix, whereas self pay, Medicaid and charity care make up nearly 43%.

obstetricians (47%) donate time to local health department clinics or local health programs. This ranges from a low of 43% in metropolitan areas to a high of 57% in non-metropolitan areas.

IV. VIRGINIA'S OBSTETRICIANS AND FAMILY PHYSICIANS ARE WILLING TO DO MORE TO ADDRESS ACCESS PROBLEMS IF OBSTACLES CAN BE REMOVED

A. Inducements for Obstetricians and Family Physicians to Resume the Practice of Obstetrics

The survey indicates that the four most effective inducements for family physicians and obstetrician/gynecologists to resume the practice of obstetrics are, (i) reduced risk of malpractice suits, (ii) lower malpractice premiums, (iii) improved availability of physician backup, and (iv) financial assistance with malpractice premiums.[12] Notably, these four inducements rank ahead of "greater possibility of monetary profit," confirming that liability concerns, rather than income is the primary issue. Another point worthy of note is that family practice physicians who have stopped practicing obstetrics indicated a greater willingness to resume that practice than did gynecologists. Of course, the flip side of this observation is that once obstetrician/gynecologists stop doing obstetrics, it is exceedingly difficult, if not impossible, to induce them back into this practice. See Figure 8.

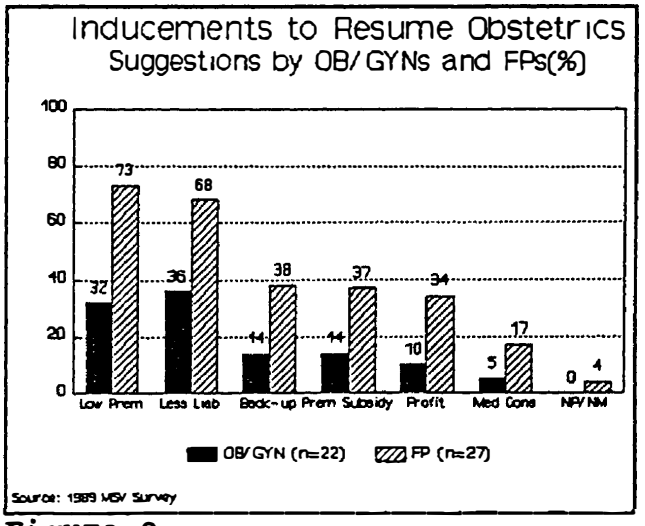

Figure 8

[12] Although relatively few of the physicians who completed questionnaires responded to a question asking what inducements would be necessary for those who had left the practice of obstetrics to resume that practice, the responses of those who did respond are consistent with other survey results.

B. Obstacles to the Provision of Obstetrical Care for the Medicaid and Indigent Populations

1. Obstacles Preventing Physicians From Donating Time to Local Health Department Clinics or Local Health Care Programs

Other than the lack of time for such activities, the most frequently cited reason given by obstetricians for not donating time to local health departments or programs was concern about creating additional exposure to civil liability.[13] Non-metropolitan obstetricians also indicated that problems with local health departments or programs, scheduling and patient non-compliance played a role in their decisions not to donate time to such programs.

2. Obstacles to Physician Participation in the Medicaid Program

The factors identified as the three most effective changes that could induce obstetricians in metropolitan and non-metropolitan areas to accept, or accept more, Medicaid patients, in order of priority, were (i) increased reimbursement (91%), (ii) less paperwork (54%) and (iii) financial assistance with malpractice premiums (41%). Additional factors identified as effective inducements were reduced exposure to civil liability (33%) and a state tax credit for Medicaid patient care (30%). See Figure 9. Figure 10 contains additional, although less frequent, suggestions by Virginia's obstetricians. The mean percentage increase in reimbursement that obstetricians identified as necessary to induce them to accept, or accept more, Medicaid patients was around 70%.

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[13] There is a Virginia statute which provides immunity to health care providers who provide free care in free clinics, unless they are grossly negligent or they commit willful misconduct. Va. Code Section 54.1-106. This survey result suggests either that the physicians who identified additional exposure to liability as an area of concern are unfamiliar with the statute, or that the restrictions on the immunity provided by the statute reduce or eliminate its effectiveness from the practicing obstetrician's perspective.

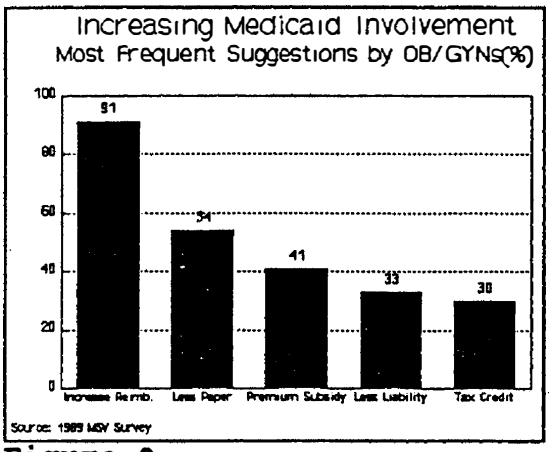

Figure 9

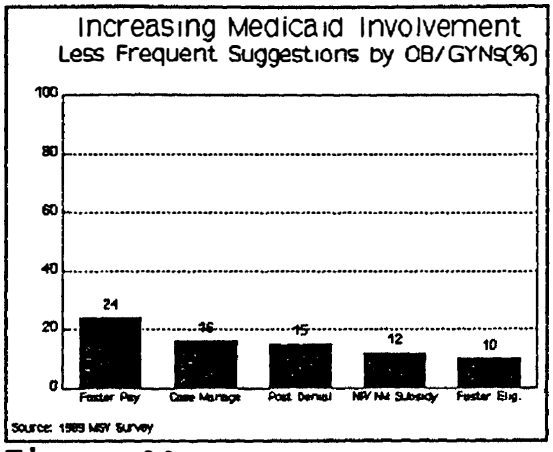

Figure 10

Considering that the average premium as of April, 1988 for coverage of $1,000,000/$3,000,000, assuming a mature rate, for a Virginia obstetrician ranged from a low of $26,365 in Territory IV (Richmond) through The Virginia Insurance Reciprocal to a high of $42,930.50 through St. Paul in Territory I (Northern Virginia)[14], it is not difficult to understand why financial assistance with malpractice premiums could act as an effective inducement for those obstetricians who have given it up to resume practicing obstetrics. Using Medicaid's current global fee of $625, an obstetrician would have to provide complete obstetrical services, including delivery services, for between 42 and 69 patients just to pay his malpractice premium. Even with the increase to a $930 global fee, an obstetrician would have to provide complete obstetrical care, including delivery services, to between 28 and 46 patients, just to cover the cost of this premium.

It is logical to assume that a family practice physician who does not currently provide delivery services is not likely to begin providing such services to Medicaid patients without some financial assistance with his/her malpractice premium. By way of example, using current average premium rates as of November, 1989, if a family physician located in a non-metropolitan area who is insured

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[14] The information contained in this report relating to average malpractice premium rates for obstetricians and family practice physicians was obtained on behalf of the Society via telephone calls to each insurance company. Since the time that the information on obstetrical insurance rates was obtained, a rate filing for medical malpractice rates reflecting an average decrease of 22.4% has been approved for St. Paul. Additionally, The Virginia Insurance Reciprocal (TVIR) has submitted a rate filing for medical malpractice insurance which reflects an average decrease of 25%. According to a representative of the Bureau of Insurance, as of December 7, 1989, the TVIR filing was under consideration by the Bureau.

by the Virginia Insurance Reciprocal for $1,000,000/$3,000,000 at a mature rate were to begin performing deliveries, his malpractice premium would more than double (it would increase from $3,387.00 to $7,774.00 per year). The impact on premiums for a family physician to begin providing obstetrics is similar for physicians insured through the Joint Underwriting Association, the Medical Protective and the St. Paul insurance companies. Generally speaking, the average premium is slightly more than doubled when a family physician decides to provide obstetrical services.

Using Medicaid's current global rate of $625, family physicians would need to provide pre and postnatal care (approximately 13 patient visits) and delivery services for 7 infants simply to break even on the increase in the costs incurred to pay for the higher malpractice premium associated with providing delivery services. Using the increased global fee of $930 to go into effect on January 1, 1990, the family physician would need to provide pre and postnatal care and delivery services for 5 Medicaid patients simply to recover the increase in his malpractice premium.

V. Factors Which Tend to Influence Obstetricians and Family Physicians in Choosing a Location In Which to Practice

The three factors cited as most important to obstetricians and family practice physicians, respectively, in selecting the area in which they currently practice are marked by an asterisk below:

	OBs	FPs
Proximity to Medical Center/Hosp	*38%	19%
Colleagues	*35%	20%
Familiarity with area	*32%	*35%
Type of geographical area	31%	*43%
Proximity to Recreation/Culture	29%	23%
Family or social ties	26%	*42%
Type of Patients	23%	23%
Potential Income	5%	11%
Training Opportunities	12%	8%
Work Hours	9%	10%
Student Loan Obligation	0.5%	3%
National Health Service Corps	0.5%	2%

The survey results tend to indicate that one of the most important variables in determining where either an obstetrician or family practice physician will choose to practice is his/her familiarity with an area. Understandably, given the hospital-based nature of the practice of obstetrics and the strong likelihood of being sued, a large percentage of obstetricians ranked proximity

to a medical center or hospital as a very important factor in choosing where to locate. Given the group nature of obstetrical practice, colleagues were likewise very important to obstetrician respondents. Family practice respondents indicated that the type of geographical area, and family or social ties were very important to their decisions about practice location. The survey tends to indicate that student loan programs and the National Health Service Corps Scholarship Program have not been major factors in influencing existing practitioners to settle in their current practice location.

This data suggests two different approaches to the problem of obstetricians tending to select metropolitan rather than non-metropolitan areas in which to practice. One approach focuses upon developing or supporting programs which will influence more obstetricians and family physicians to select non-metropolitan areas for their area of practice. The second takes a systems perspective to try to coordinate an appropriate referral and back-up network between existing rural family practice physicians, and community-based hospitals and obstetricians.

Since both family practice physicians and obstetricians ranked familiarity with the area as one of the most important factors in choosing their present practice location, one approach which may have merit is to develop and support family practice and obstetrical training programs in which some portion of the student's training takes place in non-metropolitan community-based hospital settings. The Medical College of Virginia has developed such a residency training program at Blackstone, Virginia, and reports that 81% of the graduates of this program have located in non-metropolitan areas either within Virginia or another state. However, 63% of the graduates of this residency program have located in Virginia, and of these physicians, 83% have located in non-metropolitan areas and 61% have located in rural areas. The Chairs of the Departments of Obstetrics at the existing obstetrics training programs in Virginia should be consulted to determine whether they believe this approach would be feasible and desirable for obstetrics.

The second systems approach would take into account that, in the present malpractice environment, it may not be realistic to expect to lure many obstetricians to rural areas which are not in close proximity to a medical center or hospital. Local communities should be encouraged to develop pilot projects in underserved areas which coordinate the delivery of care among existing family physicians, with appropriate transport and obstetrical backup provided respectively by community-based hospitals and obstetricians. However, in order to entice family physicians, community-based hospitals, and obstetricians to enter into such arrangements, it will probably be necessary to first address some of the legitimate liability, reimbursement and other issues highlighted by this survey.

VI. CONCLUSION

The Medical Society survey of obstetrician/gynecologists and family practice physicians provides helpful information regarding the practicing physician's perspective of problems related to access to care problems for obstetrical services. This survey tends to confirm that there is a moderate to serious access to care problem in Virginia, particularly for the Medicaid and indigent populations, and that there are relatively few obstetricians currently located in sparsely populated areas of the state.

There are two ways to look at potential solutions to these problems. One is a future perspective which focuses upon developing incentives to stem the flow of physicians out of the practice of obstetrics, to enlarge the pool of physicians practicing obstetrics, and to attract physicians willing to provide obstetrical services to underserved areas. The second is a present perspective, which focuses upon what can be done to obtain optimal use of existing physicians trained and willing to provide obstetrical services. Obviously, both perspectives are of critical importance if the Commonwealth is to improve access to obstetrical care. The survey is useful in determining which types of long-term and short-term interventions by the state will have the greatest impact upon physicians who provide obstetrical care.

Long-Term Solutions

1. Stemming the Flow of Physicians Leaving the Practice of Obstetrics

The survey indicates that liability issues are the single greatest cause of attrition from the ranks of physicians providing obstetrical services. The most frequently cited concern was with high liability insurance premiums, followed closely by fear of suit. Moreover, the survey indicates that absent a dramatic restructuring of the civil justice system as it affects the practice of obstetrics, these concerns are likely to result in continued serious erosion of the ranks of physicians willing to provide obstetrical services.

Significantly, after the survey was underway, the Institute of Medicine released a comprehensive report dealing with the relationship between medical malpractice and access to obstetrical services. Following extensive study, the Institute of Medicine concluded that "the problems created by medical professional liability issues in obstetrics represent a serious threat to the

delivery of obstetrical care in this nation." Institute of Medicine, Medical Professional Liability and the Delivery of Obstetrical Care, at 131 (1989). It also concluded that traditional tort reform measures "do not appear sufficient to stem the exodus of obstetrical providers from the profession or to solve the attendant problems caused by the current professional liability climate in obstetrics." Id. Accordingly, the Institute of Medicine recommends:

> that state legislatures should not focus on further reform efforts within the existing tort system but should instead redirect their energies toward developing alternatives to the traditional tort system for resolving medical malpractice claims and toward implementing these alternatives in certain circumstances.

Id. The Institute of Medicine report then discusses several such alternative options, including no-fault compensation for certain events, such as the Virginia Birth-Related Neurological Injury Compensation Act, the AMA Specialty Society Medical Liability Project, private contracts, an economic damage guarantee (Moore-Gephardt Proposal), and social insurance. Id. at 132-143.

Considering that Virginia has in place the "Virginia Birth-Related Neurological Injury Compensation Act," an obvious direction for this state to take is to work to refine and improve that legislation so that it will reach its optimal level of effectiveness in maintaining physicians in the practice of obstetrics. This approach has the dual capability of addressing both the insurance premium cost issue and fear of suit. As risk is taken out of the tort system, obstetricians participating in this alternative no-fault system should see a reduction in their liability insurance premium costs. Secondly, the Act addresses the obstetrical provider's fear of suit since it is a "no-fault" approach.[15]

Of the obstetricians responding to the survey, 73% indicated that they participated in the Virginia Birth-Related Neurological Injury Compensation Program in 1989. When one considers that the Program has not been tested in the courts, that no claims have been filed

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[15] However, an existing problem with the Birth-Related Neurological Injury Compensation Act is that the brunt of the costs for this societal problem are borne by health care providers, including licensed physicians who have no direct involvement in the practice of obstetrics. The Act represents an approach to resolving the problem of attrition from the ranks of obstetricians which holds great merit, but which rightfully should be financed by society at large.

to date, that the current definition in the Act is quite narrow, and that in order to participate the physician currently must pay a significant assessment in addition to already staggering malpractice premiums, a 73% participation rate is in an of itself a powerful statement about the need for an alternative system.

2. Enlarging the Pool of Physicians Willing to Provide Obstetrical Services

Three methods of enlarging the pool of physicians willing to provide obstetrical services are to: (i) encourage family practice physicians and obstetricians who have left the practice of obstetrics to resume practicing that specialty,[16] (ii) place greater emphasis on obstetrical training programs for family practice physicians, (iii) consider whether the size of obstetrical training programs in Virginia should be increased, (iv) support recruitment programs designed to encourage family physicians and obstetricians from Virginia, and from other states, to settle in Virginia.

3. Attract Physicians Willing to Provide Obstetrical Services to Underserved Areas

The survey indicates that both family practice physicians and obstetricians ranked familiarity with the area as one of the most important factors in choosing their present practice location. This is a variable susceptible to manipulation by family practice and obstetrics training programs, and through concentrated recruitment efforts. For example, as part of their training in obstetrics, obstetrical residency programs may be able to set up satellite programs in community-based hospitals. This approach could also have the short-term effect of helping extend limited manpower in some of the underserved areas of the state. Another alternative may be to investigate medical school admissions policies which consider the area of origin of the applicant.

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[16] The survey specifically addresses the issue of what incentives would be necessary to encourage those physicians who have left the practice of obstetrics to resume that practice. The four items mentioned most frequently were (i) to lower the risk of a malpractice suit, (ii) to reduce malpractice premium costs, (iii) to provide physician back-up, and (iv) to provide a subsidy to help with malpractice premium costs.

SHORT-TERM SOLUTIONS

1. Remove Barriers to Participation In Programs Serving the Financially Needy Obstetrical Patient

The survey directly addresses the issue of what would be required for existing family practitioners and obstetricians to be able to do more to address pressing obstetrical access issues, particularly in the area of delivery of care to the Medicaid and indigent populations. The survey results indicate that these physicians are already making a substantial individual effort to address these concerns. However, many are willing to do more if their legitimate concerns can be addressed. Specifically, in the area of delivery of care to Medicaid beneficiaries, respondents to the survey suggested the following changes:

a. Increase Reimbursement. This is particularly important for providers in rural and intermediate areas, since they tend to have a patient mix with a high percentage of self pay, Medicaid and charity care patients.

b. Reduce Paperwork. One suggestion supported by the Virginia Academy of Family Physicians is to establish an Office of Rural Health. In addition to providing the valuable service of recruiting physicians to underserved areas, such an office could provide rural practitioners with administrative assistance on technical items such as Medicaid reimbursement.

c. Provide Financial Assistance with Malpractice Premiums. Given the size of obstetrical malpractice insurance premiums, this type of intervention could be quite effective in making it more attractive for obstetricians to participate actively in the Medicaid program. For family physicians, this type of assistance may be a pre requisite to enable them to provide delivery services to Medicaid beneficiaries.

Additionally, although substantial numbers of obstetricians donate time to local programs now, more physicians may be willing to provide free care if (i) their concerns about civil liability are satisfactorily addressed, (ii) problems with local programs are resolved on a case by case basis, (iii) the programs are willing to adopt more flexible scheduling policies, and (iv) systems are put in place to improve patient compliance with physician instructions.

2. Encouraging a Systems Approach to the Delivery of Obstetrical Care in Underserved Areas

Another approach to the problem of inadequate access in rural areas takes into account that, in the present malpractice environment, it may not be realistic to expect to lure many obstetricians to rural areas which are not in close proximity to a medical center or hospital. Therefore, a systems approach to the problem of obstetrical access in rural areas may be appropriate.

Utilizing a systems approach, the state could support efforts by local communities in underserved areas to coordinate the delivery of care among existing providers. Depending upon the area, the providers involved may include the local Department of Health, local family physicians, nurse practitioners supervised by physicians, community-based hospitals and/or obstetricians. However, the survey results point out the need to develop a definition of what constitutes a medically underserved area which will allow the use of obstetricians currently located in non-metropolitan areas as back-up physicians for family physicians located in less populated, more rural areas.

The type of project funded would vary with the needs and resources of the community. In one community, it may make sense for the state to provide a malpractice premium subsidy to family physicians who are willing to provide prenatal care and/or delivery services. In another, support may take the form of a subsidy to the family physician willing to supervise the activities of a nurse practitioner. Similar arrangements could exist with the further assistance of an area hospital willing to provide transportation services. Obstetricians willing to provide obstetrical backup to family practice physicians, nurse practitioners or nurse midwives may in exchange receive help with their malpractice premiums, and/or compensation for their supervisory services. In some localities, assistance in the provision of continuing medical education may be helpful. A debt repayment program may be effective in attracting a physician or physicians to a medically underserved area. The list of possibilities is endless. However, such a local grant program would be most likely to succeed if regulation were kept to a minimum, since physicians likely to be located in medically underserved areas are likely to have relatively limited administrative resources.

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SENATE BILL NO. ..... HOUSE BILL NO. .....

A BILL to amend and reenact § 38.2-5001 of the Code of Virginia, relating to the definition of injury under the Virginia Birth-Related Neurological Injury Compensation Act.

Be it enacted by the General Assembly of Virginia:

1. That § 38.2-5001 of the Code of Virginia is amended and reenacted as follows:

§ 38.2-5001. Definitions.--As used in this chapter:

"Birth-related neurological injury" means 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-~~motorically disabled and (i) developmentally disabled or (ii) for infants sufficiently developed to be cognitively evaluated, cognitively disabled. In order to constitute a "birth-related neurological injury" within the meaning of the Act, such disability shall cause the infant to be permanently in need of assistance in all ~~phases-activities~~ of daily living. This definition shall apply to live births only and shall not include disability or death caused by genetic or congenital abnormality, degenerative neurological disease, or maternal substance abuse .

"Claimant" means any person who files a claim pursuant to § 38.2-5004 for compensation for a birth-related neurological injury

an infant. Such claims may be filed by any legal representative on behalf of an injured infant; and, in the case of a deceased infant, the claim may be filed by an administrator, executor, or other legal representative.

"Commission" means the Industrial Commission of Virginia.

"Participating physician" means a physician licensed in Virginia to practice medicine, who practices obstetrics or performs obstetrical services either full or part time or, as authorized in the plan of operation, a licensed nurse-midwife who performs obstetrical services, either full or part time, within the scope of such licensure and who at the time of the injury (i) had in force an agreement with the Commissioner of Health or his designee, in a form prescribed by the Commissioner, whereby the physician agreed to participate in the development of a program to provide obstetrical care to patients eligible for Medical Assistance Services and to patients who are indigent, and upon approval of such program by the Commissioner of Health, to participate in its implementation, (ii) had in force an agreement with the Board of Medicine whereby the physician agreed to submit to review by the Board of Medicine as required by subsection B of § 38.2-5004, and (iii) had paid the participating physician assessment pursuant to § 38.2-5020 for the period of time in which the birth-related neurological injury occurred.

"Participating hospital" means a hospital licensed in Virginia which at the time of the injury (i) had in force an agreement with the Commissioner of Health or his designee, in a form prescribed by the Commissioner, whereby the hospital agreed to participate in the development of a program to provide obstetrical care to patients eligible for Medical Assistance Services and to patients who are

indigent, and upon approval of such program by the Commissioner of Health, to participate in its implementation, (ii) had in force an agreement with the State Department of Health whereby the hospital agreed to submit to review of its obstetrical service, as required by subsection C of § 38.2-5004, and (iii) had paid the participating hospital assessment pursuant to § 38.2-5020 for the year in which the birth-related neurological injury occurred.

"Program" means the Virginia Birth-Related Neurological Injury Compensation Program established by this chapter.

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Appendix I

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HOUSE JOINT RESOLUTION NO. .....

Continuing the joint subcommittee studying the definition of compensable injury and the funding mechanism of the Virginia Birth-Related Neurological Injury Compensation Act.

WHEREAS, the 1989 Session of the General Assembly established, pursuant to House Joint Resolution 297, a joint subcommittee to study the Virginia Birth-Related Neurological Injury Compensation Act's (i) definition of compensable injury and (ii) funding mechanism; and

WHEREAS, the joint subcommittee heard considerable testimony on these issues; and

WHEREAS, the findings of the joint subcommittee and the continued lack of claims have added to uncertainty regarding the definition of compensable injury and the soundness of the Program's fund; and

WHEREAS, testimony indicated that modifications to the definition of injury may be necessary in order to achieve the intent of the original legislation; and

WHEREAS, actuarial review of the Program has indicated that it may be underfunded; and

WHEREAS, in light of the findings of the joint subcommittee, it is imperative that the Virginia Birth-Related Neurological Injury Compensation Program be monitored and studied closely for another year; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the joint subcommittee established in 1989 pursuant to House Joint

Resolution 297 be continued to study (i) the definition of compensable injury, (ii) the funding mechanism, and (iii) the soundness of the fund. The membership of the joint subcommittee shall remain the same. Any vacancies shall be filled in the same manner as the original appointment.

The joint subcommittee shall complete its work in time to submit its findings and recommendations to the Governor and the 1991 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for processing legislative documents.

The indirect costs of this study are estimated to be $10,650; the direct costs of this study shall not exceed $5,760.

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GENERAL ASSEMBLY OF VIRGINIA -- 1989 SESSION

HOUSE JOINT RESOLUTION NO. 297

Establishing a joint subcommittee to study the definition of a compensable injury and the funding mechanism of the Virginia Birth-Related Neurological Injury Compensation Act.

Agreed to by the House of Delegates, February 6, 1989
Agreed to by the Senate, February 23, 1989

WHEREAS, the Virginia General Assembly enacted the Virginia Birth-Related Neurological Injury Compensation Act in 1987 in response to the lack of availability of obstetrical services caused by a lack of availability of liability insurance for obstetricians; and

WHEREAS, attempts have been made since 1987 to develop a method by which to determine with greater accuracy the incidence of infants born in the Commonwealth with injuries that meet the current definition in the Act; and

WHEREAS, a pilot project has been completed at the Medical College of Virginia to test this method which suggests that some modification of the existing definition may be desirable to meet more fully the objectives of the Act; and

WHEREAS, questions have been raised concerning the appropriate level and source of funding for the Act, which are necessarily related to the definition of a compensable injury; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That a joint subcommittee is established to study the current definition of a "birth-related neurological injury" under the Virginia Birth-Related Neurological Injury Compensation Act and to study the existing funding mechanism to determine whether any modification is necessary or desirable. The joint subcommittee shall consist of eight members to be appointed as follows: five members of the House of Delegates to be appointed by the Speaker of the House, and three members of the Senate to be appointed by the Senate Committee on Privileges and Elections.

All agencies of the Commonwealth shall provide assistance upon request and in the manner deemed appropriate by the joint subcommittee.

The joint subcommittee shall complete its work in time to submit its findings and recommendations to the Governor and to the 1990 Session of the General Assembly.

The indirect costs of this study are estimated to be $4,320; the direct costs of this study shall not exceed $10,650.

BIRTH-INJURED INFANTS: CLAIMS FREQUENCY AND COSTS IN VIRGINIA 1980-1988

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