VIRGINIA BIRTH-RELATED NEUROLOGICAL INJURY COMPENSATION PROGRAM

2003 ANNUAL REPORT INCLUDING PROJECTIONS FOR PROGRAM YEARS 2003 - 2005

Report to:
State Corporation Commission
Bureau of Insurance
Commonwealth of Virginia

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September 2003

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This is the 2003 report of Mercer Risk, Finance & Insurance (Mercer RFI), formerly MMC Enterprise Risk Consulting, Inc., to the Commonwealth of Virginia, State Corporation Commission, Bureau of Insurance regarding the adequacy of the funding of the Virginia Birth-Related Neurological Injury Compensation Program (the Program). This report provides our evaluation of the actuarial soundness of the Virginia Birth-Related Neurological Injury Compensation Fund (the Fund) as of December 31, 2002, and our forecasts of the actuarial soundness of the Fund as of each subsequent year-end through December 31, 2005.

Our initial actuarial studies of the actuarial soundness of the Fund were based primarily on theoretical assumptions about the number of claimants that would be admitted to the Program each year, the average payment made to each claimant in each year, and the average life expectancy of each claimant. This method of performing an actuarial study is necessary in the early years of a new program, such as the Virginia Birth-Related Neurological Injury Compensation Program. Over time, as claimants were admitted to the Program and payments were made on behalf of those claimants, we adjusted our assumptions based on the total amount of payments made by the Program to all claimants, in the aggregate. However, our pre-2001 studies were not based on the payments made on behalf of individual claimants because the actual number of admitted claimants and the average amount of time each admitted claimant had been in the Program were too limited for a detailed analysis based on payments made on behalf of individual claimants.

For the 2001 study, the 2002 study, and for this current study, we have sufficient information about the actual payments made by the Program on behalf of individual claimants upon which to

base our analysis of the actuarial soundness of the Fund. As of December 31, 2001 there were 68 admitted claimants of whom 38 had been in the Program for at least three years. As of December 31, 2002, there were 75 admitted claimants, of whom 50 had been in the Program for three or more years. Therefore, the amount of information on payments made by the Program on behalf of individual claimants continues to grow and increase in statistical credibility from one year to the next.

This current study is based on a detailed analysis of payments made on behalf of each of the 50 claimants who had been in the Program for three or more years as of December 31, 2002. As a result of this detailed analysis, we have estimated future payments for eligible claimants born on or before December 31, 2002 that are consistent with the future payments that we estimated in our prior study dated September 2002.

There are two changes in our methodology, as compared to our September 2002 study:

- We have revised the mortality table, increasing the estimated life expectancies of the claimants in the Program. This change is consistent with the approach that we discussed in our October 2001 and September 2002 reports.
- We have revised our forecast of the future expenditures for renovations, assuming that the annual cost will be $112,500 at the 2002 cost level, rather than $77,542 at 2001 cost levels used in our last report.

All of our assumptions are discussed in detail in the section of this report titled Method and Assumptions.

Further, we have included an additional section to the report wherein we discuss the possible effects that the new legislation, which became effective on July 1, 2003, may have on the costs of the Program.

As stated above, the claims experience of the Program is becoming increasingly credible. Nevertheless, our estimates are still subject to significant uncertainty:

- The Program started in 1988 and, as a result, no claimant is older than 15. Thus, there is no claim payment experience for claimants over the age of 15 upon which to base our forecasts of future payments for the period in which claimants are 15 and older. Also, only 50 claimants had been in the Program for three or more years as of December 31, 2002. Further, there is considerable variability in the actual payments that have been made to the 75 claimants admitted as of December 31, 2002.

- In addition, other factors could have a significant impact on future claim payments. For example, there may be changes in the way the Program is operated in the future, the degree to which claimants utilize the services of the Program, and the coverage provided by private health insurance and Medicaid, which are the claimants' primary funding sources. In addition, actual rates of inflation and interest may differ significantly from the long-term rates that we assumed for our forecast.

The impact of these factors on our estimates is discussed further in the Sensitivity Testing section of this report. We expect to continue to refine our estimates as the experience of the Program unfolds, and these future refinements could have a significant impact on future estimates of the financial soundness of the Fund.

Overall, our findings are similar to the findings in our September 2002 report. Although we have revised our assumptions for individual categories of claim payments, in total, for all categories of claim payments combined, our estimates are consistent with the estimates from our September 2002 study. For example, in our September 2002 study we forecasted that the average future lifetime

costs for all claimants born on or before December 31, 2001, but not yet admitted to the Program as of that date, was approximately $1.7 million, on a discounted basis. In this current report we forecast that the average future lifetime costs for all claimants born on or before December 31, 2002, but not yet admitted to the Program as of that date, is approximately $1.8 million, on a discounted basis. In our September 2002 report we forecasted that the Fund would have a deficit of $88.3 million as of December 31, 2002. In this current report we estimate that the Fund had a deficit of $80.4 million as of December 31, 2002. The main reason for the decrease in the deficit is the better than expected value of total assets as of December 31, 2002. Total assets in our September 2002 report were projected to be $84.7 million as of December 31, 2002. In fact, total assets as of December 31, 2002 reached $91.4 million as discussed on page 8.

Consistent with our past reports, we interpret the Program's future payment obligations as of December 31, 2002 to consist of future claim payments associated with all claimants with birth dates on or before December 31, 2002, *regardless of whether they have been admitted as of December 31, 2002*. Therefore, we estimate the liabilities associated with the 75 admitted claimants *as of December 31, 2002* as well as those associated with what we estimate to be 31 not-yet-admitted claimants *as of December 31, 2002*. Not-yet-admitted claimants as of December 31, 2002, are those claimants with birth dates on or before December 31, 2002 who had not yet been admitted to the Program as of December 31, 2002, but whom we estimate will eventually be admitted to the Program.

Major Findings

Following are our major findings.

1. **Finding**: We estimate that, as of December 31, 2002, the Fund was not actuarially sound and had a deficit of about $80.4 million. By this we mean that the present value of estimated future claim payments for children born on or prior to December 31, 2002, plus the present value of estimated future claim administration expenses associated with making those claim payments, exceeded the Fund's assets by about $80.4 million. (The present value represents the amount of assets that would need to be invested as of December 31, 2002, to pay the claimant expenses as they become due in the future.) We have used the same definition of actuarial soundness in each of our reports since 1992: if the estimated future payment obligations exceed the Fund's assets, the Fund is deemed to be actuarially unsound.

   As explained in the fourth Finding, which follows later in this section of the report, the Fund is not in any immediate danger of defaulting on the payment of benefits. In other words, although the Fund is not actuarially sound, it has sufficient assets to continue to pay for claimants' benefits for approximately 14 years.

   Our estimate of the Fund's financial position as of December 31, 2002, is shown in Table 1, which follows.

TABLE 1

Estimated Financial Position as of 12/31/02

($ in millions, on a present value basis)

Claimant Status (1)	Estimated Ultimate Number of Claimants (2)	Baseline Estimate of Future Claim Payments (3)	Estimate of Future Claims Administration Expenses (4)	Value of Total Assets (5)	Estimated Surplus/ (Deficit) [(5)-(3)-(4)] (6)
Claimants Admitted to the Program as of 12/31/02	75	$108.8	$4.5		
Claimants Not Yet Admitted to the Program as of 12/31/02	31	56.3	2.2		
Grand Total	**106**	**$165.1**	**$6.7**	**$91.4**	**($80.4)**

Table 1 shows that as of December 31, 2002, we estimate the Program had obligations for future claim payments ($165.1 million on a present value basis) and for future claim administration expenses ($6.7 million on a present value basis) that exceeded the Program's assets ($91.4 million) by $80.4 million.

Column 2 of Table 1 shows that as of December 31, 2002, we estimate the Program had 106 claimants. These 106 claimants consist of 75 claimants who had been admitted to the Program as of December 31, 2002 and an estimated additional 31 claimants born on or before December 31, 2002 who had not yet been admitted to the Program as of December 31, 2002. Most claimants do not apply to the Program, and are not admitted to the Program, until two or more years after their birth. (The average age that the 75 admitted claimants had attained when they were admitted to the Program was 3.0 years. Twenty-four of the 75 admitted claimants were admitted to the Program after they had attained the age of five.) The estimated number of not-yet-admitted claimants, 31, is our estimate of the number of claimants with birth dates on or before December 31, 2002 who will be admitted to the Program subsequent to December 31, 2002.

Column 3 of Table 1 shows our baseline estimate of the present value of future claim payments for the estimated admitted and not-yet-admitted claimants born on or before December 31, 2002. This is our baseline estimate, meaning that it is our "intermediate" estimate, consistent with the way we have measured the actuarial soundness of the Fund in our past reports. The baseline estimate lies within a range of possible outcomes; in other words, the present value of future claim payments could turn out to be significantly higher or lower than our estimate. This is discussed in more detail in the Sensitivity Testing section of this report.

Our estimates of future claim payments are on a present value basis, as of December 31, 2002. Presenting our estimates of future claim payments on a present value basis is consistent with our prior reports. The present value represents the amount that would need to be invested as of December 31, 2002 to make the claim payments as they become due. Throughout this report, discussions of future claim payments are on a present value basis unless otherwise indicated.

Column 4 of Table 1 shows our estimate of future administration expenses that are associated with the payment of the claims for the 106 claimants (admitted and not-yet-admitted) as of December 31, 2002 (see page 47 for a description of these expenses and a discussion of why the number has decreased from that included in our last report).

Column 5 of Table 1 shows our estimate of the value of the Fund's total assets as of December 31, 2002. This is an estimate based on information provided by management of the Program. The Fund's audited financial statement had not yet been prepared at the time of this report.

Column 6 of Table 1 shows that our estimate of the Fund's total assets as of December 31, 2002 is $80.4 million less than the sum of our estimates of the Program's future claim payments and future claim administration expenses.

In summary, we estimate that, as of December 31, 2002, the Fund was not actuarially sound and had a deficit of about $80.4 million. Our estimate of the present value of future claim payments

for children born on or prior to December 31, 2002, plus our estimate of the present value of future claim administration expenses, exceeds the Fund's assets by about $80.4 million.

In our September 2002 report, we included a forecast of the financial results as of December 31, 2002. A comparison of that estimate to our current estimate as of December 31, 2002 is given below:

- Number of Claimants: In our September 2002 report, we forecasted that there would be 106 claimants as of December 31, 2002, of whom 75 would be admitted and 31 would be not-yet-admitted. Our current estimate is that there were 106 claimants as of December 31, 2002, of whom 75 are admitted and 31 are not yet admitted.
- Baseline Estimate of Future Claim Payments: In our September 2002 report, we forecasted that there would be $163.4 million of future claim payments associated with the 106 claimants, as of December 31, 2002. Our current estimate is that there were $165.1 million of future claim payments, as of December 31, 2002.
- Estimate of Future Claim Administration Expenses: In our September 2002 report, we forecasted that there would be $9.7 million of future claim administration expense payments associated with the 106 claimants, as of December 31, 2002. Our current estimate is that there will be $6.7 million of future claim administration payments, as of December 31, 2002 (see page 46 for a discussion of the decrease in estimated claim administration expenses).
- Value of Total Assets: In our September 2002 report, we forecasted that the Fund would have assets of $84.7 million, as of December 31, 2002. Our current estimate is that the Fund had assets of $91.4 million, as of December 31, 2002. This difference of $6.7 million, between projected assets and actual assets as of December 31, 2002, is mainly due to lower than expected payments to claimants (see discussion of "Estimated Future Costs of Group B Claimants" beginning on page 51) and to better than projected earnings on invested assets (approximately 7.8%, annualized, rather than the projected 6.8%) during 2002.
- Forecasted Surplus/(Deficit): In our September 2002 report, we forecasted that the Fund would have a deficit of $88.3 million, as of December 31, 2002. Our current estimate is that the Fund had a deficit of $80.4 million, as of December 31, 2002.

2. **Finding**: We forecast that the Fund will not be actuarially sound as of December 31, 2003, and will have a deficit of about $82.6 million, prior to consideration of the effects of the July 1, 2003 legislation, and a deficit of about $129.6 million including the effects of the July 1, 2003 legislation, even though the maximum allowable assessments have been collected for program year 2003. This is shown in Table 2, which follows.

   Table 2 is our forecast of the Fund's financial position as of December 31, 2003. For ease of comparison with Table 1, and with Table 2 from last year's report, we have provided the forecasts in detail that separately identifies the effects of the legislation that became effective on July 1, 2003. The first three lines of Table 2 show the forecast without any consideration of the legislation effective July 1, 2003. The next four lines show the estimated impact of the July 1, 2003 legislation. There is a higher degree of uncertainty regarding the impact of the legislative changes than there is regarding the other estimates.

   The estimated number of claimants that will have been admitted to the Program as of December 31, 2003, shown as 82 in Column 2 row (a), represents the 75 claimants who were admitted prior to December 31, 2002, as indicated in Table 1, plus an additional 7 claimants who we estimate will be admitted to the Program during 2003, prior to consideration of the effects of the July 1, 2003 legislation.

   The July 1, 2003 legislation results in increased costs to the Fund in the following categories: non-claim related administrative expenses, $100,000 awards to eligible claimants, and additional future claim payments and claim related administrative expenses to those claimants who enter the Program because of the new legislation. The number of claimants indicated in Column 2 rows (e) through (g) represent additional claimants, born prior to December 31, 2003, who we estimate will enter the Program as a result of the July 1, 2003 legislation. The values included in rows (d) through (h) of Table 2 are discussed more fully in the section of this report titled "Methodology – July 1, 2003 Legislation" beginning on page 58. Column 5 row (d) includes the estimated additional non-claim related administrative costs resulting from the new legislation, that we expect to be paid during 2003. Because Column 5 represents the assets of

the Fund, these costs are listed as negative, or reductions to, assets. Similarly, the amounts paid to claimants who are eligible for $100,000 awards and estimated claim payments and claim related administrative expenses paid in 2003, are listed as negative assets.

TABLE 2

Forecasted Financial Position as of 12/31/03
($ in millions, on a present value basis)

Claimant Status (1)	Estimated Ultimate Number of Claimants (2)	Baseline Estimate of Future Claim Payments (3)	Estimate of Future Claims Administration Expenses (4)	Value of Total Assets (5)	Forecasted Surplus/ (Deficit) [(5)-(3)-(4)] (6)
(a) Claimants Admitted to the Program as of 12/31/03	82	$118.0	$4.9		
(b) Claimants Not Yet Admitted to the Program as of 12/31/03	31	59.7	2.3		
(c) **Sub-Total: Without Consideration of 7/1/03 Legislation**	**113**	**$177.7**	**$7.2**	**$102.3**	**($82.6)**
(d) Additional Administrative Costs				($0.2)	
(e) Claimants Eligible for $100,000 Award	4			($0.4)	
(f) All Other Additional Admitted Claimants	7	$10.1	$0.5	($1.7)	
(g) Additional Not Yet Admitted Claimants	17	$32.8	$1.3		
(h) **Sub-Total: Effects of 7/1/03 Legislation**	**28**	**$42.9**	**$1.8**	**($2.3)**	**($47.0)**
(i) **Grand Total**	**141**	**$220.6**	**$9.0**	**$100.0**	**($129.6)**

3. **Finding**: Given the continuation of maximum permissible assessments during 2004, as recommended below, we forecast that the Fund will remain in a deficit position, and that the deficit will grow to $84.7 million at the end of 2004 and to $87.2 million at the end of 2005, prior to consideration of the effects of the July 1, 2003 legislation, and to $138.9 million and to $148.3 million, for 2004 and 2005, respectively, including the effects of the July 1, 2003

legislation. This demonstrates that the maximum permissible assessments will not be sufficient to restore the Fund to an actuarially sound basis. This is shown in Tables 3 and 4, which follow.

TABLE 3

Forecasted Financial Position as of 12/31/04
($ in millions, on a present value basis)

Claimant Status (1)	Estimated Ultimate Number of Claimants (2)	Baseline Estimate of Future Claim Payments (3)	Estimate of Future Claim Administration Expenses (4)	Value of Total Assets (5)	Forecasted Surplus/ (Deficit) [(5)-(3)-(4)] (6)
(a) Claimants Admitted to the Program as of 12/31/04	88	$126.6	$5.3		
(b) Claimants Not Yet Admitted to the Program as of 12/31/04	32	65.2	2.5		
(c) **Sub-Total: Without Consideration of 7/1/03 Legislation**	**120**	**$191.8**	**$7.8**	**$114.9**	**($84.7)**
(d) Additional Administrative Costs				($0.2)	
(e) Claimants Elgible for $100,000 Award	6			($0.6)	
(f) All Other Additional Admitted Claimants	13	$20.2	$0.9	($2.4)	
(g) Additional Not Yet Admitted Claimants	14	$28.6	$1.3		
(h) **Sub-Total: Effects of 7/1/03 Legislation**	**33**	**$48.8**	**$2.2**	**($3.2)**	**($54.2)**
(i) **Grand Total**	**153**	**$240.6**	**$10.0**	**$111.7**	**($138.9)**

Referring to Table 3, Column 2 row (c), we estimate that the total number of claimants as of December 31, 2004 will be 120. This is an increase of 7 claimants from the total number of claimants that we estimate there will be as of December 31, 2003, and reflects our forecast that each year 7 children will be born who will eventually be admitted to the Program. Although the total number of claimants is the most important, we have also shown that our estimate of 120 claimants consists of 88 claimants who we estimate will have been admitted into the Program as of December 31, 2004 and 32 claimants born on or before December 31, 2004 who will not yet

have been admitted into the Program as of December 31, 2004. These values are prior to consideration of the effects of the July 1, 2003 legislation.

The number of claimants admitted to the Program as of December 31, 2004, shown as 88 in Column 2 row (a) of Table 3, consists of the 82 claimants we estimate will have been admitted to the Program as of December 31, 2003 (See Table 2), plus an additional 6 claimants who we forecast will be admitted to the Program during 2004. The number of claimants not yet admitted to the Program as of December 31, 2004, shown as 32 in Column 2 row (b) of Table 3, is the difference between the estimated total number of claimants (120) and the estimated number of admitted claimants (88). These estimates are prior to consideration of the effects of the July 1, 2003 legislation.

TABLE 4

Forecasted Financial Position as of 12/31/05

($ in millions, on a present value basis)

Claimant Status (1)	Estimated Ultimate Number of Claimants (2)	Baseline Estimate of Future Claim Payments (3)	Estimate of Future Claim Administration Expenses (4)	Value of Total Assets (5)	Forecasted Surplus/ (Deficit) [(5)-(3)-(4)] (6)
(a) Claimants Admitted to the Program as of 12/31/05	94	$136.9	$5.7		
(b) Claimants Not Yet Admitted to the Program as of 12/31/05	33	71.0	2.6		
(c) **Sub-Total: Without Consideration of 7/1/03 Legislation**	**127**	**$207.9**	**$8.3**	**$129.0**	**($87.2)**
(d) Additional Administrative Costs				($0.2)	
(e) Claimants Elgible for $100,000 Award	5			($0.5)	
(f) All Other Additional Admitted Claimants	19	$30.8	$1.3	($3.3)	
(g) Additional Not Yet Admitted Claimants	11	$23.6	$1.4		
(h) **Sub-Total: Effects of 7/1/03 Legislation**	**35**	**$54.4**	**$2.7**	**($4.0)**	**$61.1**
(i) **Grand Total**	**162**	**$262.3**	**$11.0**	**$125.0**	**($148.3)**

Table 4 is similar to Table 3, except that it shows our forecast of the Fund's financial position as of December 31, 2005.

Referring to Table 4, Column 2 row (c), we estimate that the total number of claimants as of December 31, 2005 will be 127, an increase of 7 over the prior year, representing the 7 children that we forecast will be born in 2005 and eventually admitted into the Program.

The number of claimants admitted to the Program as of December 31, 2005, shown as 94 in Column 2 row (a) of Table 4, consists of the 88 claimants we estimate will have been admitted to the Program as of December 31, 2004 (See Table 3) plus an additional 6 claimants that we forecast will be admitted to the Program during 2005. The estimated number of claimants not yet admitted to the Program as of December 31, 2005, shown as 33 in Column 2 row (b) of Table 4, is the difference between the estimated total number of claimants (127) and the estimated number of admitted claimants (94). These estimates are prior to consideration of the effects of the July 1, 2003 legislation.

4. **Finding**: The Fund is not in any immediate danger of defaulting on the payment of benefits. In other words, although the Fund is not actuarially sound, it has sufficient assets to continue to pay for claimants' benefits for approximately 14 years**.**

   The Fund's current assets are relatively large compared to current and expected future annual claim payments in the near-term. The Program paid $4.6 million to claimants during 2002. The $4.6 million in actual payments made for the full year of 2002 was less than the $5.7 million in actual payments made for the full year of 2001. This decrease is due mainly to housing costs. During 2001, $1.7 million in housing costs were paid by the Fund; during 2002, only $0.7 million in housing costs were paid by the Fund, a decrease of $1.0 million. During the first six months of 2003 the Program paid $2.9 million to claimants, of which $0.7 million was for housing.

We forecast that the current assets of the Fund are sufficient to cover the claim payments of admitted (as of December 31, 2002) claimants for many years, given the historical payments of approximately $5.0 million per year actually paid by the Fund. Specifically, we forecast that if the Fund collects the maximum assessments currently permitted, and if the level of participation of physicians and hospitals remains constant at the 2003 levels, the Fund will be able to continue to make claim payments for all claimants, including those admitted after December 31, 2002, for approximately the next 14 years (that is, through the year 2016).

Recommendations

Following are our major recommendations.

1. **Recommendation**: We recommend that the Program continue to assess participating physicians and hospitals at the maximum level ($5,000 per physician and $50 per live birth for the hospitals, subject to the annual maximum of $150,000 per hospital).

2. **Recommendation**: We recommend that the Program continue to assess non-participating physicians at the maximum annual amount of $250.

3. **Recommendation**: We recommend that the Program continue to assess liability insurers at the maximum amount of one-fourth of one percent of net direct liability premiums written in Virginia.

4. **Recommendation**: Recommendations 1 through 3 notwithstanding, we recommend that means be found to increase funding, either through assessments or through the identification of other sources, to reduce the estimated deficit of the Program as it is currently structured.

5. **Recommendation**: We recommend that reviews of the actuarial soundness of the Fund be conducted annually.

6. **Recommendation:** We recommend that the Program obtain copies of the claimants' insurance policies, summarize the coverage information (for example: items covered, coinsurance clauses, lifetime caps on coverage), and provide copies of the summaries and/or the policies at the time of each actuarial review.

7. **Recommendation**: We recommend that the Program obtain more detailed studies of the medical condition of each individual claimant who is admitted to the Program, and update this information when there are significant changes in a claimant's medical condition.

8. **Recommendation**: We recommend that the Program obtain audited financial statements, as of each December 31, by no later than June 30 of the subsequent year, in order to provide confirmed data for future studies. In this current study, we have relied upon the accuracy of the data contained in a preliminary balance sheet, and additional information, as supplied by the Program. We have examined the data for reasonableness and consistency, but have not audited the data. At the time of this report, an audited balance sheet, detailing the Program's results as of December 31, 2002, was not available. If the audited balance sheet, when available, differs materially from the information provided for our study, then our findings and conclusions may need to be restated.

Method and Assumptions

Introduction

In very general terms, we estimate the future payment obligations of the Program as follows:

- We estimate the total number of claimants. This consists of the actual number of admitted claimants, plus our estimate of the number of not-yet-admitted claimants.

- We forecast, by category of claim payment and for each of the claimants we estimate will be admitted to the Program, the future payments that will be made by the Program. These estimates are based on:
  - the actual payments made by the Program on behalf of the 50 claimants who had been in the Program for three or more years as of December 31, 2002 (unless the claimant had Medicaid coverage in the past, and no longer has Medicaid coverage; in which case the average payments made to non-Medicaid claimants, in the affected categories, are used instead);
  - our understanding of each of the 50 claimant's insurance coverage and eligibility for Medicaid;
  - assumptions regarding future cost inflation;
  - assumptions regarding future increases in the utilization of the benefits and services of the Program.

- We adjust our projected future payments to each claimant to reflect:
  - an assumed life expectancy for each claimant (based on a life expectancy, or mortality, table); and,

– the time value of money (based on estimated investment income).

This section of the report is organized into the following subsections:

- Claim Payments: This provides an overview of the types and amounts of payments that are covered by the Program, an explanation of how we forecast the future payments to individual claimants, and the values that we estimate as the total lifetime costs per claimant for the various payment categories.

- Other Assumptions: This provides discussion of the other assumptions (other than claim payments), such as inflation rates, the interest rate used to reflect the time value of money, insurance coverages, the number of not-yet-admitted claimants, and so forth.

- Methodology: This provides more precise discussion of how we combine our forecasts of payments with the other assumptions.

- Sensitivity Testing: This discusses the sensitivity of our findings to various assumptions underlying our analysis.

Claim Payments

The claim payment experience in the Program is growing rapidly due to the addition of new claimants and the aging of the existing claimants. Table 5, below, shows a brief history of the actual claim payments, by year, from 1988 through 2002.

TABLE 5

Total Claim Payments

As Of (1)	Incremental Amount Paid (2)	Cumulative Amount Paid (3)
12/31/88	-	-
12/31/89	-	-
12/31/90	-	-
12/31/91	-	-
12/31/92	$14,161	$14,161
12/31/93	$97,886	$112,047
12/31/94	$239,124	$351,171
12/31/95	$1,860,514	$2,211,685
12/31/96	$4,667,043	$6,878,728
12/31/97	$4,547,735	$11,426,463
12/31/98	$2,920,146	$14,346,609
12/31/99	$3,505,686	$17,852,295
12/31/00	$5,685,588	$23,537,883
12/31/01	$5,745,413	$29,283,296
12/31/02	$4,638,442	$33,921,738

The decrease in claim payments during 2002 as compared to 2001 ($4.6 million in 2002 as compared to $5.7 million in 2001) is due mainly to the decrease in payments for housing costs. During 2001 approximately $1.7 million was paid for housing; during 2002 only about $0.7 million was paid by the Fund for housing costs.

The growth in the Program has been discussed in detail in our prior two reports. There is sufficient actual claim data for a fairly detailed analysis of expenses, by claimant and by payment category. In this study, as in our 2002 study, our basic approach is to base our forecast of future claim payments on a detailed review of past payments in each category, by claimant, for all claimants in Group A (claimants in the Program for at least three years as of December 31, 2002).

In addition to reviewing the actual claim payment histories of the individual claimants, we also discussed these histories with management of the Program. This provided valuable information regarding whether or not the claimant had insurance coverage or received Medicaid, and about some of the actual expenses that individual claimants were incurring. Currently, there are no uninsured claimants. All claimants have either Medicaid or private insurance coverage.

The Program currently keeps track of its claim payments in 12 categories (one of which, lost wages, has not yet been necessary because none of the claimants has yet attained the age of 18, when such payments begin). The Program provided the actual payments through December 31, 2002, sorted by category of payment by year and for each of the 75 claimants who were in the Program as of December 31, 2002. We use this information as the primary base for projecting the future costs of the Program. Table 6, which follows, provides a summary of this payment information, showing the total amount that the Program has paid, by category.

Table 6

Total Actual Claim Payments, Through 12/31/02

Expense Category	Payments through 12/31/02	Percentage of Total Payments
(1)	(2)	(3)
Nursing	$15,575,134	45.9%
Hospital/Physician	1,218,396	3.6%
Incidental	1,719,457	5.1%
Housing	10,790,923	31.8%
Vans	1,732,370	5.1%
Lost Wages	0	0.0%
Physical Therapy	1,006,658	3.0%
Medical Equipment	713,491	2.1%
Prescription Drugs	273,973	0.8%
Legal	655,846	1.9%
Insurance	123,939	0.4%
Medical Review/Intake	111,551	0.3%
Total	**$33,921,738**	**100.0%**

Claimants submit to the Program any costs not covered by private insurance or Medicaid, and the Program is responsible for paying these costs. Therefore, in the cases where the claimant has private insurance or receives Medicaid, the actual payments recorded by the Program represent "net" payments after recoveries from private insurance and Medicaid. There are several types of

costs (for example, expenses for hospital stays or physician visits) for which the Fund has not made any payments for Medicaid patients. In the two cases where claimants have lost Medicaid benefits and now have private insurance, we use the minimum values applied to all claimants, for those costs that were previously covered in full by Medicaid, in order to forecast the costs that are expected to be paid by the Fund in the future. These minimum values are discussed in detail, by category of payment, in the Methodology section of this report.

We base this current study, primarily, on actual payments through December 31, 2002, which represents a twelve-month update of the payments that were primarily used in our September 2002 study.

Most of the claimants have not been in the Program for a long enough period to establish a reliable basis for forecasting future costs. For analytical purposes, therefore, we split the claimant population into three groups:

- Group A consists of all claimants who were admitted to the Program on or before December 31, 1999. That is, Group A claimants are those who have been in the Program at least three full years. Group A contains 50 claimants, including 8 deceased claimants.

  We forecast the future costs of individual claimants in Group A, based on the payments that have been made to this group of claimants. For each claimant in Group A, we have a minimum of three years of actual claim payments as of December 31, 2002. We would prefer, for forecasting purposes, to have many more years of actual claim payments in order to forecast, with a higher degree of confidence, lifetime costs of claimants. However, because the Program is relatively new, more extensive claim payment information does not exist.

- Group B consists of all claimants who were admitted to the Program in 2000, 2001, or 2002. Group B contains 25 claimants, one of whom was deceased as of December 31, 2002.

  In our opinion, the actual claim payment information for Group B claimants is not sufficiently credible to be used for forecasting their future claim payments. Each of the Group B claimants has less than three years of actual claim experience as of December 31, 2002. During a claimant's first year in the Program, claim payments may be distorted due to payments made for costs incurred prior to admission into the Program. More importantly, certain costs, especially nursing costs, fluctuate significantly during the first few years of a claimant's participation in the Program. Therefore, because of the limitations of the claim payment information for Group B claimants, we use the claim payment information for Group A claimants to forecast the future claim payments for Group B.

- Group C represents our estimate of the children born on or before December 31, 2002 who were not admitted to the Program as of December 31, 2002, but who will eventually apply to and be admitted into the Program. We estimate that Group C contains 31 future claimants. We generally use information from claimants in Group A to forecast future claim payments for claimants in Group C. In addition, for the medical review/intake expense category, for which all costs are incurred during the claimant's application process, we use information from Group B claimants to forecast future claim payments for claimants in Group C, in order to use the most recent information on this cost.

In the course of this project, we reviewed the cost history of each claimant and discussed the cost history with management of the Program, as we did in our last two studies. This discussion provided valuable information that has been helpful in preparing our forecasts.

Table 6 shows aggregate claim payments, by category, through December 31, 2002. By definition, because Groups A and B are the claimants who had been admitted to the Program by December 31, 2002, Table 6 shows the actual costs for all Group A and B claimants, combined.

Table 7, below, shows the projected average lifetime costs, by category, that we estimate for a Group C claimant. These estimates reflect our assumptions about the average life expectancy of these claimants, and all of the lifetime costs are shown at their present value, as of December 31, 2002. These estimates are based on our analysis of the payments made on behalf of the Group A (and to some extent Group B) claimants. Except for housing expenses, for which the Program's policies have changed in recent years (as explained later in this section), and payment timing differences, the estimates in Table 7 are typical of the estimated lifetime costs for claimants in Groups A and B, as well.

Table 7

Forecasted Lifetime Costs
(Present Value at 12/31/02)

Expense Category	Forecasted Lifetime Costs per Group C Claimant
(1)	(2)
Nursing	$1,182,377
Hospital/Physician	153,479
Incidental	68,221
Housing	98,824
Vans	59,900
Lost Wages	88,318
Physical Therapy	34,675
Medical Equipment	54,183
Prescription Drugs	57,646
Legal	8,859
Insurance	9,950
Medical Review/Intake	596
Total	**$1,817,028**

Table 7 shows that we estimate the average amount of future claim payments, for a Group C claimant, on a present value basis, to be about $1.8 million (on a present value basis, about $100,000 per year for the estimated lifetime of the claimant). The nursing category represents about $1.2 million, or 67 percent, of this total. This is approximately equal to the $1.2 million, or 69 percent, estimated in our last report as of December 31, 2001. Although many claimants have had little or no nursing costs, a few have had large nursing costs. This is clearly the largest payments category, and any changes affecting the future cost or utilization of nursing services could have a major impact on our findings. The average value of the Hospital/Physician category ($153,479) has increased significantly from the average value of the Hospital/Physician category ($82,106) indicated in our prior report. This is mainly due to the large payments made in this category during 2002 for one claimant who was uninsured until January 1, 2003, at which time Medicaid coverage was obtained for this claimant.

Following is a discussion of each individual cost category.

Nursing

Nursing covers the cost of in-house nursing care, and represents the most significant payment category for the Program. As shown in Table 6, 45.9 percent of all payments made by the Program has been for nursing, and the percentage reaches about 67 percent if housing costs are not included. In 2002, the Program paid an average of about $34,000 per active claimant for nursing costs, but included in this average are newly admitted claimants who had relatively little nursing costs in 2002. Perhaps more telling is the $47,000 average nursing payment made by the Program in 2002 to each Group A claimant (those who have been in the Program for at least three years). Not only are nursing costs high relative to the other cost categories, but for many of the claimants they tend to be low for the first two or three years in the Program and then escalate

significantly. The average nursing payment made to Group A claimants has decreased by 16 percent since 2001, indicating that there is significant volatility of nursing costs from one year to the next. The Program's experience also reveals considerable variation in the amount of nursing costs paid to each claimant. Many claimants in the Program have little or no nursing costs, whereas a few are receiving round-the-clock nursing at an annual cost in excess of $200,000. For those claimants receiving nursing services, most of the claimants receive services from licensed practical nurses (LPNs) and a few claimants, because of their medical needs, receive services from registered nurses (RNs).

For each of the claimants in Group A, we generally base our future cost projections on the actual payments made to Group A claimants in 2002. Some Group A claimants have had very little costs in the nursing category, and for them we forecast future nursing costs to be $27,858 per year, at 2002 price levels (this is the equivalent of $25,000 per year at 2000 cost levels, consistent with the assumption used in our October 2001 report). We use this minimum because we expect that, among those Group A claimants who currently have little or no nursing costs, some percentage will eventually incur nursing costs. We use the actual and forecasted claims experience of Group A claimants to forecast the future claims experience of claimants in Groups B and C and, therefore, this assumed annual minimum also affects our estimates of the forecasted claims experience of claimants in Groups B and C.

In our 1998 and prior reports, we assumed that the nursing costs would decline beginning at age five. This assumption was based on the corollary assumption that claimants would be moved into institutional care at this age. Thus far, only three claimants have been institutionalized, one of whom is no longer in an institution but is currently living with her grandmother. Based on this experience, and on discussions with the management of the Program, it appears that families are keeping the claimants at home, with associated nursing care, much longer than had previously been

expected. Our current estimates reflect this actual experience and do not assume that claimants will be moved into institutional care.

We assume that the individual and group insurance coverage that claimants have does not provide coverage for nursing costs. This is based on our general knowledge that private health insurance typically excludes coverage for custodial nursing care. Further, this general knowledge is supported by the fact that none of the claimants' insurance coverage pays for nursing costs, according to management of the Program.

Further, we assume that Medicaid does not provide coverage for nursing costs. We understand that, theoretically, Medicaid may cover this cost in some cases. However, none of the claimants in the Program has ever qualified for such payments from Medicaid, and our forecast assumes that none will in the future. Any future discussion between Medicaid administrators and the Program management that leads to the provision of Medicaid benefits for nursing care for some claimants would result in a reduction to our forecast of lifetime nursing costs, all other things being equal.

Hospital/Physician

The hospital/physician payment category includes costs incurred for surgery, hospitalization, trips to an emergency room, physical examinations, and so forth.

For each of the claimants in Group A, we base our future cost projections for hospital/physician costs on an average of the actual payments made by the Program to the Group A claimants in the past three years. Some Group A claimants have had very little cost in this category, and for them we forecast $2,206 per year at 2002 cost levels (this is the equivalent of $2,000 per year at 2000 cost levels, consistent with the assumption used in our October 2001 report). We use this

minimum because we expect that, among those Group A claimants who currently have little or no hospital/physician costs, some percentage will eventually incur such costs. We use the actual and forecasted claims experience of Group A claimants to forecast the future claims experience of claimants in Groups B and C and, therefore, this assumed annual minimum also affects our estimates of the forecasted claims experience of claimants in Groups B and C.

We assume that insurance will cover 80 percent of allowable costs in this category, and that 80 percent of allowable costs will translate into 75 percent of actual costs. Therefore, we assume that the Program pays 25 percent of these costs, for claimants who have private insurance. For claimants who receive Medicaid, and for whom the Program has incurred some costs in this payment category, we assume that Medicaid is covering 80 percent of their costs in this category. As discussed in the Sensitivity Testing section of this report, the percentage of costs that we select as being covered by insurance or Medicaid actually has little impact on the final estimates.

Incidental

The incidental payment category includes: non-durable medical supplies, over-the-counter drugs, feeding tubes, diapers, computers, computer equipment, and any other expense not fitting into any of the other payment categories.

The Program's definition of "incidental cost" has not been consistent over time because, when the Program establishes new categories, the types of costs that were previously categorized as incidental are shifted to these new categories. Therefore, for each of the claimants in Group A, we base our projections of future costs on the actual incidental expenses paid to the claimants in Group A in 2002, the most recent full year. We use the actual and forecasted claims experience of Group A claimants to forecast the future claims experience of claimants in Groups B and C.

We assume that neither private insurance nor Medicaid provides coverage for incidental costs and, therefore, that the Program pays 100 percent of these costs.

Housing

Housing costs can be split into three sub-categories:

Trust homes – Until September 24, 1999, the Program purchased homes and provided them to claimants for the lifetime of the claimant (claimant families are permitted to remain in the home for six months after the death of the claimant). Although the Program identifies these purchases as costs, they are actually assets of the Program and we treat them as such. There have been a total of 23 trust homes, three of which have been sold following the death of the claimant. All of the trust homes have been used by claimants in Group A.

Housing Grant – Beginning September 25, 1999, the Program began to make grants to claimants for the construction of houses. The size of the grant varies according to the construction costs in the area where the claimant will live, but it generally averages about $350,000. When the grant has been made, it is paid out over time to cover construction costs of the house and incidental, related costs, such as rental costs, while the house is under construction. The claimants own the homes that they purchase with the aid of housing grants, so these are not assets of the Program. Thirteen grants have been awarded, all to Group A claimants.

Renovations – Beginning January 1, 2001, the Program discontinued the housing grant program and, in its place, pays the costs of renovating the claimant's existing house (if the claimant's family owns a home) to add a bedroom and a bathroom. We understand, based on discussion with management of the Program in 2003, that renovation costs have been higher than those estimated by the Program in 2002. Management of the Program told us that renovation costs

now typically range from $75,000 to $150,000 (rather than from $50,000 to $100,000, at 2000 cost levels, as estimated in 2001 and 2002), depending on the location. We have used an average estimate of $112,500 at 2002 cost levels. In our last report we used the average estimated value of $77,542, at 2001 cost levels.

For all claimants (or the claimant's family, in the case where a claimant is deceased) who are in a *trust home*, we assume that the Program will pay $20,000 every three years into a trust fund, which is established for the payment of real estate taxes, maintenance, insurance, and so forth. We base this estimate on discussions with the Trustee responsible for these homes, who explained that the Program has been paying about $20,000 every three years into trust accounts for these homes.

For all claimants who have been provided a *housing grant*, whether Group A or Group B, the total amount of the grant is known and we only estimate when it will be paid. The timing of the payment depends on the timing of the construction of the new home. We generally assume that the Program will pay any outstanding balances on the grants over the two-year period from 2003 through 2004.

For all Group A and Group B claimants who are living and who are not in a trust home and who have not been given a housing grant, as well as for all Group C claimants, we assume that future housing costs will be $112,500 (at 2002 cost levels) for *renovations;* except in those cases where the renovations have already been completed or the claimant does not live in a private home. For claimants in Groups A and B, we assume that this amount will be paid in 2003. For claimants in Group C, we assume that this amount will be paid, on average, in four years.

Neither private insurance nor Medicaid provides coverage for housing costs.

Vans

The Program purchases vans for every claimant who is restricted to a wheelchair, if the claimant requests a van. Virtually all claimants are restricted to wheelchairs. Of the 66 claimants living as of December 31, 2002, only three were ambulatory. (Management of the Program believes that one of the non-ambulatory claimants may eventually become ambulatory, but we have not revised our forecast in consideration of this possibility.)

In the initial years of the Program's operation, the Program purchased a mini-van for the claimant's first van. Special equipment, such as lifts, were added and repaired by the Program as needed. The van would then be used until the claimant outgrew it, generally at about age seven, at which time the Program purchased a full-size van for the claimant. Between 1997 and 1998, the Program started purchasing full-size vans as the first vans, rather than mini-vans. Beginning in 2002, the claimant's family has the option of selecting a modified mini-van or a full-size van. According to management of the Program, both options are at similar costs to the Fund. On an on-going basis, the Program covers any repairs to the special equipment on the van, but repair and maintenance of the van itself is the responsibility of the claimant. Vans purchased by the Program for claimants become the property of the claimants and are not assets of the Program.

Based on discussion with management of the Program, we assume that the average price of a van, with necessary equipment and including a provision for future repair of the equipment, is $30,964 at 2002 cost levels (this is the equivalent of $30,000 per year at 2000 cost levels, consistent with the assumption used in our October 2001 and September 2002 reports). Further, we assume that the Program will replace full size vans every eight years. This is the same assumption we used in our last study.

Neither private insurance nor Medicaid provides coverage for vans.

Lost Wages

For claimants age 18 or older, the Program will pay for lost wages.

No claimants have attained the age of 18, and so this benefit has not yet been paid. The amount to be paid to each claimant is fixed at 50 percent of the private average weekly non-agricultural wage in Virginia. Currently, the average weekly non-agricultural wage results in an annual amount of about $35,932, and we use 50 percent of this, $17,966 per year (at 2002 cost levels), for our forecast. For each claimant, we adjust the $17,966 for inflation to forecast the annual amount that will be paid at age 18 and beyond.

Physical Therapy

Most claimants receive physical therapy for several years.

According to our discussion with management of the Program during 2002, and consistent with our observations for older claimants, physical therapy expenses tend to decline over time.

We forecast that for most of the claimants: the costs for each of the next five years will equal the costs of the most recent year; the costs of each of the subsequent five years will be one-half of the costs of the most recent year; the costs thereafter will be $0. Further, for four claimants who have had relatively high costs in recent years, we forecast that their future costs will remain at the level of the most recent year, and will not decrease over time. This is consistent with the methodology used in our September 2002 report, although in our September 2002 report there were only two claimants who had relatively high costs for whom we forecast that their future costs would remain at the level of the most recent year and would not decrease over time.

We use the actual and forecasted claims experience of Group A claimants to forecast the future claims experience of claimants in Groups B and C and, therefore, our assumptions regarding the physical therapy expenses of Group A claimants also affects our estimates of the forecasted claims experience of claimants in Groups B and C.

We assume that private insurance and Medicaid provide coverage for physical therapy, in the same way that they provide coverage for hospital/physician expenses, as discussed above.

Medical Equipment

The medical equipment payment category includes costs associated with durable medical supplies. The most expensive component is wheelchairs. After discussion with management of the Program, we understand that the actual cost of a wheelchair has been closer to the $10,000 to $20,000 range rather than the $20,000 to $30,000 range specified in our September 2002 report. The Program provides children with their first wheelchair at about the age of three and provides replacement wheelchairs as the children grow.

For each of the claimants in Group A, we base our projections of future medical equipment costs on the actual payments made in the most recent three years. We use the actual and forecasted claims experience of Group A claimants to forecast the future claims experience of claimants in Groups B and C.

We assume that private insurance and Medicaid provide coverage for this payment category, in the same way that they provide coverage for hospital/physician costs, as discussed above.

Prescription Drugs

The Program did not begin to use a separate category for prescription drugs until 2000. Prior to 2000, these costs were assigned to other categories. For Group A claimants we project future costs based on the actual payments to Group A claimants in the most recent year. We use the actual and forecasted claims experience of Group A claimants to forecast the future claims experience of claimants in Groups B and C.

We assume that private insurance will provide coverage for this payment category in the same way as discussed above for hospital/physician costs. Based on claims histories for claimants who have Medicaid, however, we generally assume that Medicaid will cover 100 percent of costs in this category. The Program's records indicate, however, that the Fund has made insignificant payments for prescription drugs for two Group A claimants who have Medicaid, and we forecast that these payments will continue. We have been told by management of the Program that not all drugs are covered by Medicaid.

Legal

Legal costs are incurred both by the Program, and by the claimants, during the application process.

We assume that claimants in Groups A and B will not have any additional legal costs. For Group C, we forecast legal costs equal to the average legal costs for Group A.

Neither private insurance nor Medicaid provides coverage for legal costs.

Insurance

The Program pays for automobile insurance for the vans, up to $500 per year; this is equal to the amount paid in our September 2002 report. In addition, there are several claimants for whom the Program pays the premiums for private health insurance. We understand that the Program encourages families to purchase health insurance if they are otherwise uninsured, and the Program will pay the premium if necessary.

For each of the claimants in Group A, we project future automobile insurance costs at $500 (at 2001 price levels) per year for each claimant who has, or is projected to have, a van. For the Group A claimants for whom the Program is paying for private health insurance, we forecast the future annual cost to be equal to the actual cost paid by the Program in 2002.

Neither private insurance nor Medicaid provides coverage for these costs.

Medical Review/Intake

The medical review/intake category of payment includes costs that are paid by the Program during the claimant's application process.

The Program recently established this category of payment. However, as mentioned in our September 2002 report, we understand that the costs per claimant have generally increased in recent years as the admission process has become more involved. For example, three or four medical opinions are now generally required, rather than only one.

We forecast $0 of future costs in this category for Group A and Group B claimants. For Group C claimants, we estimate the future costs based on the actual average costs for Group B claimants.

Neither private insurance nor Medicaid provides coverage for these costs.

OTHER ASSUMPTIONS

Inflation

For each of the payment categories discussed above, we estimate the annual inflation rate that will apply to future annual costs. We base these inflation rates on consumer price indexes published by the Bureau of Labor Statistics, including the "Consumer Price Index; All Urban Consumers; All Items," which we refer to as the "general inflation index." Our assumptions are shown in Table 8.

Table 8

Expense Item	Annual Inflation Rate (Percent)	Incremental Difference from General Inflation	CPI Urban Index For:
(1)	(2)	(3)	(4)
General Inflation	3.28	0.00	All Items (1913-2002)
Incidental	3.28	0.00	All Items (1913-2002)
Hospital/Physician	5.04	1.76	Medical Care Services (1991-2002)
Nursing	4.55	1.27	Professional Services (1991-2002)
Physical Therapy	4.55	1.27	Professional Services (1991-2002)
Medical Equipment	4.65	1.37	Prescription Drugs and Medical Supplies (1991-2002)
Vans	1.48	-1.80	New and Used Motor Vehicles (1993-2002)
Housing	3.46	0.18	Housing (1991-2002)
Legal	5.11	1.83	Legal Services (1991-2002)
Medical Review/Intake	3.28	0.00	All Items (1913-2002)
Insurance	3.28	0.00	All Items (1913-2002)
Prescription Drugs	4.65	1.37	Prescription Drugs and Medical Supplies (1991-2002)
Lost Wages	3.28	0.00	All Items (1913-2002)

For each specific consumer price index and for the general inflation, Table 8 shows the annual rate of inflation that we forecast and the incremental difference between this assumed inflation rate and the inflation rate we forecast for the general inflation. For example, as shown in

Column 2, we forecast that the annual inflation rate for hospital/physician costs will be 5.04 percent, and this amount exceeds our forecast of the General Inflation rate by 1.76 percentage points (5.04 – 3.28 = 1.76) as shown in Column 3.

In addition, the table identifies the specific cost index upon which we base our estimate.

As shown in Column 4 of Table 8, we have information on the general inflation from 1913, but we only have information on the other cost indexes for shorter periods, such as from 1991 or 1993. Therefore, we first compare each cost index to the general inflation index, for a comparable time period, in order to estimate the difference between the change in that cost index and the change in the general inflation index. We then estimate the long-term rate of general inflation based on data from 1913 through 2001, and estimate the long-term rate of change for the individual indexes based on the assumed difference between that index and the index for general inflation. For example, based on data from 1991 through 2002, we estimate that the increase in costs for hospitals/physicians is equal to the increase in the general inflation rate, plus 1.76 percentage points. We estimate that the long-term rate of general inflation is 3.28 percent and, therefore, we estimate that the long-term increase in medical costs will be 5.04 percent (1.76 + 3.28 = 5.04).

The rates of inflation that we select reflect only changes in the unit costs of goods and services and are not intended to include provision for changes in the utilization of the Program's benefits and services. Our assumptions regarding changes in utilization are discussed later in this report.

Interest Rate

After forecasting the future costs, using the payment assumptions and inflation rates discussed above, we discount the future costs to a present value. This requires that we assume a specific

interest rate for discounting purposes. We forecast an annual rate of return of 6.34 percent, which we use for discounting purposes.

In our September 2002 study we assumed a 6.5 percent rate of return. In that study, we based this interest rate assumption primarily on the expected rate of return on invested assets, as stated by Merrill Lynch, the Fund's investment manager. Merrill Lynch expected that it will realize a rate of return that is *at least* 3 percentage points higher than the change in the overall cost of living, and we understand that Merrill Lynch still has the same performance objective. We selected a differential of 3.50 percentage points between our forecast of general inflation and the rate of return that Merrill Lynch will earn on invested assets, resulting in a rate of return of 6.77 percent for the assets invested by Merrill Lynch. This year Merrill Lynch has not changed its investment policy, and a differential of 3.50 percentage points between our forecast of general inflation and the Merrill Lynch rate of return results in a rate of return of 6.78 percent for the assets invested by Merrill Lynch.

We understand that Merrill Lynch earned approximately 7.8 percent on the invested assets during 2002. This information tends to support the reasonableness of our forecast of a 6.78 percent long-term rate of return for these assets.

Last year we forecast that certain Program assets, such as bank account balances and trust houses, will earn less than 6.77 percent per year. We did assume that the value of the trust houses would increase. However, the asset value of the trust houses carried in the financial statements of the Fund, according to Generally Accepted Accounting Procedures (GAAP), is the lesser of the cost of the house or the market value of the house. Therefore, the cost of the house represents the maximum asset that can be included in the financial statements of the Program. As of December 31, 2002, the cost of the trust houses was a smaller value than the market value, therefore, the cost of the houses was carried as the asset in the financial statements of the Fund

(last year the market value was used in the financial statements of the Fund). We have not inflated the value of the trust houses because they are already at cost. Therefore, our overall assumed rate of return has decreased this year from that assumed in our last report. The rate of 6.34 percent is the interest rate we used for discounting in this report.

Mortality

For this report, we revised the mortality (life expectancy) table that we used in our 2002 report. In the discussion that follows, we review four mortality tables:

- The 1999 Table, which is the table that we introduced at the time of our 1999 study.
- The "Blended Table," which we calculated as one step in our approach to a new 2002 table.
- The 2002 Table, which is the table that we used in our 2002 study.
- The 2003 Table, which is the table that we are using in the 2003 study.

1999 Table

At the time of our 1999 report, we revised the table that had been in use for previous reports. That prior table was based on the assumption that the mortality rate of claimants in the Program would be double the mortality rate of children with cystic fibrosis, and would be slightly more than double during the first year of life. That prior table had originally been based on the expectation that claimants in the Program would have a very short life expectancy.

At the time of our 1999 report, we observed that the actual number of claimant deaths was less than what we would have expected based on the mortality table previously used, and we revised the table for that report so that it was identical to the underlying cystic fibrosis mortality table.

This table has an underlying average life expectancy of 17.5 years from birth, and an average life of expectancy of 19.5 years for a child that attains the age of three. (Because claimants generally neither apply to, nor are admitted by, the Program until after the age of three, it is useful to show the life expectancy for children that have reached the age of three in addition to the life expectancy at birth.)

Blended Table

The Blended Table represents a combination of the 1999 Table and the 1998 U.S. Life Table, which is a mortality table for the population at-large. The blended table was created based on the following assumptions:

- The 1999 table is appropriate for use through age 15.

- Beyond age 15, the mortality of the claimants will gradually approach the standard mortality, merging with the standard mortality at age 85.

The logic underlying the Blended Table is that the claimants will have relatively high mortality during the first 15 years of life. The longer the claimants live, however, the more their future mortality will mirror the mortality of the standard population.

We developed the Blended Table in 2001, based on information contained in "Life Expectancy of Adults with Cerebral Palsy" by Strauss, et al, which appeared in *Developmental Medicine &*

Child Neurology, 1998. In this study, the authors make use of a large database covering the developmentally disabled in California. This study suggests that the mortality of a population with cerebral palsy, which is a non-progressive disease, will gradually approach the standard mortality as the population ages. Virtually all of the claimants in the Program have cerebral palsy. Therefore, there is reason to believe that the Blended Table may be appropriate.

This table has an underlying average life expectancy of 22.1 years, from birth, and an average life expectancy of 24.7 years for a child who has attained the age of three.

2001 Table

Based on the actual number of deaths of Program claimants, we found no reason to reject the 1999 Table. Through December 31, 2000, seven claimants had died, which is not significantly different from the expected 7.6 deaths, based on the 1999 Table.

On the other hand, the recent studies in California suggest that life expectancies of a population with cerebral palsy, which is a non-progressive disease, will gradually approach the standard mortality as the population ages.

The 2001 Table is an 80/20 weighting of the 1999 Table and the Blended Table. In other words, the 2001 Table is calculated so that at each age the probability of dying is equal to the sum of: 80 percent of the probability of dying based on the 1999 Table, plus 20 percent of the probability of dying based on the Blended Table.

The 2001 Table has an underlying average life expectancy of 17.9 years, from birth, and an average life expectancy of 20.0 years for a child who has attained the age of three.

2002 Table

In our October 2001 study we stated that we intended to compare the actual mortality to the expected mortality and continue to revise the mortality assumptions, upward or downward, as indicated.

Through December 31, 2001, eight claimants had died, as compared to the expected ten deaths based on the 2001 Table. (The 1999 Table and the Blended Table would also predict ten deaths, because these tables are identical through the first 15 years.). Therefore, we have continued to move toward the Blended Table, and the 2002 Table is a 70/30 weighting of the 1999 Table and the Blended Table. The 2002 Table has an underlying average life expectancy of 18.2 years, from birth, and an average life expectancy of 20.4 years for a child who has attained the age of three.

2003 Table

In our October 2001 study we stated that we intended to compare the actual mortality to the expected mortality and continue to revise the mortality assumptions, upward or downward, as indicated.

Through December 31, 2002, nine claimants had died, as compared to the expected twelve deaths based on the 2002 Table. (The 1999 Table and the Blended Table would also predict twelve deaths, because these tables are identical through the first 15 years.). Therefore, we have continued to move toward the Blended Table, and the 2003 Table is a 60/40 weighting of the 1999 Table and the Blended Table. The 2003 Table has an underlying average life expectancy of 18.7 years, from birth, and an average life expectancy of 20.9 years for a child who has attained the age of three.

HMOs versus non-HMOs

We are unable to obtain exact information on the coverage provided by the claimants' underlying insurance because the Program does not maintain that information. However, we have been informed that all claimants are currently insured. For each claimant we determined whether they (a) have private insurance, or (b) receive Medicaid.

For those claimants who have private insurance, we cannot determine if they have group insurance or individual insurance, or if their insurance coverage is through an HMO or one of the various types of non-HMO programs. We assume that 15.4 percent of the insurance policies are HMOs, based on the average for all health insurance policies in Virginia as reported by Kaiser Family Foundation (http://www.statehealthfacts.kff.org/).

We assume that each type of insurance coverage provides coverage for 80 percent of allowable costs, which reduces to 75 percent of actual costs for hospital/physicians, physical therapy, medical equipment, and prescription drugs. These assumptions (80 percent of allowable costs, and 75 percent of actual costs) are based on general knowledge of the insurance industry.

Further, we assume that each non-HMO insurance policy provides a lifetime maximum benefit of $1 million, and that there is no lifetime limit on an HMO insurance policy.

Copies of the actual insurance policies would be helpful in fine-tuning our assumptions, and we recommend that the Program obtain copies of the claimants' insurance policies.

Number of Group C Claims

The number of claimants in Group C, which represents our estimate of the number of claimants born on or before December 31, 2002 who were not yet admitted to the Program as of December 31, 2002, has a significant effect on our estimates of the total future claim payments. We estimate that there are 31 Group C claimants as of December 31, 2002. Our estimate is based on a review of how long it takes for claimants to be admitted to the Program. Our estimate is supported by the Appendix, Exhibit 1, Pages 1-4.

Group C Average Values

We estimate that Group C claimants have an average lifetime cost of $1.8 million (at 2002 cost levels).

For most of the payment items, we estimate the future lifetime cost of a Group C claimant based on the average expected lifetime costs for Group A claimants. The only exceptions are as follows:

- Housing – We estimate these costs to be $112,500 at 2002 cost levels.
- Lost Wages – We estimate these costs to be $17,966 per year at 2002 cost levels, beginning at age 18.
- Medical Review/Intake – We estimate these costs to be equal to the actual average costs of Group B claimants.

Future Claim Administration Expenses

As shown in Table 1, we estimate $6.7 million as the present value of future claim administration expenses, for costs associated with the estimated 106 claimants as of December 31, 2002.

- In general, claim administration expenses have increased this year over those estimated last year. Last year, management of the Program estimated that the Program's total annual administrative expenses would be approximately $660,000 of which approximately $495,000 would be for claims administration. This year, management of the Program estimates that the Program's total annual administrative expenses will be approximately $750,000 of which approximately $562,500 will be claim related.

- Our estimate of the total liability for claim administrative expenses, $6.7 million, is based on the estimated annual costs of $495,000 extended over the expected lifetime of the existing claimants. This is a decrease from the amount of $9.7 million that we estimated as of December 31, 2002 as shown in our September 2002 report. However, having re-reviewed last year's estimate of $9.7 million, we believe that it was overly conservative. In our opinion, our current estimate of $6.7 million is reasonable.

Changes in Utilization

A significant factor that underlies the future payments that will be made by the Program is the degree to which the Program's benefits and services will be utilized. An example of increased utilization is nursing. The annual nursing costs paid by the Program have been increasing at a rate that exceeds the annual inflation rate for professional services as measured by the CPI. This can be attributed to increases in the amount of nursing care afforded to Program claimants.

We provide in our estimate some degree of continued increases in the utilization of Program benefits and services. For example, we use an annual minimum, per claimant, of $27,858 for nursing costs and $2,206 for hospital/physician costs. In addition, we assume that future nursing costs paid by the Program will increase at a rate of one percent per year due to increases in utilization of services and benefits. This one percentage point rate of increase is in addition to the provision for cost inflation discussed earlier.

Assessment Income

In the "Methodology" section of this report, the subsection titled "Forecasts of Program's Financial Position Through 2005" beginning on page 56 explains the process that we follow to forecast the financial position of the Program as of the end of 2003, 2004, and 2005. Our assumptions regarding the future assessment income are important elements of these forecasts.

The "Background" section of this report provides a narrative history of the assessments. Exhibit 3, in the Appendix, shows the history of the assessment income, by program year, from 1988 through 2003.

Participating Physicians and Hospitals

As shown on Exhibit 3, 2003 assessment income is about $1,834,000 from participating physicians (384 participating physicians, each paying $5,000, or the pro-rata share of $5,000) and about $2,298,000 from participating hospitals (there are 28 participating hospitals, each paying $50 per live birth subject to a maximum of $150,000 per hospital).

For program year 2003, we select the amounts of assessment income actually collected through July 7, 2003 as our estimate of the assessment income for all of program year 2003. We recognize that

there may be additional assessment income for program year 2003 if new doctors and hospitals join the program during the last half of the year. However, we estimate that any such additional assessment income will not be significant.

For program years 2004, and 2005, our baseline forecast is that the level of participation by physicians and hospitals will remain at the 2003 level and, therefore, we estimate that the Program's assessment income from participating physicians and hospitals will remain at $1,834,000 per year and $2,298,000 per year, respectively.

Non-Participating Physicians

For program year 2003, the assessment income from non-participating physicians is about $2,936,000 (approximately 11,743 doctors, each paying $250). The assessment income stated above represents the amount collected by the Program as of July 7, 2003; this may change somewhat, but we do not expect that the magnitude of any such change will be material.

For program years 2004 and 2005, we estimate that the assessment income from non-participating physicians will remain at $2,936,000.

Liability Insurers

For program year 2003, the assessment income from liability insurers is about $8,946,000, equal to one-quarter of one percent of net direct liability premiums written in Virginia, the maximum permissible assessment.

For program years 2004 and 2005, we forecast that the Program will continue to assess liability insurers at the rate of one-quarter of one percent of net direct liability premiums written in Virginia. We forecast that these future assessments will be equal to about $10,223,000, for program year

2004, as estimated by the State Corporation Commission, Bureau of Insurance, Commonwealth of Virginia. For the 2005 program year, we estimate that the forecasted value will be the inflated value of the 2004 estimated assessment. At the insurance inflation rate of 3.28 percent per year the forecasted value is approximately $10,558,000 for the 2005 program year.

Methodology – Pre July 1, 2003 Legislation

The two prior subsections – Claim Payments and Other Assumptions – provide a fairly complete description of how we estimate the future payments. The purpose of this subsection is to provide some additional details.

Number of Claimants

We estimate the number of claimants based solely on the Program's own experience, as we did at the time of our 2002 study. Our method is to review the history of claimants, by program year (year the claimant was born) and by year accepted into the Program.

At the time of our 2002 study, there were 68 claimants who had been accepted into the Program, and we estimated that there would ultimately be 99 claimants accepted into the Program for 2001 and prior program years. As of December 31, 2002, there were 75 accepted claimants from program years 2001 and prior, and we continue to estimate that there will ultimately be 99 claimants from program years 2001 and prior. In addition, we expect that there will be 7 claimants from program year 2002.

As of December 31, 2002 there were 75 admitted claimants in the Program for whom the Fund was paying benefits. As of June 30, 2003, management of the Program informed us of a claimant who was officially awarded benefits during 2002 but who was not actually accepted by the Program (that is, the Program was objecting to the award of benefits to this claimant) until 2003. Therefore, since no payments were made for this claimant during 2002, we have included this claimant in Program year 2003 and not in Program year 2002.

Estimated Future Costs of Group A Claimants

The Program's database of payment information is "net," after the claimants have collected for any private insurance or Medicaid coverage that they may have. We assume that the non-HMO insurance contracts have lifetime maximum payments of $1,000,000. Therefore, in order to project the future costs, we need to estimate when the underlying insurance policy will reach the maximum cap of $1,000,000.

We do this as follows:

- For each claimant, we adjust the "net" losses to a "gross" basis.
  - For claimants with insurance, for the three expense categories covered by insurance, the gross losses are assumed to equal four times the net losses (in other words, we assume that insurance covers 75 percent of the total cost). For the expense categories that are not covered by insurance, we assume that the gross amount is equal to the net amount.
  - For claimants who receive Medicaid, we make the same adjustment as for claimants with insurance; however, we assume that 80 percent of the costs will be covered rather than 75 percent.
  - For claimants who do not have insurance and do not receive Medicaid, we assume all of the gross costs are equal to the net costs.
- We project the gross annual costs for each expense category, applying the selected inflation rates.

- We calculate when the insured portion of the gross costs will reach $1,000,000, for the non-HMO population of claimants, and assume that there will be no insurance coverage beyond this point.

- We convert the projected gross costs back to a net basis, based on the assumed amount of insurance coverage.

We then apply assumptions regarding life expectancy and the investment earnings rate to these projected net costs.

The series of calculations that involve converting the expenses to a gross basis, and then converting them back to a net basis, only affects the timing of when the assumed $1,000,000 insurance cap will be reached, and does not have a material impact on our estimates.

Estimated Future Costs of Group B Claimants

We generally use the estimated average lifetime costs of Group A claimants (claimants who were admitted to the Program in 1999 or prior) to estimate the lifetime costs of Group B claimants (claimants who were admitted to the Program in 2000, 2001, or 2002). This implies, among other things, that the Group B claimants will have the same distribution of insurance coverages as Group A claimants. Based on the information that we have about insurance coverages, this assumption appears to be appropriate.

For claimants that were Group A claimants as of 12/31/01, the payments made during 2002 were consistent, but slightly lower than, what we forecasted them to be. However, we have observed that in 2002 the actual claim payments for Group B claimants (which would include Claimants

Not Yet Admitted to the Program as of 12/31/01, but admitted during 2002), were significantly less than we forecasted. There are three possible explanations for this:

(1) It is possible that, the claim payments made in 2002 represent an anomaly, and future claim payments will not be so low.

There is clear evidence that this is the case. Total claim payments were approximately $5.7 million in both 2000 and 2001, and then dropped to approximately $4.6 million in 2002. During the first half of 2003 the claim payments were approximately $2.9 million, suggesting that payments are likely to reach $6.0 million for the full year of 2003.

(2) It is possible that, last year, we over-estimated the average lifetime costs of Group B (and C) claimants, and they will actually have lifetime costs that are significantly less than those of Group A claimants.

If (2) occurred, then the forecasted Deficit would have been overstated. At this point we have no reason to believe that the average lifetime costs of Group B claimants will differ from those of Group A claimants. Further, we do not yet have sufficient claimant history to reach a definitive conclusion about whether the more recent claimants (Group B) will have lower lifetime costs than the claimants who have been in the Program for more than three years (Group A).

We note that if (2) occurred, our estimation process will tend to be "self-correcting" as the Group B claimants move into the Group A category.

(3) It is possible that, last year, we over-forecasted the payments during 2002 for Group B (and Group C) claimants, even though they will have average lifetime costs consistent with those forecast. In other words, it is possible that we overstated the forecasted payments during 2002

but consequently understated the forecasted *future* claim payments (the liabilities) as of 12/31/02, because this issue is related to the timing of the payments rather than to what the total amount of payments will ultimately be.

If (3) occurred, then the forecasted Deficit would nevertheless have been appropriate, because an overstatement of the forecasted payments would have been offset by the understatement of the liabilities. In other words, as stated above, this issue would be a timing difference.

We do not yet have sufficient claimant history to reach a definitive conclusion on the timing of the payment of claimant expenses. We intend to examine these issues over time, and make adjustments to our assumptions as may be appropriate.

General Administration Expenses (Other Than Claim Administration)

For the purpose of forecasting the value of the Program's assets through December 31, 2002, December 31, 2003, and December 31, 2004, we estimate the amount of the Program's general administration expenses (other than claim administration expenses). General administration expenses include that portion of salaries, rents, costs of office equipment, and all other expenses not directly related to claims.

General administration expenses are not shown on Tables 1, 2, 3, or 4, because they do not represent a future obligation, or liability, of the Fund. However, in order to forecast the Fund's assets through 2003, 2004, and 2005, we estimate the general administration expenses that will be paid each year and deduct these from the assets that the Fund would otherwise hold.

In total, we estimate that the annual cost of general administration will be $187,500 thousand at current cost levels. We assume that the general administration expenses will increase over time due to inflation (see page 47 for a discussion of claim administration expenses).

Forecasts of Program's Financial Position Through 2005

The method we use to forecast the Program's financial position as of December 31, 2003, as of December 31, 2004, and as of December 31, 2005, is to estimate for each year:

- Assessment income
- Claim payments
- Claim administration payments
- Payments for other administration expenses
- Investment earnings

Then we calculate the assets to be equal to the assets as of the end of the prior year, plus estimated assessment income and estimated investment income, minus the estimated payments.

Then we calculate the obligations for future claim payments and future claim administration expenses, as equal to the obligations for such future payments as of the end of the prior year, plus the future claim payments and claim administration expenses associated with the new claimants that will be born during the year, minus payments for claims and claim administration expenses.

The surplus/(deficit) is calculated as estimated assets minus our estimate of the Program's future claim payments and future claim administration expenses.

Appendix Exhibit 5 provides an example of our calculations for December 31, 2004, showing how we calculated the values for future claim payments and assets.

In performing these calculations, we estimate the claim payments based on our long-term forecasts of claim payments by year. We recognize that after having estimated the present value of lifetime claim payments, the procedure that we use to allocate these lifetime claim payments to each payment year may tend to overstate the amount of claim payments in the early years. However, the impact of this on our estimate of the surplus/(deficit) is not material.

Methodology – July 1, 2003 Legislation

New legislation became effective on July 1, 2003, and has the potential to significantly increase the costs of the Program. The new legislation will not increase Program's revenues.

We have assessed the impact of the new legislation based on review of the legislation and on discussions with the Program's director, the Program's outside legal counsel, and a representative of the attorney general's office. We have reflected our estimates in Tables 2 through 4 of the Executive Summary of this report.

The impacts of the legislative changes fall into three categories:

- increased administrative expenses;
- an increased number of claimants;
- a new category of claimants who, effective July 1, 2003, will be eligible for awards of up to $100,000.

Our estimates of the impact of the legislative changes, as discussed below, are subject to significant uncertainty. These estimates will undoubtedly change over the next several years, as we ascertain the actual administrative expenses of the Program under the new legislation, and learn how many new claimants come into the program.

In addition, we include a brief discussion of a judicial decision that may have an impact on the number of claimants.

Discussion of Legislative Changes

We understand that the new legislation applies to all petitions to enter the Program that are made subsequent to July 1, 2003, regardless of the date of birth of the claimant. The one exception to this is the award of up to $100,000 for infants who die within 180 days of birth, in which case the birth must have occurred on or after July 1, 2003.

The following sections of the legislation are discussed in so far as each one affects the estimated costs of the Program. The discussion is limited to those sections that are expected to materially impact the Program's costs.

(In the following paragraphs, the material in italics is quoted directly from the new legislation.)

Section 38.2 - 5002.1. Representation by Office of Attorney General; applicability of Public Procurement Act, Freedom of Information Act, and Administrative Process Act.

A. The Office of the Attorney General shall provide requested legal services to the Program as provided in this subsection. The Program shall compensate the Office of the Attorney General for its provision of such legal services based on a reasonable hourly rate as shall be agreed upon periodically by the Board and the Attorney General. If the Office of the Attorney General is unable to provide such legal services as the result of a conflict of interest or other disqualifying circumstances, the Board may employ such other counsel as it deems necessary.

We estimate that this will result in additional expenses of approximately $80,000 annually. This estimate is based upon the time that was spent by the Office of the Attorney General on such legal services in the past, at which time such costs were not paid by the Fund, and upon the value of the current contract between the Board and the Attorney General.

Section 38.2 - 5004.1. Notification of possible beneficiaries.

A. Each physician, hospital, and nurse midwife shall disclose in writing to their obstetrical patients, at such time or times and in such detail as the board of directors of the Program shall determine to be appropriate, whether such physician, hospital or nurse midwife is or is not a participating provider under the Program.

B. In addition to any other postpartum materials provided to the mother or other appropriate person, every hospital shall provide for each infant who was hospitalized in a neonatal intensive care unit an informational brochure prepared or approved by the board of directors of the Program. The brochure shall describe the rights and limitations under the Program, including the Program's exclusive remedy provision under subsection B of section 38.2 - 5002.

We estimate that this will result in additional expenses of $23,000 to $34,000 in the first year, and an additional expense of $20,000 to $30,000 per year thereafter. In our report we have used $28,500 in the first year and $25,000 per year thereafter. These expenses are generated because the Fund is required to supply documents to every doctor, hospital, and nurse midwife in the state of Virginia on an ongoing basis. In addition, consultation with legal representatives might be necessary to obtain approval for proposed wording to be included in these materials.

Based upon this and other sections of this legislation, we estimate that the number of claimants who enter the Program will increase by 7 per year the next year, by 6 in the second and third year, and by 3 per year thereafter. The estimated number of additional claimants is very speculative and has a significant impact on the financials of the Fund (see the Sensitivity Testing section of the report). This estimate is very uncertain, and is based solely on review of the legislation and discussion with the Program's outside legal counsel, and a representative of the attorney general's office.

Section 38.2 - 5008. Determination of claims; presumption; finding of Virginia Workers' Compensation Commission binding on participants; medical advisory panel.

A. 1. b. A rebuttable presumption of fetal distress, an element of a birth-related injury, shall arise if the hospital fails to provide the fetal heart monitor tape to the claimant, as required by subsection E of section 38.2 - 5004.

This item could increase the likelihood of a petitioner being allowed to enter the program, in the rare instance when the fetal heart monitor tape is not provided. The failure to provide this tape has not occurred often, if ever, in the past. This issue is considered in the estimate of additional claimants under Section 38.2 – 5004.1, above.

Section 38.2 - 5009. Commission awards for birth-related neurological injuries; notice of award.

A. 1. d. In order to provide coverage for expenses of medical and hospital services under this subdivision, the Commission, in all cases where a comparative analysis of the costs, including the effects on the infant's family's health insurance coverage, and benefits indicates that such action is more cost-effective than awarding payment of medical and hospital expenses,

shall (i) require the claimant to purchase private health insurance providing coverage for such expenses, provided that the premium or other costs of such coverage shall be paid by the Fund; (ii) require the claimant to participate in the State Medicaid Program, the Children's Health Insurance Program or other state or federal health insurance program for which the infant is eligible; or (iii) if the Commission determines that it would be unreasonably burdensome to require the claimant to purchase private health insurance and that the infant is ineligible for a health insurance program described in clause (ii), to make an award providing compensation for the cost of private accident and sickness insurance for the infant.

We estimate that this will have no impact on the costs of the Program because the Program currently works to obtain insurance coverage for these infants, at a cost to the Program in certain cases. However, we have identified this item because of our concern that attorneys might, in the future, use this section to require that the Program pay for the insurance of the Program participants in all cases. In other words, families might be encouraged to remove the admitted claimant from insurance policies that would otherwise apply, and obtain separate insurance for the admitted claimant, at a cost to the Program.

B. If the Commission does not approve the award of compensation pursuant to subsection A, it may nonetheless, in its discretion, make an award providing compensation for reasonable expenses including reasonable attorneys' fees, which shall be subject to the approval and award of the Commission, incurred in connection with the filing of a claim in good faith under this chapter.

We estimate that this will increase the expenses by $44,000 per year, which represents our estimate of the legal costs incurred in connection with the good faith filing of unsuccessful claims for entry into the Program. This estimate is based on the Program's estimate of the annual number of unsuccessful claims for entry into the Program (approximately 4 per year) and

of the average annual legal expense for attorneys who successfully represented claimants for entry into the Program (approximately $11,000 annually). The Program is aware of these costs because they were always paid by the Fund.

This item might also result in a higher number of claimants entering the Program because attorneys will have "nothing to lose" by accepting such cases. In addition, we understand that there is a possibility that attorneys may have been holding claims for benefits until after the new legislation became effective. This issue is considered in the estimate of additional claimants under Section 38.2 – 5004.1, above.

Section 38.2 - 5009.1. Infants dying shortly after birth.

A. For births occurring on or after July 1, 2003, if the Commission determines that an infant has sustained a birth-related neurological injury and that obstetrical services were delivered by a participating physician at the birth or that the birth occurred in a participating hospital, and the infant dies within 180 days of birth, the Commission, in its discretion, may make an award in an amount not exceeding $100,000 to the infant's family, which award shall be in addition to and not in lieu of any other award providing compensation as provided in Section 38.2 - 5009.

We estimate that the number of claimants eligible for this award will be 50 percent of the claimants otherwise admitted to the Program. This estimate is based on a review of claimant information for Florida's program, which suggests that the number of eligible claimants, who are living at the time of acceptance into the Program, would increase by approximately 50% to include those eligible children who have died within 180 days of birth. Further, we assume that the amount of each award will equal the maximum of $100,000. We recognize that some claimants will be awarded less than $100,000. However, we expect that this will be offset by the

fact that some claimants who are eligible for this award will also receive reimbursement for other expenses incurred prior to their death.

Section 38.2 - 5016. Board of directors; appointment; vacancies; term.

F. (vi) obtain and maintain directors' and officers' liability insurance.

This item requires that the Program purchase and maintain directors' and officers' liability insurance for all members of the board of directors (notwithstanding the fact that the board of directors of the Program has immunity against legal action). We estimate that the cost of this insurance will be $5,000 to $10,000 per year in total. We have used the estimated value of $10,000 in our analysis.

2. That the board of directors of the Virginia Birth-Related Neurological Injury Compensation Program shall develop and implement a policy to address the needs of infants who are eligible for benefits under the Program for handicapped-accessible housing. The board's policy shall address appropriate housing benefits when the infant's parents or legal guardians are homeowners and are nonhomeowners. The board shall report on its policy by December 1, 2003, to the Governor, the Speaker of the House of Delegates, and the Chairman of the Senate Rules Committee.

3. That the board of directors of the Virginia Birth-Related Neurological Injury Compensation Program shall study and develop options for revising fees for participating providers, which options may include the imposition of fees on a per-delivery basis. Such options shall be designed (i) to enhance participation by providers in the Virginia Birth-Related Neurological Injury Compensation Program, (ii) not to decrease net funding for the Program by Participating

providers, and (iii) not to disproportionately increase fees for participating providers who perform a large number of obstetrical deliveries compared to current fee levels. The board shall complete its study by December 1, 2003, and shall report its findings and recommendations to the Governor, the Speaker of the House of Delegates, and TheChairman of the Senate Rules Committee.

The final items of this legislation, requiring that the board of directors "...develop and implement a policy to address the needs of infants who are eligible for benefits under the Program for handicapped-accessible housing" and "…study and develop options for revising fees for participating providers" by December 1, 2003, will create a one time fee for the production of these reports.

We estimate that these costs will be $5,000, and will be incurred during 2003.

Miscellaneous

We have included an additional annual expense of $20,000 to cover the costs generated by all sections of the new legislation, not covered above, that are expected to have some impact on the expenses of the Fund; these include: Items B through D of section 38.2-5002.1, related to rules adopted by the board of directors regarding contracting for services, the legislation that the board is a public body with regard to the Freedom of Information Act, and the legislation that adoption of rules and regulations by the board shall be consistent with the provisions of Article 2 (paragraph 2.2-4006 et seq.) of the Administrative Process Act and Item 6. C. of Section 38.2-5008 regarding the preparation of a report that provides a detailed statement of the opinion of the panel's members regarding whether the infant's injury does or does not satisfy each of the criteria of a birth-related neurological injury enumerated in such term's definition in section 38.2-5001.

Section 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 necessitated by a deprivation of oxygen or mechanical injury that occurred in the course of labor or delivery,…

This definition of birth-related neurological injury replaces the previous definition that specified that: "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."

The change in definition of birth-related neurological injury indicated above is not expected to cause any change to the costs of the Program.

Judicial Decision

Mercer RFI has been informed by management of the Program that the January 29, 2002 judicial decision in Coffey et. al. v. Virginia Birth-Related Neurological Injury Compensation Program shifted the burden of proof of eligibility from the claimant to the Program. This decision could increase the number of claimants entering the Program. This issue is considered in the estimate of additional claimants under Section 38.2 – 5004.1, above.

Sensitivity Testing

Our forecasts of future claim payments are for the lifetime costs of the Program's claimants. Although the *average* life expectancy of claimants is relatively short, many of the individual claimants are likely to live well into their adult years. Our forecasts, in fact, include provision for the remote chance that an individual claimant lives to age 99. Given the long-term nature of the forecast, the forecasted future claim payments are highly sensitive to slight changes in certain assumptions, such as inflation, interest rates, and mortality. In this section of the report, we show how our estimate of the present value of future claim payments as of December 31, 2002, changes as we vary our assumptions.

In addition, many of the basic assumptions, such as forecasted nursing costs, are subject to a high degree of uncertainty. We provide for some increase beyond the current level of benefit and service utilization, but changes in the level of utilization could be higher or lower than what we assume. It is important, therefore, to consider the potential for the Program's actual payments to differ from our forecasts.

The remainder of this section presents results of sensitivity testing, as well as further discussion of the claim payment categories.

Inflation

Table 9 shows the sensitivity of our estimates, as of December 31, 2002, to various inflation rates:

Table 9

Annual Inflation Rates (Baseline +/-) (1)	Estimated Future Claim Payments ($ in millions, on a present value basis) (2)
-1.50%	$142.6
-1.00%	149.3
-0.50%	156.8
Baseline	165.1
+0.50%	174.6
+1.00%	185.1
+1.50%	197.2

The baseline inflation rates vary by expense category, as shown in Table 8.

Table 9, Column 2 shows that our baseline estimate of future claim payments is $165.1 million, corresponding to the amount shown in Table 1. Column 1 lists various departures from our baseline assumptions regarding annual inflation rates, and Column 2 shows how our estimate of the Program's total future payments changes given the indicated departure from the baseline assumptions. For example, the first row shows that if we select annual inflation rates that are 1.50 percentage points less than our baseline estimates, the estimated present value of future claim payments will be $142.6 million, rather than the $165.1 million that results from our baseline estimates. As another example, the last row shows that increasing the inflation

assumptions by 1.5 percentage points will increase the estimated present value of future claim payments to $197.2 million.

The following Table, Table 9A, shows the sensitivity of our estimates, as of December 31, 2003, inclusive of the effects of the July 1, 2003 legislation, to various inflation rates:

Table 9A

Annual Inflation Rates (Baseline +/-) (1)	Estimated Future Claim Payments ($ in millions, on a present value basis) (2)
-1.50%	$190.5
-1.00%	199.5
-0.50%	209.5
Baseline	220.6
+0.50%	233.3
+1.00%	247.3
+1.50%	263.5

The baseline inflation rates vary by expense category, as shown in Table 8.

Table 9A, Column 2 shows that our baseline estimate of future claim payments is $220.6 million, corresponding to the amount shown in Table 2, Grand Total. The first row shows that if we select annual inflation rates that are 1.50 percentage points less than our baseline estimates, the estimated present value of future claim payments will be $190.5 million, rather than the $220.6 million that results from our baseline estimates. The values in Column 2 of Table 9A are all in the same proportion to the Baseline estimate of $220.6 as the values in Column 2 of Table 9 are to the Baseline estimate of $165.1.

The higher the annual rates of inflation, the greater the estimated present value of future claim payments. This results directly from the fact that we are forecasting claim payments into the future and, therefore, the forecasted claim payments are higher if we assume higher inflation rates.

This sensitivity test only changes the inflation rates. In our actual analysis, inflation rates and the interest rate are related.

Interest Rate

Table 10 shows the sensitivity of our estimates, as of December 31, 2002, to various interest rates used for discounting:

Table 10

Interest Rate (Baseline +/-) (1)	Estimated Future Claim Payments ($ in millions, on a present value basis) (2)
-1.50%	$193.6
-1.00%	182.8
-0.50%	173.4
Baseline	165.1
+0.5%	158.0
+1.00%	151.6
+1.50%	146.0

Table 10, Column 2 shows that our baseline estimate of future claim payments is $165.1 million, corresponding to the amount shown in Table 1. If we had used an annual interest rate that was, for example, 1.00 percentage point less than the baseline estimate of 6.34 percent, then the present value of future claim payments would be $182.8 million.

The interest rate is used for the purpose of discounting future payments to a present value basis. The higher the interest rate used for discounting, the lower the estimated present value, all other things being equal. Similarly, the lower the interest rate, the higher the estimated present value. This is because use of a higher interest rate implies that the Fund is able to earn more investment income and, therefore, would need fewer assets as of December 31, 2002, in order to make all future payments. Similarly, a lower interest rate implies that the Fund is able to earn less investment income and, therefore, would need more assets as of December 31, 2002 in order to make all future payments.

Table 10A shows the sensitivity of our estimates, as of December 31, 2003, including the effects of the July 1, 2003 legislation, to various interest rates used for discounting:

Table 10A

Interest Rate (Baseline +/-) (1)	Estimated Future Claim Payments ($ in millions, on a present value basis) (2)
-1.50%	$258.6
-1.00%	244.2
-0.50%	231.7
Baseline	220.6
+0.5%	211.1
+1.00%	202.5
+1.50%	195.0

Table 10A, Column 2 shows that our baseline estimate of future claim payments is $220.6 million, corresponding to the amount shown in Table 2, Grand Total. The second row shows that if we select an annual inflation rate that is 1.00 percentage point less than our baseline estimates, the estimated present value of future claim payments will be $244.2 million, rather than the $220.6 million that results from our baseline estimates. As was the case for Table 9A, the values in Column 2 of Table 10A are all in the same proportion to the Baseline estimate of $220.6 as the values in Column 2 of Table 10 are to the Baseline estimate of $165.1.

This sensitivity test only changes the interest rate. In our actual analysis, inflation rates and the interest rate are related.

Mortality

Table 11, below, shows the sensitivity of our estimates, as of December 31, 2002, to the mortality table that is used:

Table 11

Mortality Table	Estimated Future Claim Payments ($ in millions, on a present value basis)
(1)	(2)
1999 Table	$144.7
2001 Table	155.0
2002 Table	160.1
2003 Table	165.1
Blended Table	195.8

Table 11, Column 2 shows that our baseline estimate of future claim payments is $165.1 million, corresponding to the amount shown in Table 1. Table 11 also shows, for example, that if we had not changed from the 2002 Table, which we used in our last study, the estimated present value of future claim payments would be $160.1 million, which is $5.0 million less than our baseline estimate of $165.1 million. This lower value would still not be low enough for the Fund to be considered actuarially sound. Similarly, use of the Blended Table would have increased our estimate to $195.8 million.

Table 11A, below, shows the sensitivity of our estimates, as of December 31, 2003, including the effects of the July 1, 2003 legislation, to the mortality table that is used:

Table 11A

Mortality Table	Estimated Future Claim Payments ($ in millions, on a present value basis)
(1)	(2)
1999 Table	$193.3
2001 Table	207.1
2002 Table	213.9
2003 Table	220.6
Blended Table	261.6

Table 10A, Column 2 shows that our baseline estimate of future claim payments is $220.6 million, corresponding to the amount shown in Table 2, Grand Total. If we had not changed from the 2002 Table, our estimated value would be $213.9 million or $6.8 million less than the Baseline estimate of $220.6 million. As was the case for Tables 9A and 10A, the values in

Column 2 of Table 11A are all in the same proportion to the Baseline estimate of $220.6 as the values in Column 2 of Table 11 are to the Baseline estimate of $165.1.

Percentage of Insured Claimants Who Have HMO Coverage

As discussed previously, we estimate the percentage of insured claimants who have HMO coverage as opposed to other forms of coverage. Because we assume that HMOs have no lifetime cap on benefits, our assumption regarding the percentage of insured claimants who have HMO coverage affects our estimates. However, the impact of this assumption is not material. For example, if we assume that 30 percent (rather than 15.4 percent) of insured claimants are insured by HMOs, our estimate of total future payments of the Program, as of December 31, 2002, would be reduced by approximately $2 million in total. This value, although relatively small (only about one percent of the estimate of future claim payments, as of December 31, 2002, of $165.1 million as shown in Column 3 of Table 1) is greater than the less than $300,000 calculated in our September 2002 report for the following reasons:

- The number of claimants with private insurance has increased from about 50 percent, as indicated in our last report, to about 65 percent this year.

- Private health insurance programs cover the following expense categories: hospital/physician, physical therapy, medical equipment, and prescription drugs. These categories made up only about 8.5 percent of a claimant's total expenses last year but make up about 9.5 percent this year.

- The primary difference between HMO coverage and non-HMO coverage applies to the excess over an assumed $1 million of insurance coverage, and although some of the insured claimants

will die before reaching this limit, the life expectancy projected in this year's report is greater than that based upon the mortality table included in our last report.

Nursing

This is the major claim payment category, and our forecast of the Program's future claim payments is very sensitive to our forecast of this item.

As shown earlier in this report, in Table 7, we estimate about $1.2 million per claimant as the present value of future claim payments for this payment category, for claimants in Group C. Group C claimants are those who have not yet been admitted to the Program, so this estimate of $1.2 million per claimant can be considered the estimated present value of a claimant's lifetime costs for nursing care under the Program.

While we have provided for future increases in the utilization of nursing care, there remains significant uncertainty regarding this cost item. Some claimants have little or no nursing costs, whereas others have large nursing costs. For example, during 2002, there were 49 claimants who each had nursing costs that were less than $25,000, and 2 claimants who each had nursing costs in excess of $200,000. The largest amount paid on behalf of any one claimant for nursing costs in 2002 was $255,000.

Round-the-clock nursing costs would entail hiring nurses for a total of 8,760 hours per year. At an average hourly rate of $25, used solely for the purpose of this example, this level of nursing services would cost $219,000. The present value of the lifetime costs for nursing expenses at this level, for just one claimant, starting at age five, is about $4.2 million. This illustrates the potential for increases in utilization of nursing services to significantly impact our estimates. In this study we do not estimate, or use in our calculations, an average hourly rate for nursing care.

Based on discussions with management of the Program, however, we understand that the hourly rates for nursing care vary throughout the state, and that $25 per hour is not an unreasonable rate to use for illustrative purposes.

Also, because nursing costs represent much of the payments of the Program, future reductions in nursing costs could significantly improve the Program's financial condition. A 10 percent reduction in nursing costs (such as by reducing the average hourly rate by 10 percent), would reduce the estimated present value of future payments of the Fund, and consequently reduce the estimated deficit by about $10.7 million as of December 31, 2002.

We include in our estimate an explicit provision of one percent per year for future increases in the utilization of the Program's nursing services and benefits. Should the future increase in utilization of nursing services and benefits exceed this level, our estimate of the present value of the Fund's future claims payments is understated. For example, if the utilization of nursing services and benefits were to increase at a rate of two percent per year, our baseline estimate of the present value of the Fund's future payments would increase by about $12.9 million as of December 31, 2002.

Hospital/Physician, Medical Equipment, Incidental, and Prescription Drugs

These claim payment categories are much smaller than the nursing category but, in our opinion, there is also significant uncertainty regarding the future utilization of services. There are a number of questions regarding future utilization. For example:

- Will utilization increase, decrease, or remain level (as we assume) as the claimants age?

- Will claimants require new and more expensive medical services, equipment, and drugs when they become available?

- Will claimants require increasingly expensive computers (an "incidental" cost), as new designs become available that may be especially useful to the impaired population?

- Will administrative controls be in place that will serve to limit the requests for extraordinary costs?

- Will any restrictions be imposed on future Program claim payments?

Our estimates might prove to be significantly understated, or overstated, depending on the answers to the above questions.

Housing, Vans, Lost Wages, Legal, Insurance, Medical Review/Intake

The costs associated with these claim payment categories are fairly well defined and, in our opinion, there is not a significant uncertainty regarding the future claim payments for these payment categories under the current housing provisions. We expect that the housing provisions will change as a result of the policy implemented by the Program in accordance with the new legislation, as discussed in item 2. on page 64 of this report, because the new legislation requires that the Program address the appropriate housing benefits for claimants whose parents or legal guardians are nonhomeowners, as well as for those who are homeowners. However, we do not

expect that this will have a significant impact on forecasted costs because there have been very few claimants in the "nonhomeowner" category.

Numbers of Eligible Claimants

Our forecasts of the Fund's deficit at various points in time are dependent on the assumptions regarding the number of eligible claimants who will eventually be admitted to the Program. Estimates and forecasts of the numbers of eligible claimants who will be admitted are uncertain, for several reasons:

- Claimants can wait for many years before applying to the program, so the number of claimants already born as of any given date, who have not yet been admitted to the Program, is a significant issue.
- The number of eligible claimants born each year is dependent on the numbers of physicians and hospitals participating in the program. Generally, the number of eligible claimants will increase as the numbers of participating physicians and hospitals increase, but the increase in the number of eligible claimants is less than proportional because of the fact that the claimant has to have either been treated by a participating physician or born in a participating hospital. As an example, a ten percent increase in the number of participating physicians would have no impact on the number of eligible claimants if the additional physicians were all working in hospitals that were participating.
- The legislation effective July 1, 2003 is likely to encourage more potential claimants to apply to the Program. As discussed earlier in this report, certain elements of the legislation appear to increase the likelihood that claimants will apply to the Program. However, the actual impact of the legislation is uncertain and will only be measurable after several years.

Basically, any increase in the numbers of eligible claimants will have a direct impact on the numbers of claimants admitted to the program, and will therefore increase the costs of the program proportionately. Each additional claimant, beyond what we have estimated, will impact the liabilities of the Fund, and increase the deficit, by approximately $1.8 million.

Changes in Assumptions from Prior Report

As discussed in the preceding text, we have changed many of our assumptions since the time of our September 2002 study. This was not unexpected because we intended to review all of the assumptions and adjust them as appropriate. Many of the assumptions, such as the inflation rates, interest rate, and the amount of annual wage losses, are numbers that we expect to revise, based on updated economic data, each time we update the study. Other assumptions, such as mortality, number of claimants, and claim payment amounts are assumptions that we expect to review at the time of each report, and to revise as appropriate.

The most significant change that we made in this study is the adoption of the 2003 Table for mortality. As indicated in the sensitivity section of this report, in Table 11, this has the impact of increasing our estimate of future claim payments by $5.1 million, all other things being equal. This change, and other changes, are discussed below.

Mortality

We have revised our mortality assumption to anticipate that claimants in the Program will live longer than had been expected at the time of our 2002 study. This change is consistent with our plan, as stated in our 2002 and 2001 reports.

Renovation Costs

We have revised our forecast of the future costs for renovations to the homes of those claimants who do not have either trust homes or grant homes. We have made this revision because management of the Program has told us that the costs of renovating the homes of these claimants, to add a bedroom and a bathroom, have been higher than anticipated in our September 2002 report. Two years ago discussions with management indicated that $75,000, at 2000 cost levels, was a reasonable estimate of the cost of renovations. This amount represented the midpoint of the range of expected costs of between $50,000 and $100,000 that was given to us by management of the Program. Current discussion with management of the Program indicates that a more appropriate estimate, at 2002 cost levels, is $112,500, or the midpoint of the range of between $75,000 and $150,000. This amount represents more than the inflated value of the $75,000 at 2000 cost levels. The value of $75,000 at 2000 cost levels, inflated to 2002 cost levels, is $80,226 or $32,274 less than the $112,500 value we have used in this report.

Other Assumptions

There are other assumptions that we revised, as discussed previously in the report:

- We have revised the inflation assumptions to reflect 2002 economic data.

BACKGROUND

General

Chapter 50 of Title 38.2 of the Code of Virginia, enacted by the 1987 General Assembly, established the Virginia Birth-Related Neurological Injury Compensation Program. The Program began collecting assessments in late 1987, and the compensation mechanism became effective for births as of January 1, 1988.

Among the stated purposes of the Program is to assure the payment of the financial costs for the lifetime care of infants born with birth-related neurological injuries. The Program is financed by the Virginia Birth-Related Neurological Injury Compensation Fund.

Participation in the Program is optional for both physicians and hospitals. Participating physicians and hospitals receive the benefit of the exclusive remedy provision of the law, and physicians and hospitals that participate are eligible for lower premiums for medical malpractice insurance.

History of Funding

Participating Physicians and Hospitals

Funding for the Program comes from both physicians and hospitals. In addition, the Virginia State Corporation Commission (the SCC) is empowered to assess liability insurers in Virginia up to one-quarter of one percent of net direct liability premiums written in Virginia if needed to maintain the Fund on an actuarially sound basis.

The original schedule of funding assessments for program year 1988 was as follows:

1. Participating physicians paid an annual assessment of $5,000. (The definition of participating physicians was amended in 1989 to include licensed nurse midwives who perform obstetrical services, either full-time or part-time, as authorized in the Plan of Operation. They have been assessed since 1989, but the number of licensed nurse midwives is not material.)

2. Participating hospitals paid an annual assessment equal to $50 per live birth in the previous year, subject to a maximum assessment of $150,000.

Beginning with the 1995 program year, the fixed fee schedules were changed to sliding scale fee schedules under which the fees decreased the longer the participant was in the Program. This fee schedule is shown on Appendix Exhibit 2.

Beginning with the 2001 program year, assessments of participating physicians and hospitals were restored to their original level. For the 2002 program year, assessments of participating physicians and hospitals remain at the original level.

Non-Participating Physicians and Liability Insurers

Assessment income of the Program can be modified in a given year in either of the following two ways:

1. Beginning with program year 1993, if the income of the Program is estimated to be in excess of that required for actuarial soundness, income can be reduced by eliminating assessments *of non-participating physicians* in a given program year. The assessment of non-participating physicians was, in fact, eliminated for program years 1993 through 2001. Assessments of non-participating physicians can be reinstated in any amount up to $250, whenever the SCC determines that such assessment is required to maintain the Fund's actuarial soundness and the $250 assessments were reinstated beginning with program year 2002 and continuing into program year 2003.

2. If the income of the Program is estimated to fall short of that required for actuarial soundness, income can be increased by assessments of *liability insurers* up to one-quarter of one percent of net direct liability premiums written in Virginia. Insurers were assessed an amount equal to one-tenth of one percent of net direct liability premiums written in Virginia for the 1990 program year, and were assessed one-quarter of one percent of net direct liability premiums written in Virginia beginning with the 2002 program year and continuing into the 2003 program year.

Appendix Exhibit 3 presents a history of the Program's assessment income. Appendix Exhibit 4 presents a history of the numbers of participating physicians and hospitals.

Eligibility

To be eligible to receive payment from the Program, a claimant must file a claim with the Virginia Workers' Compensation Commission. The Commission must then determine that the claim meets the criteria for reimbursement from the Program. The original law provided that, for a claim to be paid, all three of the following criteria had to be met:

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

2. Obstetrical services were performed by a participating physician,

3. The birth occurred in a participating hospital.

Pursuant to Senate Bill 72, the law was amended in 1990 so that criterion 1 and *either* criterion 2 *or* 3 must be met for a claim to qualify for payment.

History of Actuarial Studies

An actuarial study of the adequacy of funding of the Program is required to be performed at least once every two years. Mercer RFI provided its initial funding study covering the years 1988 through 1990 on October 13, 1989. We issued three supplemental reports which modified our original funding estimates, as follows:

- First Supplement dated December 22, 1989: Mercer RFI was requested to confer with Dr. Barbara Brown, then of the Williamson Institute for Health Studies, Department of Health Administration, Medical College of Virginia, Virginia Commonwealth University, to determine whether amendments to the Mercer RFI findings (specifically claim frequency) should be considered. As a result, Mercer RFI revised its estimates of the Program's expected frequency and future claim payments.

- Second supplement dated January 24, 1990: Reflected the opinion of the Virginia Attorney General's office that Medicaid would be primary as respects the Program.

- Third supplement dated May 22, 1990: Reflected the effects of Senate Bills 70 and 72. (Pursuant to Senate Bill 70, the original definition of "birth-related neurological injury" was clarified.)

The recommendation in our initial reports was for the assessment of participating and non-participating physicians and participating hospitals, and for an assessment against liability insurance carriers of 0.1 percent of liability premiums for program year 1990.

On March 20, 1991, we issued a report that built on our original work (as amended by our supplementary reports) and provided updated funding estimates for program years 1988 through 1990 and projected estimates for 1991. In that report, we recommended continuation of the assessments of participating hospitals and physicians and non-participating physicians, and no assessment against liability insurance carriers for program year 1991.

On July 17, 1992, we provided revised funding estimates for 1988 through 1991 and projected estimates for 1992 and 1993. In addition, we evaluated the criteria for actuarial soundness of the Program within the context of the law change effective in 1992, which provided that the assessments of non-participating physicians be suspended whenever the Fund was found to be actuarially sound. We recommended that non-participating physicians and liability insurers not be assessed for program year 1993. Accordingly, the SCC suspended the assessment of non-participating physicians.

On September 24, 1993, we provided revised funding estimates for 1988 through 1993 as well as projected estimates for 1994 and 1995. We also recommended that non-participating physicians and liability insurers not be assessed for program years 1994 and 1995.

An amendment to Section 38.2-5016(F) of the Virginia Code was enacted by the 1994 General Assembly Session. The amendment allows the Board of Directors of the Program to reduce the voluntary participating physician and hospital assessments for a stated period of time after the SCC has determined the Program to be actuarially sound. As a result of this amendment, Mercer RFI was requested by the Program to perform an actuarial study to determine: 1) if the Program was still actuarially sound, and 2) if the Program was still actuarially sound, to determine how much the Board of Directors could reduce the annual assessments for participating physicians and hospitals and continue the actuarial soundness of the Program.

Based on a law change in 1994, and following receipt of our report in 1995, the Board of Directors of the Program implemented a sliding scale assessment for participating doctors and hospitals for 1995 based on the number of years of participation in the Program. This reduced the assessment income from those sources by approximately 65 percent. The reduced schedule of assessments is displayed in Appendix Exhibit 2.

In September 1995, we provided estimates of funding for the program years 1988 through 1995, and projections for years 1996 and 1997. In that report, we recommended that the reduced schedule of assessments for participating physicians and participating hospitals continue in 1996 and 1997.

In October 1997, we provided estimates of funding for the program years 1988 through 1997, and projections for years 1998 and 1999. In that report, we had begun to consider housing expenses as non-liquid assets of the Program, rather than costs. This was based on the decision of the Program to establish trust funds for the benefit of the claimants. In our October 1997 report, we recommended that the reduced schedule of assessments for participating physicians and participating hospitals continue in 1998 and 1999.

In December 1999, we provided estimates of funding for the program years 1988 through 1999, and projections for years 2000 and 2001. In that report we observed that, on average, the claimants' mortality was much better than had been expected. As a result, we made a major change to the mortality assumption, which significantly increased the expected costs per claimant. We estimated that the Program was actuarially sound as of year-end 1999, and recommended that assessments for participating physicians and hospitals, and for non-participating physicians, be restored to their full level.

After release of our December 1999 report, we issued an addendum in which we recommended that:

> "If the Fund decides to immediately stop providing cash grants for housing (except for commitments that have already been made and for existing claimants who have not yet received housing benefits) assessments would still have to be restored to their full level for participating hospitals and physicians (but not for non-participating physicians), for program year 2001. Given our current assumptions, this would lead to a $2.1 million deficit for program year 2002 and a $7.1 million deficit by the end of program year 2003. In order to avoid these deficits, there would need to be assessments of the non-participating physicians for program year 2002 *and* both the non-participating physicians and the liability insurers, for program year 2003."

In October 2001, we provided estimates of funding for the program years 1988 through 2000, and projections for years 2001, 2002, and 2003. In that report we made significant changes to the estimated number of claimants who would eventually be admitted to the program, to the mortality table underlying our forecasts, and to the estimated future average annual expenses for admitted claimants. These changes all tended to increase our estimate of the Program's liabilities, and as a result we estimated that the Fund was not actuarially sound as of December 31, 2000 and forecast that the Fund would not be actuarially sound as of December 31, 2001, 2002, or 2003. Among other things, we recommended that the Program continue to assess participating physicians and hospitals at the maximum level and begin to assess non-participating physicians and liability insurers at the maximum assessment rates.

In September 2002 we provided estimates of funding for the program years 1988 through 2001, and projections for years 2002, 2003, and 2004. We estimated that the Fund was not actuarially sound as of December 31, 2001 and forecast that the Fund would not be actuarially sound as of December 31, 2002, 2003, or 2004. We recommended that the Program continue to assess participating

physicians, participating hospitals, non-participating physicians, and liability insurers at the maximum amounts.

The prior discussion covers the history of the actuarial studies up until this current report.

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 was 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 are based on analysis of the available data and on the estimation of many contingent events. Estimates of future costs were developed from the historical record and from estimated covered exposures.

Statistical Credibility

The statistical credibility of the Program's experience is not sufficient to evaluate all of the various assumptions, such as the number of claimants, the future annual claim payments, and the life expectancy, with a high degree of confidence. If the number of claimants, future annual claim

payments, and mortality experience differ significantly from our estimates, then our estimate of the deficit of the Fund may be significantly understated or overstated.

Uncertainty

For the reasons stated in this report, the conclusions contained in this report are projections of the financial consequences of future contingent events and are subject to a high degree of uncertainty. 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. Actual costs may vary significantly from our estimates.

Unanticipated Changes

Unanticipated changes in factors such as judicial decisions, legislative actions, the operation of the Program, the utilization of Program benefits and services, and economic conditions may significantly alter the conclusions.

Best Estimates

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

APPENDIX