

OLIVER WYMAN

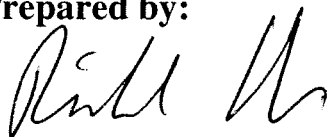
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**VIRGINIA BIRTH-RELATED
NEUROLOGICAL INJURY COMPENSATION
PROGRAM**

**2008 ANNUAL REPORT
INCLUDING PROJECTIONS FOR
PROGRAM YEARS 2008 - 2010**

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

Prepared by:



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October 2008

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Contents

MAJOR FINDINGS AND RECOMMENDATIONS	1
DISCUSSION	1
<i>Introduction</i>	1
<i>Findings</i>	1
<i>Changes in Methodology and Assumptions</i>	2
<i>Comments</i>	3
<i>Loss Reserving Methodology</i>	4
MAJOR FINDINGS.....	5
RECOMMENDATIONS	15
METHOD AND ASSUMPTIONS	17
INTRODUCTION	17
CLAIM PAYMENTS	19
<i>Nursing</i>	26
<i>Hospital/Physician</i>	28
<i>Incidental</i>	29
<i>Housing</i>	29
<i>Vans</i>	31
<i>Lost Wages</i>	32
<i>Physical Therapy</i>	33
<i>Medical Equipment</i>	33
<i>Prescription Drugs</i>	34
<i>Legal</i>	34
<i>Insurance</i>	35
<i>Medical Review/Intake</i>	35
OTHER ASSUMPTIONS.....	36
<i>Inflation</i>	36
<i>Interest Rate</i>	40
<i>Mortality</i>	41
<i>HMOs versus non-HMOs</i>	46
<i>Number of Group C Claims</i>	47
<i>Group C Average Values</i>	47
<i>Claimants Who Are Deceased at the Time of Acceptance</i>	48
<i>Future Claim Administration Expenses</i>	50
<i>Changes in Utilization</i>	50
<i>Assessment Income</i>	51
METHODOLOGY.....	54
<i>Number of Claimants</i>	54
<i>Estimated Future Costs of Group A Claimants</i>	55
<i>Medicaid Waivers</i>	56
<i>Estimated Future Costs of Group B Claimants</i>	56
<i>Change in Method for Estimating Future Costs of Group B and Group C Claimants</i>	58
<i>General Administration Expenses (Other Than Claim Administration)</i>	59
<i>Forecasts of Program’s Financial Position Through 2010</i>	60

October 2008

JULY 1, 2003 LEGISLATION – REVISITED	62
JULY 1, 2004 LEGISLATION – REVISITED	63
JULY 1, 2006 LEGISLATION.....	64
JULY 1, 2008 LEGISLATION: “DE NOVO” REVIEW (SENATE BILL NO. 212)	65
JULY 1, 2008 LEGISLATION: SENATE BILL NO. 211 AND HOUSE BILL NO. 1305	66
SENSITIVITY TESTING	67
<i>Inflation</i>	67
<i>Interest Rate</i>	69
<i>Mortality</i>	70
<i>Percentage of Insured Claimants Who Have HMO Coverage</i>	71
<i>Nursing</i>	71
<i>Hospital/Physician, Medical Equipment, Incidental, and Prescription Drugs</i>	72
<i>Housing, Vans, Lost Wages, Legal, Insurance, Medical Review/Intake</i>	73
<i>Numbers of Eligible Claimants</i>	73
BACKGROUND.....	75
GENERAL.....	75
HISTORY OF FUNDING	76
<i>Participating Physicians and Hospitals</i>	76
<i>Non-Participating Physicians and Liability Insurers</i>	77
ELIGIBILITY	78
HISTORY OF ACTUARIAL STUDIES	79
LIMITATIONS AND CAVEATS.....	84
APPENDIX	

Major Findings and Recommendations

Discussion

Introduction

This is the 2008 report of Oliver Wyman Actuarial Consulting, Inc. (Oliver Wyman), 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, 2007, and our forecasts of the actuarial soundness of the Fund as of each subsequent year-end through December 31, 2010.

As of December 31, 2006, there were 119 admitted claimants of whom 87 had been in the Program for at least three years. As of December 31, 2007, there were 134 admitted claimants, of whom 97 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 97 claimants who had been in the Program for three or more years as of December 31, 2007.

Findings

In our August 2007 report, we forecasted that the Fund would have an outstanding liability of \$316.4 million and a deficit of \$139.1 million as of December 31, 2007. In this current report we estimate that the Fund had an outstanding liability of \$315.2 million and a deficit of \$125.4

million as of December 31, 2007. The main reason for the decrease in the estimated deficit is that the total assets as of December 31, 2007 were \$12.3 million higher than we had forecast due to (a) an actual investment yield of 9.80% on managed assets as compared to a forecast yield of 6.83%, and (b) claim payments being below our forecast.

Changes in Methodology and Assumptions

We have made several changes to aspects of our methodology and to assumptions, as compared to our August 2007 study, to reflect the experience that has since emerged and recent legislative changes as described below:

- We have revised the “baseline” mortality table, increasing the estimated life expectancies of the claimants in the Program, which raises our estimate of future claim payments by \$11.8 million. In addition, we changed how we apply the mortality table in estimating future claim payments, which caused a reduction in estimates of \$10.3 million. The net impact of these changes in mortality assumption and method is an increase in our estimate of the outstanding liability of \$1.5 million. We discuss these changes further in the Mortality Assumption section of the report starting on page 41.
- We have included a provision for claimants who have been or may be accepted into the program as a result of a “De Novo” review as provided for in Senate Bill No. 212. The impact of this change on our estimate of the outstanding liability is an increase of \$11.4 million. We discuss this further in the July 1, 2008 Legislation: “De Novo Review” section of this report starting on page 65.
- We have increased our estimate of the ultimate number of claimants with birth dates on or before December 31, 2006 who had not yet been admitted to the Program as of December 31, 2006. The impact of this change on our estimate of the outstanding liability is an increase of \$2.1 million. We discuss this further in the Number of Claimants section of this report starting on page 54.
- We have estimated the impact of Medicaid waivers that pay for nursing related expenses for claimants having received such waivers. The impact of this change on our estimate of

the outstanding liability is a reduction of \$5.9 million. We discuss this further in the Medicaid Waivers section on page 56 of this report.

- We lowered the historical inflation rate that is used to adjust past program costs to 2007 cost levels by 0.5 percentage points, and we raised the prospective inflation rate by 0.5 percentage points. In addition, we lowered the inflation rate differential for nursing care by 0.5 percentage points. The impact of these changes on our estimate of the outstanding liability is an increase of \$4.0 million. We discuss this further in the Inflation section of this report starting on page 67.
- We revised the method to use the estimated future costs for Group A claimants to estimate the future costs for Group B and Group C claimants. The impact of this change on our estimate of the outstanding liability is a reduction of \$16.6 million. We discuss this further in the Change in Method for Estimating Future Costs of Group B and Group C Claimants section starting on page 58.

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

Comments

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 of December 31, 2007, there are now twenty living claimants who are 16 years of age or older, fourteen of whom have attained the age of 17. Thus, there is limited claim payment experience for claimants over the age of 16 upon which to base our forecasts of future payments for the period in which claimants are 16 and older. Also, only 97 claimants had been in the Program for three or more years as of December 31, 2007. Further, there is considerable variability in the actual payments that have been made to the 134 claimants admitted as of December 31, 2007.

- 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 assume 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.

Consistent with our past reports, we interpret the Program's future payment obligations as of December 31, 2007 to consist of future claim payments associated with all claimants with birth dates on or before December 31, 2007, *regardless of whether they have been admitted as of December 31, 2007*. Therefore, we estimate the liabilities associated with the 134 admitted claimants (Table 1, column (2)), *as of December 31, 2007*, as well as those associated with what we estimate to be 46 not-yet-admitted claimants (Table 1, column (2)) *as of December 31, 2007*. Not-yet-admitted claimants as of December 31, 2007 are those claimants with birth dates on or before December 31, 2007 who had not yet been admitted to the Program as of December 31, 2007, but whom we estimate will eventually be admitted to the Program.

Loss Reserving Methodology

In compliance with House Bill No. 1305 and Senate Bill No. 211, in the Appendix B to this report we present a discussion of the Florida Birth-Related Neurological Injury Compensation Association loss reserving methodology to account for individual participant costs and injury characteristics. In this appendix we also discuss the Pinnacle Actuarial Resources loss reserving methodology and its \$44.1 million lower estimate of the Fund's outstanding liability as of December 31, 2006.

Major Findings

Following are our major findings.

1. **Finding:** We find that, as of December 31, 2007, the Fund was not actuarially sound and had a “Grand Total” deficit of about \$125.4 million. By this, we mean that the present value of estimated future claim payments for children born on or prior to December 31, 2007, plus the present value of estimated future claim administration expenses associated with making those claim payments, exceeded the Fund’s assets by about \$125.4 million. (The present value represents the amount of assets that would need to be invested as of December 31, 2007 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 at least 20 years.

Our estimate of the Fund’s financial position as of December 31, 2007, is shown in Table 1, which follows.

TABLE 1
Estimated Financial Position as of 12/31/07
(\$ in millions, on a present value basis)

<u>Claimant Status</u> (1)	<u>Estimated Ultimate Number of Claimants</u> (2)	<u>Baseline Estimate of Future Claim Payments</u> (3)	<u>Estimate of Future Claims Administration Expenses</u> (4)	<u>Value of Total Assets</u> (5)	<u>Forecasted Surplus/ (Deficit)</u> [(5)-(3)-(4)] (6)
Claimant Summary					
All Claimants Admitted to the Program	133	\$222.6	\$10.6		
All Claimants Not Yet Admitted to the Program	46	\$92.6	\$5.0		
Claimants Eligible for the \$100,000 Award	1	\$0.0	\$0.0		
Grand Total	180	\$315.2	\$15.6	\$205.4	(\$125.4)

The following discussion of the results in Table 1 focuses on the “Grand Total” line. In our discussion of our projections in Tables 1 through Table 4, all references to admitted claimants exclude those claimants whom we project will receive the one-time award of up to \$100,000, unless we specifically discuss this subset of potential claimants. The \$100,000 award was implemented as part of the July 1, 2003 Legislation, discussed later, and is awarded to claimants born on or after July 1, 2003 who are deceased at the time of acceptance and did not live longer than 180 days.

Table 1 shows that, as of December 31, 2007, we estimate the Program had obligations for future claim payments (“Grand Total” of \$315.2 million on a present value basis) and for future claim administration expenses (“Grand Total” of \$15.6 million on a present value basis) that exceeded the Program’s assets (“Grand Total” of \$205.4 million) by approximately \$125.4 million.

Column 2 of Table 1 shows that, as of December 31, 2007, we estimate the Program had a “Grand Total” of 179 claimants (excluding those receiving the one-time award of up to \$100,000). These 179 claimants consist of 133 claimants (including 2 who qualified as “De Novo” claimants) who had been admitted to the Program as of December 31, 2007 and an

estimated additional 46 claimants (including 3 who are likely to qualify as “De Novo” claimants) born on or before December 31, 2007 who had not yet been admitted to the Program as of December 31, 2007, and excludes 1 claimant eligible for the award of up to \$100,000 who had been admitted to the Program as of December 31, 2007. 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 admitted claimants had attained when they were admitted to the Program was 4.5 years, approximately the same as last year. Forty-six of the 134 admitted claimants were admitted to the Program after they had attained the age of five.

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, 2007. 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, 2007. 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, 2007 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 179 claimants (admitted and not-yet-admitted) as of December 31, 2007 (see the section on future Claims Administration Expenses on page 50 for a description of these expenses).

Column 5 of Table 1 shows our estimate of the value of the Fund’s total assets as of December 31, 2007.

Column 6 of Table 1 shows that our estimate of the Fund's "Grand Total" assets as of December 31, 2007 is \$125.4 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, 2007, the Fund was not actuarially sound and had a "Grand Total" deficit of about \$125.4 million. Our estimate of the present value of future claim payments for children born on or prior to December 31, 2007, plus our estimate of the present value of future claim administration expenses, exceeds the Fund's assets by about \$125.4 million.

In our August 2007 report, we included a "Grand Total" forecast of the financial results as of December 31, 2007. A comparison of that "Grand Total" estimate to our current "Grand Total" estimate as of December 31, 2007 is given below:

- **Number of Claimants:** In our August 2007 report, we forecasted that there would be 174 claimants (excluding those receiving the one-time award of up to \$100,000) as of December 31, 2007, of whom 130 would be admitted and 44 would be not-yet-admitted. Our current estimate is that there were 179 claimants (excluding those receiving the one-time award of up to \$100,000) as of December 31, 2007, of whom 133 are admitted and 46 are not yet admitted. Note that two of the admitted claimants and three of the not yet admitted claimants are a result of the "De Novo" legislation.
- **Baseline Estimate of Future Claim Payments:** In our August 2007 report, we forecasted that there would be \$316.4 million of future claim payments associated with the 174 claimants as of December 31, 2007. Our current estimate is that there were \$315.2 million of future claim payments associated with the 179 claimants as of December 31, 2007. The increase in claimants is primarily due to the admittance of claimants related to the "De Novo" review. This increase in claimants did not result in a proportional increases in future claim payments due to the decrease resulting from reflection of the Medicaid waiver and the change in the estimation of Group B and Group C claimants more than offsetting the increase resulting from the change in mortality and the increase resulting from the change in inflation rates, as summarized above.

- **Estimate of Future Claim Administration Expenses:** In our August 2007 report, we forecasted that there would be \$15.8 million of future claim administration expense payments associated with the 174 claimants as of December 31, 2007. Our current estimate is that there will be \$15.6 million of future claim administration payments associated with the 179 claimants as of December 31, 2007 (see page 50 for a discussion of estimated claim administration expenses).
 - **Value of Total Assets:** In our August 2007 report, we forecasted that the Fund would have assets of \$193.1 million as of December 31, 2007. The actual value of assets as of December 31, 2007, based on audited financial statements, was \$205.4 million. The difference, \$12.3 million, is due primarily to the fact that the actual investment yield during 2007 was higher than forecast and claim payments made during 2007 were less than predicted.
 - **Forecasted Surplus/ (Deficit):** In our August 2007 report, we forecasted that the Fund would have a “Grand Total” deficit of \$139.1 million as of December 31, 2007. Our current estimate is that the Fund had a “Grand Total” deficit of \$125.4 million as of December 31, 2007.
2. **Finding:** We forecast that the Fund will not be actuarially sound as of December 31, 2008, and will have a “Grand Total” deficit of about \$130.9 million. This is shown in Table 2, which follows.

Referring to Table 2, Column 2, we estimate that the total number of claimants as of December 31, 2008 will be 189. This is an increase of 10 claimants from the total number of claimants that we estimate as of December 31, 2007 (excluding claimants eligible for the \$100,000 award), and reflects our forecast that each year 10 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 claimants consists of 148 claimants who we estimate will have been admitted into the Program as of December 31, 2008 and 41 claimants born on or

before December 31, 2008 who will not yet have been admitted into the Program as of December 31, 2008.

The estimated number of claimants that will have been admitted to the Program as of December 31, 2008, shown as 148 in Column 2, represents the 133 claimants who were admitted prior to December 31, 2007, as indicated in Table 1, plus an additional 15 claimants (including an estimate of three claimants qualified under the “De Novo” review) whom we estimate will be admitted to the Program during 2008. Our forecast of these additional 12 claimants excluding claimants admitted based on a “De Novo” review is consistent with the recent numbers of admissions (10 in 2004, 13 in 2005, 9 in 2006, and 13 in 2007, excluding 2 claimants admitted due to the “De Novo” review).

We estimate that 2 claimants will be admitted in 2008 solely to receive the award of up to \$100,000. Columns 3 and 4 of Table 2 show \$0 future payments for these claimants because it is assumed they will receive this one-time award immediately when they are admitted. The costs will reduce the assets, but they do not result in any future liability.

TABLE 2
Forecasted Financial Position as of 12/31/08
(\$ in millions, on a present value basis)

<u>Claimant Status</u> (1)	<u>Estimated Ultimate Number of Claimants</u> (2)	<u>Baseline Estimate of Future Claim Payments</u> (3)	<u>Estimate of Future Claims Administration Expenses</u> (4)	<u>Value of Total Assets</u> (5)	<u>Forecasted Surplus/ (Deficit)</u> [(5)-(3)-(4)] (6)
Claimant Summary					
All Claimants Admitted to the Program	148	\$250.0	\$12.6		
All Claimants Not Yet Admitted to the Program	41	\$86.8	\$4.6		
Claimants Eligible for the \$100,000 Award	2	\$0.0	\$0.0		
Grand Total	191	\$336.8	\$17.2	\$223.1	(\$130.9)

3. **Finding:** We forecast that the Fund will remain in a deficit position and that the “Grand Total” deficit will grow to \$138.8 million at the end of 2009, and to \$144.6 million at the end of 2010. This is shown in Tables 3 and 4, which follow.

TABLE 3
Forecasted Financial Position as of 12/31/09
(\$ in millions, on a present value basis)

<u>Claimant Status</u> (1)	<u>Estimated Ultimate Number of Claimants</u> (2)	<u>Baseline Estimate of Future Claim Payments</u> (3)	<u>Estimate of Future Claims Administration Expenses</u> (4)	<u>Value of Total Assets</u> (5)	<u>Forecasted Surplus/ (Deficit) [(5)-(3)-(4)]</u> (6)
Claimant Summary					
All Claimants Admitted to the Program	156	\$265.7	\$14.2		
All Claimants Not Yet Admitted to the Program	43	\$95.6	\$5.0		
Claimants Eligible for the \$100,000 Award	1	\$0.0	\$0.0		
Grand Total	200	\$361.3	\$19.2	\$241.7	(\$138.8)

Referring to Table 3, Column 2, we estimate that the total number of claimants as of December 31, 2009 will be 199 (excluding claimants eligible for the \$100,000 award). This is an increase of 10 claimants from the total number of claimants that we estimate there will be as of December 31, 2008, and reflects our forecast that each year 10 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 claimants consists of 156 claimants who we estimate will have been admitted into the Program as of December 31, 2009 and 43 claimants born on or before December 31, 2009 who will not yet have been admitted into the Program as of December 31, 2009.

The number of claimants admitted to the Program as of December 31, 2009, shown as 156 in Column 2, consists of the 148 claimants we estimate will have been admitted to the Program as of December 31, 2008 (See Table 2), plus an additional 8 claimants who we forecast will be admitted to the Program during 2009. The number of claimants not yet admitted to the Program

as of December 31, 2009, shown as 43 in Column 2, is the difference between the estimated total number of claimants (199) and the estimated number of admitted claimants (156).

We estimate that 1 claimant will be admitted in 2009 solely to receive the award of up to \$100,000. Columns 3 and 4 of Table 3 show \$0 future payments for this claimant because it is assumed the claimant will receive this one-time award immediately when admitted. The costs will reduce the assets, but they do not result in any future liability.

TABLE 4
Forecasted Financial Position as of 12/31/10
(\$ in millions, on a present value basis)

<u>Claimant Status</u> (1)	<u>Estimated Ultimate Number of Claimants</u> (2)	<u>Baseline Estimate of Future Claim Payments</u> (3)	<u>Estimate of Future Claims Administration Expenses</u> (4)	<u>Value of Total Assets</u> (5)	<u>Forecasted Surplus/ (Deficit) [(5)-(3)-(4)]</u> (6)
Claimant Summary					
All Claimants Admitted to the Program	165	\$285.4	\$16.0		
All Claimants Not Yet Admitted to the Program	44	\$102.7	\$5.4		
Claimants Eligible for the \$100,000 Award	1	\$0.0	\$0.0		
Grand Total	210	\$388.1	\$21.4	\$264.9	(\$144.6)

Table 4 is similar to Table 3, except that it shows our forecast of the Fund's financial position as of December 31, 2010. Note that the forecasted change in deficit from \$125.4 million as of December 31, 2007 to \$144.6 million as of December 31, 2010 represents an increase of approximately \$6 million per year. This compares to the forecasted annual increases in the deficit of approximately \$10 million per year from December 31, 2007 to December 31, 2009 in our 2007 report. This favorable change, a reduction in the annual increase in the deficit, is due partly to the increases in assessments from the July 1, 2008 legislation. However, since there are no further legislated increases in assessments beyond 2012, as shown in Exhibit 2 of Appendix A, we anticipate that the annual increase in the deficit will rise in 2013 and beyond as inflation in costs exceeds the increase in assessments.

Referring to Table 4, Column 2, we estimate that the total number of claimants as of December 31, 2010 will be 209 (excluding claimants eligible for the \$100,000 award), an increase of 10 over the prior year, representing the children that we forecast will be born in 2010 and eventually admitted into the Program.

The number of claimants admitted to the Program as of December 31, 2010, shown as 165 in Column 2 of Table 4, consists of the 156 claimants we estimate will have been admitted to the Program as of December 31, 2009 (See Table 3) plus an additional 9 claimants that we forecast will be admitted to the Program during 2010. The estimated number of claimants not yet admitted to the Program as of December 31, 2010, shown as 44 in Column 2, is the difference between the estimated total number of claimants (209) and the estimated number of admitted claimants (165).

We estimate that 1 claimant will be admitted in 2010 solely to receive the award of up to \$100,000. Columns 3 and 4 of Table 2 show \$0 future payments for this claimant because it is assumed the claimant will receive this one-time award immediately when admitted. The costs will reduce the assets, but they do not result in any future liability.

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 at least 20 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 \$9.2 million to claimants during 2007. The \$9.2 million in actual payments made for the full year of 2007 was lower than the \$10.5 million in actual payments made for the full year of 2006 and higher than the \$8.5 million in actual payments made for the full year of 2005. During the first six months of 2008, the Program paid \$4.2 million to claimants.

We forecast that the current assets of the Fund are sufficient to cover the claim payments of admitted (as of December 31, 2007) claimants for many years, given the historical payments actually paid by the Fund. Specifically, we forecast that, if the Fund collects the assessments

currently required in accordance with July 1, 2004 and the July 1, 2008 legislation and, if the level of participation of physicians and hospitals remains constant at the 2007 levels, the Fund will be able to continue to make claim payments for all claimants, including those admitted after December 31, 2007 (even if those claimants are born after December 31, 2007), for at least the next 20 years (that is, through the year 2027).

Recommendations

Following are our recommendations.

- 1. Recommendation:** We recommend that the Program continue to assess participating and non-participating physicians and participating hospitals at the increased levels (as shown on Exhibit 2 in Appendix A).
- 2. 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.
- 3. Recommendation:** Recommendations 1 and 2 notwithstanding, we recommend that the Program find means 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.
- 4. Recommendation:** We recommend that reviews of the actuarial soundness of the Fund be conducted annually.
- 5. Recommendation:** We recommend that the Program continue to maintain and continually update claimant payment and personal information and assessment information in the format and level of detail as requested for each annual actuarial study.
- 6. Recommendation:** We recommend that the Program continue to obtain copies of the claimants' insurance policies and provide copies of the policies at the time of each actuarial review.
- 7. Recommendation:** We continue to reiterate our recommendation 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. Specifically, the Program should produce a worksheet summarizing the detailed life plan for each claimant including expected annual payments by expense item at today's costs and an estimate of life expectancy with the aid of a consultant specializing in pediatric medicine. This specific recommendation follows the description of the Florida process followed in the reserve evaluation for the *Florida Birth-Related Neurological Injury Compensation Association as of June 30, 2007* (note that Senate Bill No. 211 refers to the July 1, 2007 report). This worksheet should consider any expected increases or decreases in required medical care anticipated based on the evaluation of the condition of the children as well as any changes in Medicaid status. We provide further comment on this recommendation in Appendix B.

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 97 claimants who had been in the Program for three or more years as of December 31, 2007;
 - our understanding of each of the 97 claimants' insurance coverage and eligibility for Medicaid;
 - assumptions regarding future cost inflation;
 - assumptions regarding future changes 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 (our findings are presented assuming the same mortality table applies to each claimant; differences in life expectancy are only due to the attained age of each claimant); 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. This section also provides information on the effects of the “De Novo” legislation.
- **Sensitivity Testing:** This discusses the sensitivity of our findings to various assumptions underlying our analysis.

Claim Payments

Table 5, below, shows a brief history of the actual claim payments, by year, from 1988 through 2007.

TABLE 5**Total Claim Payments**

<u>As Of</u>	<u>Incremental</u>	<u>Cumulative</u>
(1)	Amount Paid	Amount Paid
(1)	(2)	(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
12/31/03	\$5,429,845	\$39,351,583
12/31/04	\$6,012,468	\$45,364,051
12/31/05	\$8,548,706	\$53,912,757
12/31/06	\$10,482,314	\$64,395,071
12/31/07	\$9,230,255	\$73,625,326

Note: Numbers may not add to total due to rounding.

The decrease in claim payments during 2007 as compared to 2006 (\$9.2 million in 2007 compared to \$10.5 million in 2006) is due mainly to the decrease in payments for Housing and Vans. Housing cost payments decreased from \$1.7 million in 2006 to \$0.8 million in 2007 which was significantly less than what we had forecast. Van cost payments decreased from \$1.0 million in 2006 to \$0.6 million in 2007, which was slightly less than what we had forecast.

In this study, as in prior studies, 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, 2007).

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. We understand through discussions with management of the Program that, currently, all claimants but four have either Medicaid or private insurance coverage, though claimants do occasionally switch insurance coverages, which may leave a claimant uninsured for a short period of time.

The Program currently keeps track of its claim payments in 12 categories. The Program provided the actual payments through December 31, 2007, sorted by category of payment by year and for each of the 134 claimants who were in the Program as of December 31, 2007. 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 12/31/07 and During 2007

Expense Category	Payments through 12/31/07	Percentage of Total Payments	Payments in 2007	Percentage of 2007 Payments
(1)	(2)	(3)	(4)	(5)
Nursing	\$41,451,939	56.3%	\$6,414,352	69.5%
Hospital/Physician	1,833,848	2.5%	95,343	1.0%
Incidental	2,914,105	4.0%	219,971	2.4%
Housing	15,203,308	20.6%	759,626	8.2%
Vans	4,747,054	6.4%	579,919	6.3%
Lost Wages	97,163	0.1%	97,163	1.1%
Physical Therapy	1,893,803	2.6%	235,523	2.5%
Medical Equipment	1,706,261	2.3%	194,751	2.1%
Prescription Drugs	808,995	1.1%	133,554	1.4%
Legal	2,120,415	2.9%	334,253	3.6%
Insurance	661,062	0.9%	144,014	1.6%
Medical Review/Intake	187,373	0.3%	21,788	0.2%
Total	\$73,625,326	100.0%	\$9,230,255	100.0%

Note: Numbers may not add to total due to rounding.

Claimants submit to the Program any costs not covered by private insurance or Medicaid, and the Program is responsible for paying these costs. 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 Program has not made any payments for Medicaid patients. In cases where claimants have lost Medicaid benefits and now have private insurance, we use either the minimum values applied to all claimants, for those costs that were previously covered in full by Medicaid, or amounts based on conversations with management of the Program, in order to forecast the costs that are expected to be paid by the Program in the future. These minimum values are discussed in detail, by category of payment, in the Methodology section of this report.

We note that several claimants have applied for Medicaid waivers and receive Nursing benefits based on these waivers. Our treatment of these waivers is described in the Methodology section below.

We base this current study, primarily, on actual payments through December 31, 2007, which represents a twelve-month update of the payments that were primarily used in our August 2007 study.

For analytical purposes 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, 2004. That is, Group A claimants are those who have been in the Program at least three full years. Group A contains 97 claimants, including 22 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, 2007. 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.

Due to substantial variations in annual expenses across categories among Group A claimants, we use certain assumptions for each Group A claimant in our forecasting methodology. Our objective in this approach is to evaluate the Group A claimant expenses that will be appropriate on an aggregate basis, rather than on a claimant-by-claimant basis.

- Group B consists of all claimants who were admitted to the Program in 2005, 2006, or 2007. Group B contains 37 claimants, 4 of whom were deceased as of December 31, 2007.

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, 2007. 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, for many claimants costs fluctuate significantly during the first few years of 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, 2007 who were not admitted to the Program as of December 31, 2007, but who will eventually apply to, and be admitted into, the Program. We estimate that Group C contains 46 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.
- As described in our August 2007 report, we have separately identified those claimants who were deceased at the time of their acceptance to the Program. Four Group A claimants and four Group B claimants fall into this category, and we assume that five percent of the Group C claimants will fall into this category. For the eight known claimants in this category, their average cost has been approximately \$11,000, and we forecast that the Program will not incur any additional costs associated with these claimants. For the five percent of Group C claimants that we forecast will fall into this category, we project their average cost will be \$20,000, which we selected to be somewhat conservative (high).

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 five studies. This discussion provided valuable information that has been helpful in preparing our forecasts.

Table 6 above shows aggregate claim payments, by category, through December 31, 2007. By definition, because Groups A and B are the claimants who had been admitted to the Program by December 31, 2007, 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. Column (2) shows the average costs for all Group C claimants, including

those who are expected to be deceased at the time that they are accepted into the Program. Column (3) shows the changes in these values from the time of our last report.

Column (4) shows the projected average lifetime costs, by category, for those Group C claimants who were living at the time that they were accepted into the Program.

These estimates shown in Table 7 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, 2007. 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 also typical of the estimated lifetime costs for claimants in Groups A and B who were living at the time they were accepted into the Program.

The changes shown in Column (3), "Change from Prior Report," reflect the year to year volatility in the actual expense, especially for Incidental and Medical Equipment expenses as well as the change in our method of estimating Group C average cost per claimant.

Table 7

**Forecasted Lifetime Costs
(Present Value at 12/31/07)
Forecasted
Lifetime**

Expense Category (1)	Average Costs for All Group C Claimants (2)	Change from Prior Report (3)	Average Costs for All Group C Claimants Living at Time of Acceptance (4)
Nursing	\$1,504,011	(\$99,944)	\$1,583,170
Hospital/Physician	45,384	5,869	47,773
Incidental	45,337	(12,722)	47,723
Housing	121,394	5,849	127,783
Vans	52,342	(33,901)	55,096
Lost Wages	110,888	9,755	116,724
Physical Therapy	28,754	(4,493)	30,268
Medical Equipment	66,054	1,848	69,531
Prescription Drugs	50,422	9,533	53,076
Legal	23,215	6,476	23,384
Insurance	20,772	(1,287)	21,866
Medical Review/Intake	1,494	(108)	1,573
Total	\$2,070,067	(\$113,125)	\$2,177,967

Notes:

- 1) Last year's amounts are not adjusted for inflation.
Adjusted for inflation, the change from the prior report would be (\$222,422).
- 2) Numbers may not add to total due to rounding.

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 \$2.1 million (on a present value basis, about \$105,000 per year adjusted for inflation, for 20 years). The nursing category represents about \$1.5 million, approximately 73 percent of this total, the same as we reported in our August 2007 report. Although many claimants have had little or no nursing costs, a few have had large nursing costs. This is clearly the largest payment category, and any changes affecting the future cost or utilization of nursing services could have a major impact on our findings.

Following is a discussion of each individual cost category.

Nursing

Nursing covers the cost of in-home nursing care, and represents the most significant payment category for the Program. As shown in Table 6, approximately 56.3 percent of all payments made by the Program from inception to date have been for nursing. In 2007, nursing care costs increased by approximately 4 percent, from \$6.2 million to \$6.4 million, due to the increase, from 77 to 78, in the number of claimants receiving nursing benefits.

Based on our discussions with management of the Program, we understand that a substantial portion of the increase in nursing expenses, both from 2003 to 2004 and from 2004 to 2005, was due to the fact that the nursing community was able to meet a demand for additional nursing services that had not previously been met. We assumed in our 2006 report that the higher level of nursing services utilized by claimants in 2004 and 2005 represented a one-time shift to a higher level of nursing services, and was not indicative of an underlying upward trend in annual claimant nursing expenses that would continue. The data for 2007 suggest that the average cost per claimant, for those claimants receiving nursing care, increased from the average cost in 2006, but was approximately the same as the average cost for 2005.

This moderation of the increase in average annual nursing costs from 2005 to 2007 supports the assumption we made in 2006 that the relatively high increase in nursing costs during the 2003 to 2005 period was not an underlying trend but rather a one-time shift. We continue to monitor this trend.

In 2007, the Program paid an average of about \$59,000 per living claimant for nursing costs, which represents an 8.2 percent decrease over last year's comparable average. Included in this average are newly admitted claimants, many of whom had relatively little nursing costs in 2007. The average nursing payment made by the Program in 2007 to each living Group A claimant (those who have been in the Program for at least three years) was \$78,000, which represents an approximate 12.7 percent increase over last year's comparable figure.

The Program's experience also reveals considerable variation in the amount of nursing costs paid to each claimant. Many claimants in the Program have low or no nursing costs, whereas others

are receiving round-the-clock nursing at an annual cost in excess of \$250,000. For those claimants receiving nursing services, most of the claimants receive services from licensed practical nurses (LPNs) and other 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 2007. Some Group A claimants have had very little costs in the nursing category, and for them we forecast future nursing costs to be \$36,338 per year, at 2007 price levels (this is the equivalent of \$25,000 per year at 2000 cost levels, consistent with the assumption used in our prior 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.

Thus far, only four claimants have been institutionalized, two of whom are deceased. 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, except when a claimant applies for a waiver. The Program provided information regarding Medicaid waivers for 13 claimants, as compared to our assumption in last year's report that only one of the claimants in the Program has ever qualified for such payments from Medicaid. As we

anticipated in last year's report, this new information based on discussions between Medicaid administrators and Program management led to a reduction in our forecast of lifetime nursing costs, as described in the Methodology section below

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 \$2,848 per year at 2007 cost levels (this is the equivalent of \$2,000 per year at 2000 cost levels, consistent with the assumption used in our August 2007 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, mileage reimbursement 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 2007, 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 four 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 24 trust homes, seven 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. The program will pay for only a one-time renovation for each claimant. A renovation is subject to a maximum benefit of \$175,000 for the lifetime of the claimant. Consistent with our August 2007 report, we have used an average estimate of \$133,972 at 2007 cost levels. Once a claimant has had a renovation completed on their home, we have estimated no further housing costs for the claimant.

Additional modifications such as ramps, elevators, and lifts are considered medical equipment expenses and are not subject to the maximum benefit of \$175,000 for housing costs. Based on discussions the Program in 2006, we understand that expenses for additional modifications such as ramps, elevators, and lifts, are part of the medical expenses and are not subject to the maximum of \$175,000.

Rentals - The July 1, 2003 legislation specified, in Section 38.2 – 5016 item 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 non-homeowners.”

To conform to this legislation, management of the Program has established a rental benefit of \$175,000 for the lifetime of the claimant. This benefit represents the difference between the claimant’s current rent and the rent due for an upgraded accommodation that includes those features necessary for handicapped accessibility. The claimant and the claimant’s family must have moved to such an accommodation before receiving the benefit. According to management of the Program, the maximum benefit of \$175,000 applies on a combined basis to the rental benefit and to one-time renovations discussed above.

For all claimants (or the claimant's family, in the case where a claimant is deceased) who are in a *trust home*, we forecast expenses for the payment of real estate taxes, maintenance, insurance, and so forth on a claimant-by-claimant basis, based on the prior three years. We note that our forecasts average to about \$10,000 per year.

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 2008 through 2009. As of December 31, 2007, there are outstanding housing grants for 8 claimants, for a total outstanding value of approximately \$605,000. Although the Program only paid \$16,000 for housing grants in 2007, claimants who have not used up their full grant allocation may still request the Program to pay for either initial or additional home renovations. Accordingly, we have estimated that the entire unused and outstanding grant amount of \$605,000 will be requested and paid out over the next two years.

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 \$133,972 (at 2007 cost levels) for *renovations and rentals* (except in those cases where the renovations have already been completed). For claimants in Groups A and B, we assume that this amount will be paid over a two-year period from 2008 through 2009. 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 108 claimants living as of December 31, 2007, only eight were ambulatory.

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, was 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 Program. Beginning in 2003, the claimant's family was given a cost allowance for a vehicle of their choosing. The allowance is approximately \$5,000 larger for those families for which the claimant is older and taller. 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.

Consistent with the amount included in our August 2007 report, we assume that the average price of a van, with necessary equipment and including a provision for future repair of the equipment, is \$37,932 at 2007 cost levels (this is the equivalent of \$37,500 per year at 2006 cost levels). 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.

Ten claimants in the Program have attained the age of 18. The amount to be paid to each claimant is fixed at 50 percent of the private average weekly non-agricultural wage in Virginia. Based on discussions with the Program, this is \$20,982 per year (at 2007 cost levels). For each claimant, we adjust the \$20,982 for inflation to forecast the annual amount that will be paid at age 18 and beyond.

We note that the lost wage benefit has caused some claimants to lose the Medicaid benefits, and with it, lose Medicaid waivers that paid for nursing expenses, among other benefits.

Physical Therapy

Most claimants receive physical therapy for several years.

According to our discussion with management of the Program during 2007, 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. This is consistent with the methodology used in our August 2007 report.

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. 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. We have been told by management of the Program that not all drugs are covered by Medicaid, and the Program's records indicate that it has made insignificant payments for prescription drugs for one Group A claimant who has Medicaid. We forecast that these payments will continue.

Legal

Legal costs are incurred, by both the Program and 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 August 2007 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 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 2007.

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.

As mentioned in our August 2007 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. Note that Tables 8A and 8B are new this year.

Table 8

<u>Expense Item</u> (1)	<u>Future Annual Inflation Rate (Percent)</u> (2)	<u>Incremental Difference from General Inflation</u> (3)	<u>CPI Urban Index For:</u> (4)
General Inflation	3.84	0.00	All Items (1913-2007)
Incidental	3.84	0.00	All Items (1913-2007)
Hospital/Physician	5.67	1.83	Medical Care Services (1991-2007)
Nursing	4.39	0.55	Professional Services (1991-2007)
Physical Therapy	4.39	0.55	Professional Services (1991-2007)
Medical Equipment	5.22	1.38	Prescription Drugs and Medical Supplies (1991-2007)
Vans	1.15	-2.69	New and Used Motor Vehicles (1993-2007)
Housing	4.08	0.24	Housing (1991-2007)
Legal	5.84	2.00	Legal Services (1991-2007)
Medical Review/Intake	3.84	0.00	All Items (1913-2007)
Insurance	3.84	0.00	All Items (1913-2007)
Prescription Drugs	5.22	1.38	Prescription Drugs and Medical Supplies (1991-2007)
Lost Wages	3.84	0.00	All Items (1913-2007)

Table 8A

<u>Averages</u>	<u>Long-term General Inflation</u>
All Years	3.34
Since 1950	4.46
Latest 40 Years	4.73
Latest 20 Years	2.76

Table 8B

<u>Selected General Inflation</u>	
Long-term	3.34
Future	3.84
Historical	2.84

For general inflation, we note in the bottom portion of Table 8 that the long-term general inflation rate is 3.34 percent and over the last 20 years, the general inflation rate has been approximately 0.5 percentage points less than the long-term rate. As discussed further below, we select 2.84 percent, 0.5 percent less than the long-term general inflation rate as the inflation rate to adjust past program costs to 2007 cost levels and we select 3.84 percent as the general inflation rate to adjust 2007 costs to future cost levels.

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 nursing costs will be 4.39 percent, and this amount exceeds our forecast of the General Inflation rate by 0.55 percentage points ($4.39 - 3.84 = 0.55$) as shown in Column 3. In addition, the table identifies the specific cost index upon which we base our estimate. The index labeled Professional Services is actually a subset of Medical Care Services.

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 2007, 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 2007, we estimate that the increase in costs for nursing is equal to the increase in the general inflation rate, plus 0.55 percentage points. We estimate that the general inflation rate to adjust to future cost levels is 3.84 percent and, therefore, we estimate that the long-term increase in nursing costs will be 4.39 percent ($0.55 + 3.84 = 4.39$).

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.

In this year's study we made two changes from this general approach in selecting inflation rate assumptions.

As part of our analysis, we considered the work of the Society of Actuaries' (SAO) Project Oversight Group which produced a report titled *Long Term Healthcare Trends Resource Model, Practical Issues for Actuaries* ("the SAO Report"). In addition, we reviewed the Society of Actuaries' paper titled *Modeling Long Term Health Care Cost Trends* by Professor Thomas Getzen (the "Getzen Paper").

Taken together, these two documents make the following observations or provide the following guidance:

1. The Getzen Paper observes that long-term inflation has averaged 3.2% and has been 0.5% lower in recent years and 0.5% to 1.0% higher over the last fifty years. The report goes on to say: "*Most forecasters assume that inflation is more likely to edge higher ... than to fall.*" These are similar to our observations in the Table 8.
2. The Getzen Paper provides this observation: "*Forecasters generally agree that long run inflation is among the most difficult of economic variables to forecast, and that little certainty can be attached to any forecast beyond three years.*" We agree and note that we have provided a sensitivity test for inflation rates in the Sensitivity section below for rates up to 1.5 points higher or lower than our base inflation assumption.
3. The Getzen Paper notes that from 1960 to 2006, "growth in medical costs averaged 2.56% above GDP...assuming a long-run 'GDP+1%' can be considered 'reasonable' only because it explicitly assumes some cost cutting reductions to maintain affordability and sustainability."
4. They observe that models that forecast health care costs cannot continue at a pace above GDP as experienced in previous years, such as the 2.56% above GDP for 1960 to 2006 because it assumes that health care costs will reach a level that they consume the "whole of the US economy" (from the SOA Report).
5. The "SOA Report" provides a model that computes prospective health care trend rates through 2080 based on various assumptions including the "resistance point" for the health costs as a share of GDP, 25% in the example that they provide. By the "resistance point,"

they mean that there is a practical limit of how large health care costs can be as a percentage of the total economy.

6. The SAO Report offers a “sample” scenario based on key underlying assumptions that results in health care trend rates in 2011 of 6.6% and 4.8% in 2080. This scenario assumes, for example, basic inflation of 3.2%, extra trend due to advancements in medical technology of 1.2% and a resistance level of health share of GDP of 25% in 2075.

Based on our review of inflation rates updated through year-end 2007 and these two documents, we have made the following assumptions and methodology changes:

1. We select the long-term base general inflation rate, to be 3.34%, essentially unchanged from last year and similar to the Getzen assumption above. However, we have made two adjustments to the way in which we apply the selected long-term general inflation rate, as follows:
 - a. We lowered the general inflation rate of 3.34% by 0.5% to 2.84% to adjust past program costs to 2007 cost levels to recognizing the generally lower inflation rates in the last 20 years.
 - b. We raised the future inflation rate, to adjust 2007 costs to levels in future years, from the 3.34% long-term general inflation rate to 3.84%, an increase of 0.5% to reflect an expectation of generally rising inflation.
2. The selected incremental differences displayed in Table 8 for health care categories range from 0.55% for nursing and physical therapy to 1.83% for hospital/physician, are essentially unchanged from last year except for nursing. For nursing, we selected a 0.5% lower differential than last year due to the fact that the nursing differential has been steadily decreasing over the last 15 years.
3. Excluding the nursing utilization factor, we are using a prospective inflation rate of approximately 4.39%, which is below the SOA future inflation level in the sample scenario discussed above. We believe this is reasonable because:
 - a. The Program has a higher proportion of nursing expenses than the health care industry and nursing expenses have increased at a much lower rate than health care expenses in total.

- b. For the sample we cite from the SOA report, the trend rate in the sample scenario includes 1.2 percentage points for technology. Neither is applicable to nursing expense.
- c. Our testing of historical trends for actual Program expenses other than nursing suggests that trend has not been as high as the SOA trend in the sample scenario above.

We estimate the impact of the 0.5% reduction in the historical inflation rate to be a reduction in estimated future payments of \$2.4 million, since it reduces the base costs in 2007 from which we make our forecast of Group B and Group C claimant costs. We estimate that the net impact of raising the future general inflation rate by 0.5% to 3.84% and lowering the nursing differential to 0.55% (from the long-term average of 1.05%) will cause an increase in estimated future payments of \$6.4 million. The net impact of the changes in inflation rates is an increase of \$4 million. In making these calculations, we have assumed that the normal addition of the 2007 inflation data has caused no material difference in the general inflation rate or differentials other than those discussed above.

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 6.57 percent, which we use for discounting purposes.

In our August 2007 study, we assumed a 6.54 percent rate of return (that is, interest rate). In that study, we based this interest rate assumption primarily on the expected rate of return on invested assets, as stated by SunTrust, the Fund's investment manager.

In August 2005, the Fund changed investment advisors, from Merrill Lynch to SunTrust. Management of the Fund has provided its Investment Policy Statement, dated March 1, 2005, in which the Fund indicates that its investment goal "targets a total annual return of 6.8 percent." In forecasting a projected rate of return for the Fund's assets, we have continued to select a

differential of 3.50 percentage points above our selected long-term general inflation rate of 3.34%, resulting in a projected rate of return of 6.84 percent for the invested assets, excluding Trust homes and money market type accounts. The return for all invested assets averages 6.57%. Unlike our inflation estimate, we make no distinction between historical and prospective interest rates. Based on our conversations with the Fund, we understand this forecasted rate of return to be consistent with the Fund's investment strategy as outlined in its current Investment Policy Statement, dated March 1, 2005.

Consistent with our August 2007 report we do not inflate the value of the trust houses. This is according to Generally Accepted Accounting Procedures (GAAP) that specifies that the value of the trust house is the *lesser* of the cost of the house or the market value of the house. We have not been provided with the market value of the trust houses and, to the extent that the market value of the trust houses is greater than the cost, our estimates of the value of this asset will be conservative. However, given the magnitude of this class of asset relative to the total assets of the Fund, it is our opinion that the difference will not be material.

The value of the trust houses, \$5,180,492 as provided by management of the Program is slightly higher (about \$70,000 higher) than the value used in our August 2007 report. This difference is not material.

Mortality

For this report, we revised the mortality (life expectancy) table that we used in our 2007 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 2006 table.
- The 2007 Table, which is the table that we used in our 2007 study (and which evolved from a series of mortality tables used each year from 2001 through 2006).

- The 2008 Table, which is the table that we are introducing in this 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 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 or four, 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 and others 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.

2007 Table

In 2001 we began to move toward the Blended Table:

- The 2001 Table was an 80/20 weighting of the 1999 Table and the Blended Table. Note that for under 15 years of age, this results in using 100% of the Cystic Fibrosis table since both the 1999 Table and the Blended Table equal the Cystic Fibrosis table up to age 15.
- The 2002 Table was a 70/30 weighting of the 1999 Table and the Blended Table.
- The 2003 Table was a 60/40 weighting of the 1999 Table and the Blended Table.
- The 2004 Table was a 50/50 weighting of the 1999 Table and the Blended Table.
- The 2005 Table was equal to 85 percent of the mortality in the 1999 Table for ages 0 through 15 and a 40/60 weighting of the 1999 Table and the Blended Table for ages greater than 15.

- The 2006 Table was equal to 80 percent of the mortality in the 1999 Table for ages 0 through 15 and a 30/70 weighting of the 1999 Table and the Blended Table for ages greater than 15.
- The 2007 Table was equal to 75 percent of the mortality in the 1999 Table for ages 0 through 15 and a 20/80 weighting of the 1999 Table and the Blended Table for ages greater than 15.

The 2007 table had an underlying average life expectancy of 23.4 years, from birth, and an average life expectancy of 25.4 years for a child who has attained the age of three.

2008 Table

In this 2008 study, we have revised the mortality table for all years. We have set mortality equal to 70% of the mortality in the Blended Table for ages 0 through 15 and equal to a 10/90 weighting of the 1999 Mortality Table and the Blended Table for ages greater than 15. The shift from a 20/80 weighting (reflected in our 2007 report) to a 10/90 weighting of these two mortality tables for years 15 and older is consistent with our approach in prior studies.

For ages 0 through 15, the change from 75% of the mortality in the Blended Table to 70% is based on our evaluation of the actual mortality of the claimants in the Program (18 deaths among those who were living when admitted to the Program), as compared to the number of deaths predicted by the Blended Table (32.1 deaths). In other words, the claimants in the Program have had a more favorable mortality than had been expected, and consequently we have decreased our estimate of the mortality.

We have considered the fact that both the Census Bureau and Society of Actuaries frequently produce new mortality tables. In our opinion, for the purpose of estimating the liabilities of the Birth Injury Fund, it is not necessary for us to adopt these new tables as they become available. Instead, in our opinion, the appropriate approach is to (a) continue to ensure that the mortality table is reasonably consistent with the Program's actual experience at the younger ages (for which the Program has data), and (b) continue to use expected experience for the higher ages

(grading to published standard mortality, as suggested by the study by Strauss and others cited in the discussion above under the Blended Table).

The single most important unknown affecting the selection of mortality is the expected mortality for claimants above age 18 for which we have no information. We know that below 18 our claimants have had significantly more favorable mortality than the Cystic Fibrosis table which we use as a benchmark in developing our mortality table. However, we don't know if this favorable mortality will continue.

As further evidence of the high level of uncertainty surrounding the estimate of future mortality, we note that a recently released paper, "Life Expectancy in Cerebral Palsy: an Update" published in *Developmental Medicine and Child Neurology-2008* by Strauss and Brooks (an update of the article cited above) discusses two general methods of constructing mortality tables:

- The method that is based on linearly declining log-relative-risk ("DLRR")
- A relatively new method that uses proportional life expectancy for a given condition ("CPL"), that is, the proportion of normal life expectancy is the same at every age for a given condition.

The authors state that the DLRR method – which is the method that we have used to develop our mortality tables, including the 2008 table - tends to overestimate life expectancy. However, in the paper the authors present a mortality table based on the CPL method, and that table shows the life expectancy at age 15, applied to the Program's claimants by injury characteristic, to be higher than what is implied by our 2008 table.

The impact of the adopting the 2008 Table raises our estimate of future claim payments by \$11.8 million. In addition, we changed how we apply the mortality table in estimating future claim payments, which caused a reduction in estimates of \$10.3 million for a net increase of \$1.5 million. Regarding the change in the application of mortality, we had assumed that all claimants would survive in the first year, which led to an overstatement of life expectancy by one year in

last year's report. In addition, we have changed from rounding the age of the claimant to truncating the age, which increases life expectancy by approximately 0.1 years.

As we discuss in the Appendix to this report, we believe the method used by the Florida Birth-Related Neurological Compensation Association (NICA) – which is to perform individual medical and life expectancy assessments on each claimant - is an actuarially sound approach to estimating life expectancies. And we recommend that this approach be adopted by the Program beginning in 2009.

In the interim, consistent with our approach in prior studies, we recommend the use of the 2008 Mortality Table, which has the effect of modestly increasing the average life expectancy. (The 2008 Mortality Table has an underlying average life expectancy of 24.5 years, from birth, and an average life expectancy of 26.6 years for a child who has attained the age of three.) That is, given the uncertainty that surrounds the estimating of life expectancy, we recommend “staying the course” until the preferred (in our opinion) “Florida Method” is adopted by the Program.

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 except one 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 16.0 percent of the insurance policies are HMOs, based on the four year average penetration ratio for all health insurance policies in Virginia as reported by Kaiser Family Foundation (<http://www.statehealthfacts.kff.org/>). For the most recent available four years, this source has shown the following penetration ratios for HMOs: 2004, 15.6%; 2005, 17.3%; 2006, 13.9%; 2007, 17.0%. Because of the variability of these figures, from one year to the next, we have elected to select the average of all four available years as compared to last year at which time we only had three years available.

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.

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, 2007 who were not yet admitted to the Program as of December 31, 2007, has a significant effect on our estimates of the total future claim payments. We estimate that there are 46 Group C claimants as of December 31, 2007. Our estimate is based on a review of how long it takes for claimants to be admitted to the Program.

Group C Average Values

We estimate that Group C claimants have an average lifetime cost of \$2.1 million (at 2007 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 \$133,972 at 2007 cost levels.
- Lost Wages – We estimate these costs to be \$20,982 per year at 2007 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.

Legal Reviews – We assume that five percent of the Group C claimants will be deceased when they are accepted into the Program, and for these claimants we have assumed that their future costs will be \$20,000 for legal fees (as discussed in the section labeled Claimants Who Are Deceased at the Time of Acceptance below).

Claimants Who Are Deceased at the Time of Acceptance

As of December 31, 2007, among the 37 Group B claimants (those claimants who have been in the Program for less than three years) there were four claimants who had been deceased at the time that they were accepted to the Program. Among the 97 Group A claimants (those claimants who have been in the Program for at least three years) there were four claimants who had been deceased at the time of acceptance into the Program.

Generally, we forecast that the mortality experience of Group B claimants and Group C claimants (those claimants who are eligible for the Program but have not yet been admitted) will be consistent with the mortality of the Group A claimants. Further, when we evaluate the actual mortality experience of the Program, we base the evaluation solely on those claimants who were living at the time that they were accepted. Because the Group B claimants include a relatively large proportion of claimants who were deceased at the time that they were accepted into the Program, we adjusted our calculations of future costs as explained below.

- We calculated the average lifetime benefits of Group A claimants excluding the four Group A claimants who were deceased when accepted into the Program.
- We forecast that the average lifetime benefits of Group A claimants, as calculated as described above, would apply to those 33 Group B claimants who were living at the time that they were accepted into the Program.
- We forecast that the Program would not have any future expenses associated with the four Group B claimants who were deceased at the time that they were admitted to the Program.

- We forecast that five percent of Group C claimants would be deceased at the time that they are admitted to the Program. The forecast of five percent is based on the fact that eight, or 6 percent, of the 134 admitted claimants as of December 31, 2007 were deceased at the time of their acceptance into the Program.
- We forecast that these deceased claimants will each have lifetime costs of \$20,000, and that these costs will be in the category of legal expense. The estimated cost of \$20,000 compares to the actual average cost of \$11,000 for claimants who were deceased at the time of their acceptance into the Program. The estimate of \$20,000 may be somewhat conservative (high) compared to the historical average value, but in our opinion this is reasonable and allows for the fact that one or more of the eight claimants in this category could submit a request for the reimbursement of other expenses. We forecast that all of the expenses will be legal expenses, because virtually all of the historical expenses for these claimants have been legal expenses; however, changing the expense category that is forecast for these costs is not material.

We have considered the relationship between these claimants, who are deceased at the time of acceptance into the Program, and those claimants who are eligible for awards of up to \$100,000:

- Seven of the existing eight claimants who were deceased at the time of acceptance into the Program are not eligible for the award of up to \$100,000, because they were born before July 1, 2003 whereas the legislation that introduced these awards requires a birth date of July 1, 2003 or subsequent;
- For future claimants who are deceased at the time of acceptance, and were born on or after July 1, 2003, we expect that some will have lived longer than 180 days and will therefore be ineligible for the award of up to \$100,000 (of the seven existing claimants in this category, two lived longer than 180 days);
- For future claimants who are deceased at the time of acceptance, and who are also eligible for the award of up to \$100,000, we assume that some will receive this award and we have

provided for this, in our forecast, through the assumption that there will be a number of \$100,000 awards.

Future Claim Administration Expenses

As shown in Table 1, we estimate \$15.6 million as the present value of future claim administration expenses, for costs associated with the estimated 179 claimants as of December 31, 2007.

- The estimate of future claim administration expenses as of December 31, 2007 is essentially unchanged from the estimate for December 31, 2007 from last year's report. Last year, management of the Program estimated that the Program's total annual administrative expenses would be approximately \$1,002,000 in 2007 (\$970,000 in 2006 dollars) of which approximately \$802,000 (80 percent) would be for claims administration. In 2007, actual administrative expenses were approximately \$987,000 of which approximately \$789,000 (80 percent) were claim-related. We continue to assume that these expenses will increase at the future general inflation rate.

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. Nursing is the major expense, and to a large degree the extent of nursing care is the choice of the claimant's family. Significant increases in the utilization of nursing would significantly impact our estimates.

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 \$36,338 for nursing costs and \$2,848 for hospital/physician costs in 2007 dollars. 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.

We examined the reasonability of the one percentage point factor for increases in utilization for nursing services. Our analysis of the claimant data through December 31, 2007 suggests that there has been a 2% to 3% annual increase in nursing costs as the claimants advance in age. This increase is over and above cost inflation, although some of this change may be due to the increased demand we observed in the 2004/05 time period mentioned above. Also, note that this methodology assumes no nursing minimum in the calculation.

We find that the 1% utilization rate that we have been using in combination with the nursing minimum discussed above, provides a result that is similar to a 2% to 3% utilization rate in combination with no nursing minimum. Therefore, we have continued to apply a 1% utilization rate and the current minimum nursing costs.

Of course, our data is limited to claimants who are no more than 18 years of age. We do not know how their nursing costs will change beyond age 18. We intend to continue monitoring the nursing costs by claimant age as more data becomes available each year.

Assessment Income

In the “Methodology” section of this report, the subsection titled, “Forecasts of Program’s Financial Position Through 2010” beginning on page 60 explains the process that we follow to forecast the financial position of the Program as of the end of 2008, 2009, and 2010. The forecasts of financial position are contained in Tables 2, 3 and 4 of the Findings section of this report. Our assumptions regarding the future assessment income are important elements of these forecasts. These assumptions are discussed below.

The “Background” section of this report provides a narrative history of the assessments. Exhibit 3 of Appendix A shows the history of the assessment income, by program year, from 1988 through 2008.

Participating Physicians and Hospitals

As shown in Exhibit 3, 2008 assessment income is about \$3,289,000 from participating physicians (the equivalent of 609.1 physicians participating for the full 12 months, each paying \$5,400) and about \$3,352,000 from participating hospitals (there are 37 participating hospitals, each paying \$50 per live birth subject to a maximum of \$190,000 per hospital).

For program year 2008, we selected the amounts of assessment income based on two factors, the amounts actually collected through June 30, 2008, and discussions with management of the Program. We recognize that actual 2008 assessment income may vary from our forecast, depending on how many new doctors and hospitals join the program during the last half of the year.

For program years 2009 and 2010, our baseline forecast is that the level of participation by physicians and hospitals will remain at the 2007 level. However, based upon the July 1, 2008 legislation, which became effective with the 2009 program year, assessment income will increase. Based on the assessment schedule shown on Exhibit 2 of Appendix A, we expect that assessment income for participating physicians will grow by \$131,000 in 2009 (which is approximately the equivalent of 657 participating physicians each paying an additional \$200) and \$197,000 in 2010 (\$300 per physician). For hospitals, assessment income is expected to increase by \$171,000 in 2008 and by \$101,000 in 2009, due to the raising of the cap on assessments for each of these years. Note that this estimate assumes that some hospitals will continue to be over the per hospital assessment cap.

Non-Participating Physicians

According to information supplied by the program as of June 30, 2008, we estimate that for program year 2008 the assessment income from non-participating physicians will be about \$4,037,000 (approximately 13,920 doctors, each paying \$290).

For program years 2009 and 2010, based upon the July 1, 2008 legislation, we estimate that the assessment income from non-participating physicians is expected to increase by \$139,200 for 2009 (that is, by an amount equal to the \$10 fee increase as shown on Exhibit 2 of Appendix A).

Liability Insurers

For program year 2008, the State Corporation Commission, Bureau of Insurance Commonwealth of Virginia has estimated that the assessment income from liability insurers is about \$12,629,949. This amount is equal to one-quarter of one percent of net direct liability premiums written in Virginia, the maximum permissible assessment.

For program year 2009, 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. Based upon the 2008 assessment value of \$12,629,949 and the insurance inflation rate of 3.84 percent per year, we forecast that this future assessment will be equal to about \$13,115,000 in 2009.

Similarly, for program year 2010, we estimate that the assessment income from liability insurers will be about \$13,618,000.

Methodology

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

In this report we estimate the number of claimants based upon: the estimates made in our August 2007 report and the claims emergence during 2007.

In our August 2007 report, we estimated that there would be a total of 130 admitted claimants as of December 31, 2007. As of December 31, 2007 there were a total of 134 admitted claimants, including the one claimant eligible for the \$100,000 award.

This increase was caused by the acceptance of two “De Novo” claimants that were not anticipated in our review and the emergence of two other claimants above our estimate.

Based on the emergence of claimants other than “De Novo” claimants, we have increased our estimate of the number of claimants with birth dates on or before December 31, 2006 who had not yet been admitted to the Program as of December 31, 2006, but whom we estimate will eventually be admitted to the Program (Group C claimants as of year-end 2006). In our 2007 report, we estimated that there were a total of 45 such claimants, 11 of whom we estimated would be admitted to the program during 2007 and 34 of whom would be admitted in 2008 or subsequent years. During 2007, there were actually 13 claimants admitted, excluding the “De Novo” claimants, and we now estimate that there will be 33 claimants admitted in 2008 or subsequent years, for a total of 46 Group C claimants as compared to our estimate of 45 claimants as of December 31, 2006, an increase of one over our prior estimate. This causes an increase of \$2.1 million in our estimate of future claim payments based on the cost of one additional claimant as discussed in section under Sensitivity Testing for the *Number of Eligible Claimants*, which starts on page 73.

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. Therefore, gross equals five times net.
 - 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.

Medicaid Waivers

We were provided with information on the number of claimants with Medicaid waivers and the type of waiver these claimants have from Medicaid. These waivers allow the claimant to receive Nursing benefits from Medicaid, thereby reducing the future claim payments of the Program. There are 13 of the 108 Group A and B claimants currently receiving benefits that have Medicaid waivers. We estimate that they will receive benefits for an average of 6.8 years, given their current age, before the Medicaid waiver is revoked due to the wage loss benefits that claimants will receive from the Program when they turn 18, thereby causing them to no longer to be eligible for Medicaid benefits.

We estimate that 12% of Group C claimants will be eligible for Medicaid waivers for the 12 years they are in the Program from their age at their date of acceptance, which averages 6 years, to age 18, when they lose the Medicaid waiver.

In each case, we assume that Medicaid will pay benefits equal to the minimum annual Nursing costs we have assumed in our estimates, described below.

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 2004 or prior) to estimate the lifetime costs of Group B claimants

(claimants who were admitted to the Program in 2005, 2006, or 2007). 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.

There are four Group B claimants who were deceased at the time they were accepted into the Program. For these claimants, we have not forecasted that they will have the average cost of a Group A claimant. We have forecasted that the Program will have no additional costs associated with these claimants.

For claimants who were Group A claimants as of 12/31/06, the payments made during 2007 were \$6.5 million. In our August 2007 analysis we forecasted that these payments would be \$8.9 million. In addition, we have observed that, in 2007, the actual claim payments for Group B claimants (which would include claimants Not Yet Admitted to the Program as of 12/31/06, but admitted during 2007), were \$2.2 million as compared to the forecast of \$4.4 million (of the \$2.2 million difference, \$1.1 million is caused by nursing). This discrepancy has occurred in prior years, also. As stated in our prior reports, there are two possible explanations for this:

(1) It is possible that Group B claimants will actually have average lifetime costs that are significantly less than those of Group A claimants, rather than consistent with those of Group A claimants, as forecast.

As mentioned above and discussed in detail in the section of this report titled Claimants Who Are Deceased at The Time Of Acceptance (page 48), we have identified a subset of four Group B claimants who have had only minimal costs and for whom no further costs are expected. We have adjusted our methodology in recognition of the fact that the average lifetime costs of Group A claimants would not apply to this subset of Group B claimants.

We do not yet have sufficient claimant history to reach a definitive conclusion about whether the more recent claimants (Group B, but excluding those who were deceased at the time of acceptance into the Program) 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 (1) occurred, our estimation process will tend to be “self-correcting” as these Group B claimants move into the Group A category.

(2) It is possible that Group B (and Group C) claimants, excluding those who are deceased at the time of acceptance into the Program, will have average lifetime costs consistent with those forecast, but that we overestimated the percentage of lifetime costs that would be paid in 2007. In other words, the issue could be related to the timing of the payments rather than to what the total amount of payments will ultimately be.

If (2) 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. In the section below, we describe one such change we made this year.

Change in Method for Estimating Future Costs of Group B and Group C Claimants

Our new method applies the following steps:

1. We adjust historical payments made to Group A claimants (for example, the payment made six years after acceptance into the program for a claimant accepted in 1992) to 2007 cost levels by applying our selected historical inflation rate for the number of years from the actual date of payment for a Group A claimant (in this example, the payment during the 1998 year) to the 2007 year (a total of nine years).
2. We then apply our selected prospective inflation rate to adjust such payments **by claimant** to the value during the comparable year of payment for the average Group B or

Group C payment (for example, the average Group B claimant entered the program in 2006 and will have a similar payment in 2012, so we apply a total of five years of prospective inflation for this claimant). We then present value these payments to year-end 2007.

3. We add to this number the present value of future claim payments for Group A claimants, adjusted by the future inflation rate for the difference between the date of acceptance for each Group A claimant and the actual date of acceptance for Group B claimants (or expected date of acceptance for Group C claimants).
4. We adjust the present value computation for the difference between the average date of acceptance for each Group A claimant and the actual date of acceptance for Group B claimants (or expected date of acceptance for Group C claimants).

General Administration Expenses (Other Than Claim Administration)

For the purpose of forecasting the value of the Program's assets through December 31, 2008, December 31, 2009, and December 31, 2010, 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 2008, 2009, and 2010, 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 \$197,000 at current cost levels. We assume that the general administration expenses will increase over time due to inflation (see page 50 for a discussion of claim administration expenses).

Forecasts of Program's Financial Position Through 2010

The method we use to forecast the Program's financial position as of December 31, 2008, as of December 31, 2009, and as of December 31, 2010, 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 at the end of a year to be equal to the assets as of the end of the prior year, plus the current year's estimated assessment income and estimated investment income, minus the estimated payments.

Then we calculate the obligations at the end of a year 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 (increased by the interest rate to unwind the discount by one year), plus the future claim payments and claim administration expenses associated with the new claimants that will be born during the year, minus the year's 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.

Exhibit 5 of Appendix A, provides an example of our calculations for December 31, 2009, showing how we calculated the values for future claim payments and assets. Note that calculation for assets considers non-claimant administration expenses that are not consider in the

liability for future claims administration expenses, but must be subtracted from assets as the expense is incurred.

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 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.

July 1, 2003 Legislation – Revisited

Our prior reports provided detailed discussions of the anticipated increases to the costs of the Program resulting from the July 1, 2003 legislation. As stated in those reports, there is generally no way to determine how the Program's costs have actually been affected by that legislation. Except for the legislation's impact in two areas, we have not attempted to evaluate the impact of that legislation.

The two areas for which the impact of the July 1, 2003 legislation can be measured are discussed below:

Legal Expenses

The July 1, 2003 legislation provided that the Program would pay the legal fees of unacceptable applicants to the Program. The July 1, 2004 legislation removed this provision of the July 1, 2003 legislation. That is, the Program's requirement to pay for the legal expenses of attorneys who represent unsuccessful claimants is restricted to petitions to enter the Program that were made between July 1, 2003 and July 1, 2004,

In our September 2004 report, we projected \$15,000 to be paid in 2005 for the legal expenses outlined above. As of July 31, 2008, no attorney fees for unsuccessful claimants have been paid by the Program. We realize that such legal expenses could be submitted in the future, but we consider this exposure to be immaterial and have not made any explicit adjustment for it.

Number of Claimants Eligible for the Award of Up To \$100,000

In our August 2007 report, we assumed that the number of claimants eligible for this award would be 20 percent of the claimants otherwise admitted to the Program. As of July 31, 2008 no such award has been granted. Since five years have elapsed since the July 1, 2003 legislation became effective, we believe it is prudent to lower the assumption to 10 percent at this time. We will continue to monitor the future payments, both in number and amount, under this provision of the July 1, 2003 legislation.

July 1, 2004 Legislation – Revisited

The legislation that became effective on July 1, 2004, has two effects: (1) it removes a provision included in the July 1, 2003 legislation regarding attorney fees incurred in connection with the filing of a claim which is ultimately not accepted into the Program; and (2) it results in an increase in assessment income beginning with the 2005 program year.

The first effect, the provision that eliminated certain legal expenses, has been discussed in the previous section of this report.

The second effect, the increased assessment income, is discussed in Exhibit 2 of Appendix A.

July 1, 2006 Legislation

We understand that Senate Bill No. 632 and House Bill No. 417 were each passed with effective dates of July 1, 2006.

Senate Bill No. 632 amends Sections 38.2-5010 and 38.2-5013 of the Code of Virginia to permit, under certain circumstances, the filing of a claim for any claimant born between January 1, 1988 and July 1, 1993. The claim must be filed prior to July 1, 2008. We recognize that this legislative change has the potential to lead to the Program's acceptance of one or more claimants who had previously been denied access to the Program. We have considered this in our forecast of Group C claimants, but have not made any explicit adjustment for this legislation.

House Bill No. 417 amends Sections 38.2-5016 and 38.2-5016.1 of the Code of Virginia by revising the eligibility requirements of the Program's investment advisor and by deleting the requirement that the board of directors of the Program consult, semi-annually, with the chief investment officer of the Virginia Retirement System. We have not made any explicit adjustment for this legislation.

July 1, 2008 Legislation: “De Novo” Review (Senate Bill No. 212)

Senate Bill No. 212, effective July 1, 2008, provides that “any claimant who timely filed a claim and after timely seeking and being denied an opportunity to ... confront or cross-examine witnesses and was denied an award of benefits, shall have the right to have the determination against that claim vacated and the claim redetermined “De Novo” (emphasis added) by filing a petition ... on or before July 1, 2009.”

We have increased our projection approximately \$11.4 million for a total of five claimants. We base the estimated number of claimants on experience to date under this legislation. We have been advised that there have been four such petitions as of June 30, 2008: two claimants were admitted into the program prior to December 31, 2007, one claimant was admitted in 2008 and another claimant has yet to be reviewed (we assume that this claimant will be admitted). In addition, we estimate that one additional claimant will apply prior to the deadline of July 1, 2009 and be admitted to the program after such a review.

Our estimate that there will be only one additional claimant to apply for a “De Novo” review and be admitted is based on advice from the Program that it was rare for claimants to have sought the right to cross-examine witnesses. Note that we provide in the Sensitivity Testing section below our estimate of the cost for each claimant above our forecast.

July 1, 2008 Legislation: Senate Bill No. 211 and House Bill No. 1305

Senate Bill No. 211 and House Bill No. 1305 provide for increased assessments beginning January 1, 2009 as discussed in Exhibit 2 of Appendix A.

This legislation also provided for the following:

In conducting the actuarial evaluation, a loss reserving methodology consistent with the one employed by the Florida Birth-Related Neurological Injury Compensation Association as of July 1, 2007, may be employed in order to account for individual participant costs and injury characteristics to the extent that the data are available to perform such methodology and the State Corporation Commission's actuary determines that such methodology is actuarially appropriate.

This is discussed in Appendix B.

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, 2007, 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, 2007, to various inflation rates:

Table 9

Annual Inflation Rates (Baseline +/-) (1)	Estimated Future Claim Payments (\$ in millions, on a present value basis) (2)	Difference Versus Baseline (3)
-1.50%	\$245.8	-\$69.4
-1.00%	266.1	-49.1
-0.50%	289.1	-26.1
Baseline	315.2	0.0
+0.50%	345.3	30.1
+1.00%	380.0	64.8
+1.50%	420.4	105.2

Table 9, Column 2 shows that our baseline estimate of future claim payments is \$315.2 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 \$245.8 million, rather than the \$315.2 million that results from our baseline estimate. As another example, the last row shows that increasing the inflation assumptions by 1.50 percentage points will increase the estimated present value of future claim payments to \$420.4 million.

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, 2007, to various interest rates used for discounting:

Table 10

Interest Rate (Baseline +/-)	Estimated Future Claim Payments (\$ in millions, on a present value basis)	Difference Versus Baseline
(1)	(2)	(3)
-1.50%	\$412.0	\$96.8
-1.00%	374.5	59.3
-0.50%	342.6	27.4
Baseline	315.2	0.0
+0.5%	291.7	-23.5
+1.00%	271.1	-44.1
+1.50%	253.1	-62.1

Table 10, Column 2 shows that our baseline estimate of future claim payments is \$315.2 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 6.572 percent, then the present value of future claim payments would be \$374.5 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, 2007, 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, 2007 in order to make all future payments.

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, 2007, to the mortality table that is used:

Table 11

Mortality Table	Estimated Future Claim Payments
(1)	(2)
	(\$ in millions, on a <u>present value basis</u>)
1999 Table	\$217.0
2001 Table	235.3
2002 Table	244.5
2003 Table	253.6
2004 Table	262.8
2005 Table	280.6
2006 Table	291.9
2007 Table	303.5
2008 Table (Baseline)	315.2
Blended Table	308.5
Alternate Blended Table	330.2

Table 11, Column 2 shows that our baseline estimate of future claim payments is \$315.2 million, corresponding to the amount shown in Table 1. Table 11 also shows, for example, that if we had not changed from the 2007 Table, which we used in our last study, the estimated present value of future claim payments would be \$303.5 million, which is \$11.7 million less than our baseline estimate of \$315.2 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 decreased our estimate to \$308.5 million. As an additional sensitivity test, we show an Alternate Blended

Table that assumes mortality at 60% of the Blended Table for ages 0 to 15. This Alternate Blended Table produces an expected number of deaths comparable to actual experience for this age group. Use of this Alternate Blended Table would produce an estimate of \$330.2 million. We will continue to monitor actual mortality as more data becomes available each year.

We note that the impact of combining several alternate assumptions can result in a higher difference than the sum of each change considered independently. For example, the Alternate Blended Table combined with a 1% increase in inflation would result in estimated future claim payments of \$400.2 million, an increase of \$85.0 as compared to an increase of \$79.8 million (an increase of \$64.8 million for a 1% increase in inflation and a \$15.0 million impact from using the Alternate Blended Table).

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 16.0 percent) of insured claimants are insured by HMOs, our estimate of total future payments of the Program, as of December 31, 2007, would be reduced by approximately \$1.5 million in total. Although this value is relatively small (less than one half of one percent of the estimate of future claim payments, as of December 31, 2007, of \$315.2 million as shown in Column 3 of Table 1), it is larger than the \$1.0 million impact calculated in our August 2007 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 \$1.5 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

\$1.5 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 2007, there were 21 claimants who each had nursing costs that were less than \$25,000, and 10 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 2007 was \$320,762. This probably represents round-the-clock nursing costs.

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 15.5 percent (\$48.8 million) which is comparable to the increase indicated in our August 2007 report as of December 31, 2006. We note above, however, that the result is sensitive to the assumed minimum nursing costs and the introduction of a maximum annual cost. If a minimum of \$1,000 were used with a maximum annual expense of \$350,000, we estimate that the lower costs from these two assumptions would offset approximately 1.5 percent of the two percent increase.

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.

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.

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 \$2.1 million. The same increment per claim would apply if “De Novo” claims are greater than the assumption in this report.

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 Exhibit 2 of Appendix A.

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.

Based upon the July 1, 2004 legislation, assessment income to the Program has increased, effective with the 2006 program year (as shown on Exhibit 2 of Appendix A).

Based upon the July 1, 2008 legislation, assessment income to the Program has increased, effective with the 2009 program year (as shown on Exhibit 2 of Appendix A).

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. Effective with program year 2006, assessments for non-participating physicians have increased (as shown on Exhibit 2 of Appendix A).
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.

Exhibit 3 of Appendix A, presents a history of the Program's assessment income. Exhibit 4 of Appendix A, 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 No. 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 (predecessor of Oliver Wyman Actuarial Consulting, Inc.) 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.

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.

In September 2003 we provided estimates of funding for the program years 1988 through 2002, and projections for years 2003, 2004, and 2005. We estimated that the Fund was not actuarially sound as of December 31, 2002 and forecast that the Fund would not be actuarially sound as of December 31, 2003, 2004, or 2005. We recommended that the Program continue to assess participating physicians, participating hospitals, non-participating physicians, and liability insurers at the maximum amounts, and that means be found to increase the funding level.

In September 2004 we provided estimates of funding for the program years 1988 through 2003, and projections for years 2004, 2005, and 2006. We estimated that the Fund was not actuarially sound as of December 31, 2003 and forecast that the Fund would not be actuarially sound as of December 31, 2004, 2005, or 2006. We recommended that the Program continue to assess participating physicians, participating hospitals, non-participating physicians, and liability insurers at the maximum amounts, and that means be found to increase the funding level.

In September 2005 we provided estimates of funding for the program years 1988 through 2004, and projections for years 2005, 2006, and 2008. We estimated that the Fund was not actuarially sound as of December 31, 2004 and forecast that the Fund would not be actuarially sound as of December 31, 2005, 2006, or 2008. We recommended that the Program continue to assess participating physicians, participating hospitals, non-participating physicians, and liability insurers at the

maximum amounts, and that means be found to increase the funding level. The major changes from our September 2004 report to our September 2005 report were a revision to the mortality table and an increase in the estimated life-time costs for nursing benefits, both of which increased the estimated liabilities of the Program.

In August 2006 we provided estimates of funding for the program years 1988 through 2005, and projections for years 2006, 2008, and 2008. We estimated that the Fund was not actuarially sound as of December 31, 2005 and forecast that the Fund would not be actuarially sound as of December 31, 2006, 2008, or 2008. We recommended that the Program continue to assess participating physicians, participating hospitals, non-participating physicians, and liability insurers at the maximum amounts, and that means be found to increase the funding level. The major changes from our September 2005 report to our August 2006 report were a revision to the mortality table and an increase in the estimated life-time costs for nursing benefits, both of which increased the estimated liabilities of the Program.

In August 2007 we provided estimates of funding for the program years 1988 through 2006, and projections for years 2007, 2008, and 2009. We estimated that the Fund was not actuarially sound as of December 31, 2006 and forecast that the Fund would not be actuarially sound as of December 31, 2007, 2008, or 2009. We recommended that the Program continue to assess participating physicians, participating hospitals, non-participating physicians, and liability insurers at the maximum amounts, and that means be found to increase the funding level. The major changes from our August 2006 report to our August 2007 report were a revision to the mortality table.

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.

October 2008

APPENDIX A

**Commonwealth of Virginia
Birth-Related Neurological Injury
Compensation Program
2008 Update**

Selected Ultimate Number of Claims

Birth Year	Reported Number of Claims as of 12/31/07	Selected Ultimate Number of Claims	Estimated Number of Unreported Claims as of 12/31/07
(1)	(2)	(3)	(4)
1988	2	2	0
1989	9	9	0
1990	4	6	2
1991	9	9	0
1992	8	9	1
1993	11	11	0
1994	6	6	0
1995	10	10	0
1996	8	8	0
1997	10	10	0
1998	7	7	0
1999	6	7	1
2000	12	14	2
2001	8	10	2
2002	9	11	2
2003	8	11	3
2004	3	10	7
2005	2	10	8
2006	2	10	8
2007	0	10	10
Total	134	180	46

**Commonwealth of Virginia
Birth-Related Neurological Injury
Compensation Program
2008 Update**

**2004-2014 Table of Assessments
Participating and Non-Participating Physicians and Hospitals**

Program Year	Participating Physicians Annual Assessment	Non-Participating Physicians Annual Assessment	Hospitals Per Live Birth Assessment	Cap on Hospital's Assessment
(1)	(2)			(3)
2004	\$5,000.00	\$250.00	\$50.00	\$150,000.00
2005	5,100.00	260.00	50.00	160,000.00
2006	5,200.00	270.00	50.00	170,000.00
2007	5,300.00	280.00	50.00	180,000.00
2008	5,400.00	290.00	50.00	190,000.00
2009	5,600.00	300.00	52.50	200,000.00
2010	5,900.00	300.00	55.00	200,000.00
2011	6,000.00	300.00	55.00	200,000.00
2012	6,100.00	300.00	55.00	200,000.00
2013	6,200.00	300.00	55.00	200,000.00
2014	6,200.00	300.00	55.00	200,000.00

Notes:

These assessments are based upon the contents of HB 1305 and SB 211, effective July 1, 2008

Under this fee schedule, the assessment of a new participant is prorated based upon when the participant enters the program during the first year of participation

**Commonwealth of Virginia
Birth-Related Neurological Injury
Compensation Program
2008 Update**

Assessment Income (000s)

Program Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Participating Physicians	\$2,034	\$1,898	\$2,026	\$2,205	\$2,030	\$2,068	\$2,014	\$826	\$657	\$723	\$622	\$779	\$699	\$1,755	\$1,645	\$1,834	\$2,335	\$2,509	\$2,937	\$3,223	\$3,289
Participating Hospitals	\$3,028	\$2,861	\$2,838	\$2,194	\$2,185	\$2,006	\$1,730	\$468	\$409	\$467	\$399	\$455	\$379	\$1,905	\$2,256	\$2,298	\$2,731	\$2,753	\$2,927	\$2,676	\$3,352
Non-Participating Physicians	\$2,120	\$2,191	\$2,265	\$2,358	\$2,467	-	-	-	-	-	-	-	-	-	\$3,190	\$2,936	\$3,429	\$3,444	\$3,699	\$3,898	\$4,037
Liability Insurers	-	-	\$2,569	-	-	-	-	-	-	-	-	-	-	-	\$8,043	\$8,946	\$11,210	\$12,003	\$12,566	\$12,880	\$12,630
Total Assessments	\$7,182	\$6,950	\$9,698	\$6,757	\$6,682	\$4,074	\$3,744	\$1,294	\$1,066	\$1,190	\$1,021	\$1,234	\$1,078	\$3,660	\$15,134	\$16,014	\$19,705	\$20,709	\$22,129	\$22,678	\$23,309

Notes:

- 1988 - 1994 includes \$5,000 per year from participating physicians, \$50 per live birth from participating hospitals (\$150,000 maximum), and \$250 per year from non-participating physicians. Starting in 1993, assessments from non-participating physicians were eliminated.
- 1990 also includes 0.1% of Virginia liability premiums from liability insurers.
- Assessments for 1995 through 2000 are according to the length of time the participating physicians and hospitals have been in the program.
- 2001-2004 include \$5,000 each from participating physicians and \$50 per live birth from participating hospitals (\$150,000 maximum).
2005 includes \$5,100 each from participating physicians and \$50 per live birth from participating hospitals (\$160,000 maximum).
2006 is an estimate, based on \$5,200 each from participating physicians and \$50 per live birth from participating hospitals (\$170,000 maximum).
2007 is an estimate, based on \$5,300 each from participating physicians and \$50 per live birth from participating hospitals (\$180,000 maximum).
2008 is an estimate, based on \$5,400 each from participating physicians and \$50 per live birth from participating hospitals (\$190,000 maximum).
- 2002 through 2008 also includes 0.25% of Virginia liability premiums from liability insurers.

**Commonwealth of Virginia
Birth-Related Neurological Injury
Compensation Program
2008 Update**

Number of Hospitals and Physicians in Program by Program Year

Program Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Participating Physicians *	407	380	405	441	406	414	403	426	403	420	402	444	433	351	329	367	460	492	565	608	609
Participating Hospitals	47	42	36	27	26	27	24	27	26	31	30	31	30	25	27	28	34	35	33	31	37

1988 through 1998 values: from December.

1999 through 2001 values: provided by the Program.

2002 value: calculated by Mercer based upon information provided by the Program.

2003 value: the actual number of physicians, before pro-ration, was 384.

2004 value: the actual number of physicians, before pro-ration, was 496.

2005 value: the actual number of physicians, before pro-ration, was 532.

2006 value: the actual number of physicians, before pro-ration, was 582.

2007 value: the actual number of physicians, before pro-ration, was 629.

2008 value: based on discussions with management of the Program, we estimate that the number of pro-rata physicians will be 609 and that the number of physicians before pro-ration will be 657.

* Excludes non-assessed residents. The number of participating physicians represents the equivalent number of physicians in the Program for a full year. In other words, one physician in the Program for six months would count as 0.5 physicians.

Reconciliation of Estimated Future Claim Payments, From 12/31/08 to 12/31/09
(All Values are in Millions)

Admitted Claimants as of 12/31/09

A.	Estimated future payments for claimants admitted as of 12/31/08 (Table 2):		\$250.0
	<u>Plus:</u>		
B.	One year's Interest on Item A:	\$16.4	
C.	Estimated future payments for claimants admitted during 2008, prior to adjustments for claims paid during 2008:	\$18.8	
D.	Total additions to future claim payments (B+C):		\$35.2
	<u>Less:</u>		
E.	Estimated claim payments made in 2008		-\$19.5
F.	Estimated value of future payments for admitted claimants as of 12/31/09 (Table 3) (A+D+E)		\$265.7

Not-Yet-Admitted Claimants

G.	Estimated future payments for claimants not yet admitted as of 12/31/08 (Table 2):		\$86.8
	<u>Plus:</u>		
H.	One year's interest on Item G:	\$5.7	
I.	Estimated future payments for claimants born in 2008:	\$22.0	
J.	Total additions to future claim payments:		\$27.7
	<u>Less:</u>		
K.	Claimants not-yet-admitted at 12/31/07, but admitted at 12/31/08: (valued as of 12/31/08)		-\$18.8
L.	Estimated future payments for claimants not yet admitted as of 12/31/09 (Table 3): (G+J+K)		\$95.6

Notes:

- A. From Table 2; this is the starting point in our reconciliation of the future claim payments for admitted claimants.
- B. Because item A was discounted as of 12/31/08, the discount must be "unwound" to determine the value as of 12/31/08. This is the amount by which the discount must be "unwound."
- C. We must add the value of the future costs for claimants admitted during 2009, because item A only includes claimants admitted as of 12/31/08.
- D. =B + C.
- E. We must deduct the estimate of the claim payments made during 2009, because these are otherwise included in items A and C.
- F. = A + D + E, and reconciles to Table 3.
- G. From Table 2; this is the starting point in our reconciliation of the future claim payments for not-yet-admitted claimants.
- H. Because item G was discounted as of 12/31/08, the discount must be "unwound" to determine the value as of 12/31/08. This is the amount by which the discount must be "unwound."
- I. We must add the value of the future costs for claimants born during 2008, because item G only includes claimants born as of 12/31/08.
- J. =H +I.
- K. We must deduct the estimated future claim payments for claimants not yet admitted as of 12/31/08, but admitted during the year 2009. Otherwise, their future costs would be double-counted, because they are included in item C.
- L. = G + J +K, and reconciles to Table 3.

This Appendix is a simplification of the actual process we use to determine the values presented in Tables 1-4.

Reconciliation of Estimated Future Asset Values, From 12/31/08 to 12/31/09
(All Values are in Millions)

A.	Liquid plus Non-Liquid Assets as of 12/31/08 (Table 2):		\$223.1
	<u>Plus</u>		
B.	Interest to 6/30/09 on Liquid Assets:		7.2
	Assessments:		
C.	Participating Hospitals:	3.5	
D.	Participating Physicians:	3.4	
E.	Non-Participating Physicians:	4.2	
F.	Liability Insurers:	13.1	
	Total Assessments (prior to interest accrual):		
G.	(C+D+E+F)		24.2
	Interest Accrual on Assessments to 6/30/08:		
H.	(G*(1.0657 ^{.5} -1))		0.8
	Total Additions to 6/30/08:		
I.	(B+G+H)		32.3
	<u>Less</u>		
	Payments made on 6/30/09:		
J.	Non-Claimant Related:	0.205	
K.	Claimant Related:	21.0	
	Total Payments at 6/30/09:		
L.	(J+K)		-21.2
	<u>Plus</u>		
	Interest Accrual on Assets to 12/31/09:		
M.	On Liquid Assets - from 6/30/09:	7.6	
N.	On Non-Liquid Assets - from 12/31/08:	0.0	
O.	Total: (M+N)		7.6
P.	Liquid plus Non-Liquid Assets as of 12/31/09 (Table 3):		\$241.7
	(A+I+L+O)		

October 2008

APPENDIX B

APPENDIX B

Background

Following the release of the Oliver Wyman 2007 Annual Report on the Virginia Birth-Related Neurological Injury Compensation Program (the “Program”), the Program retained Pinnacle Actuarial Resources (“Pinnacle”) to review “a number of potential remedies for improving the financial condition of the Program and reducing the current Fund deficit.” Mr. Robert Walling, FCAS, presented his findings to Mr. George Deebo of the Program in a letter dated September 10, 2007. One of the items Mr. Walling reviewed was “The Program Reserving Methodology,” and he suggested that use of the loss reserving methodology used by the Florida Birth-Related Neurological Compensation Association (“NICA”) might reduce the indicated future claim payments by \$44.1 million.

In 2008, the Virginia Legislature passed House Bill No. 1305 and Senate Bill No. 211. These bills state:

In conducting the actuarial evaluation, a loss reserving methodology consistent with the one employed by the Florida Birth-Related Neurological Injury Compensation Association as of July 1, 2007, may be employed in order to account for individual participant costs and injury characteristics to the extent that the data are available to perform such methodology and the State Corporation Commission's actuary determines that such methodology is actuarially appropriate.

In compliance with House Bill No. 1305 and Senate Bill No. 211, in Part 1 of this Appendix we discuss our findings as respects our consideration of the NICA loss reserving methodology to account for individual participant costs and injury characteristics.

As we have been requested to do by the Virginia Bureau of Insurance (“The Bureau”), in Part 2 of this Appendix we discuss Pinnacle’s estimated \$44.1 million future claim payments reduction

and reconcile it to our updated estimate of the Fund's future claim payments as of December 31, 2007 that we present in this Report.

Important Comments

It is important for the readers of this Report and Appendix to understand that there are many differences between the loss reserving methodology utilized in evaluating the actuarial soundness of NICA ("the NICA Program Method") and the loss reserving methodology utilized in evaluating the actuarial soundness of the Program ("the Program Method"). Some of these differences are driven by the nature of the data that is available – such as NICA's use of what are referred to as "loss development triangles" which require data that is not available in the Program. Other differences are a matter of actuarial judgment: in some cases the actuarial assumptions made to evaluate the soundness of NICA are more conservative (i.e., lead to higher future claim payment estimates) than the actuarial estimates made by Oliver Wyman in evaluating the soundness of the Program and in some cases the NICA assumptions are less conservative (i.e., lead to lower future claim payment estimates) than the Program assumptions. And we note that the assumptions used for both programs change over time as more experience emerges.

House Bill No. 1305 and Senate Bill No. 211 address only one of the many loss reserving methodology differences: the use of individual participant costs and injury characteristics. We, therefore, limit our comments to this "single" aspect of the loss reserving methodology used by NICA, which we refer to as "The Florida Method."

There are many differences between the loss reserving methodology that was used by Pinnacle in its 2007 study and the methodologies used by NICA and Oliver Wyman. But the focus of the Pinnacle recommendation is on this same single aspect of the NICA loss reserving methodology: the use of individual participant costs and injury characteristics. However, for reasons we explain in Part 1, Pinnacle did not apply the Florida Method in arriving at its estimated \$44.1 million future claim payments reduction. We refer to the methodology to consider the single aspect of individual participant costs and injury characteristics used by Pinnacle as the "Alternate Florida Method."

PART 1

Consideration of the Florida Method and the Alternate Florida Method

As required under House Bill No. 1305 and Senate Bill No. 211, The Bureau requested that Oliver Wyman review the reasonableness of utilizing the Florida Method and the Alternate Florida Method for considering individual participant costs and injury characteristics in evaluating the actuarial soundness of the Program.

The Program Method – Explanation

As explained in this Report, the loss reserving methodology that Oliver Wyman applies to consider individual participant costs and injury characteristics is as follows (in brief).

1. Oliver Wyman groups claimants into three categories: Group A consists of all claimants who have been in the Program at least three full years; Group B consists of all claimants who were admitted to the Program within the last three years; and Group C claimants represent our estimate of the children born on or before December 31, 2007 who were not admitted to the Program as of December 31, 2007, but who will eventually apply and be admitted to the Program.
2. Oliver Wyman considers the historical benefit costs, by category of benefit, that have been paid to individual Group A claimants. This is the primary data source for our cost estimates and it reflects how we consider individual participant costs in our analysis. We use this information to project future average annual benefit costs, by category of benefit, for Group A claimants, Group B claimants, and Group C claimants.

3. Oliver Wyman considers the injury characteristics of individual claimants, to the extent that such information is available. We review whether the claimants are ambulatory or use a wheelchair, and if they use a wheelchair we review whether or not they use a G-Tube. We do not use this information directly in our calculations, but we consider this information in selecting a mortality table to apply (i.e., in estimating life expectancy).
4. Oliver Wyman applies a single “average” mortality table for all claimants.

The Florida Method - Explanation

NICA requires that a medical condition assessment and life expectancy estimate be performed by expert physicians on each and every claimant. This information is used to project individualized future benefit costs for each and every claimant. Using a simple example, Claimant #1 may be determined to require annual benefit payments of \$25,000 per year and to have a life expectancy of 20 years; his future benefit costs would be estimated at \$25,000 times 20 years, or \$500,000 (prior to consideration of cost inflation or interest income). Claimant #2 may be determined to require annual benefit payments of \$30,000 per year and to have a life expectancy of 40 years; her future benefit costs would be estimated at \$30,000 times 40 years, or \$1.2 million (also prior to consideration of cost inflation or interest income).

The use of individual claimant estimates is the most important part of the NICA Florida Method.

The Alternate Florida Methodology - Explanation

The Alternate Florida Method is the method used by Pinnacle to reflect individual participant costs and injury characteristics in its 2007 study of the Program.

The Alternate Florida Method is as follows (in brief).

1. Pinnacle grouped claimants into the same three categories used by Oliver Wyman: Group A, Group B, and Group C.

2. Like Oliver Wyman, Pinnacle considered the historical benefit costs, by category of benefit, that have been paid to individual Group A claimants. Pinnacle used this information to project future average annual benefit costs, by category of benefit, for Group A claimants, Group B claimants, and Group C claimants. Pinnacle provided information that suggests that these assumptions are similar to, but not the same as Oliver Wyman's.
3. Pinnacle used actual and forecasted Group A data to project Group B and Group C costs.
4. Like Oliver Wyman, Pinnacle considered the injury characteristics of individual claimants, and reviewed whether the claimants were ambulatory or used a wheelchair, and whether or not they used a gastrostomy tube ("G-tube", a medical device placed in the stomach to provide nutrition and/or medicines to patients who cannot obtain nutrition and/or medicines through swallowing).
5. Unlike Oliver Wyman, Pinnacle applied one of three different mortality tables to each claimant based on the nature of their injury, i.e., (a) ambulatory (b) not ambulatory and without G-Tube, (c) Not ambulatory and with G-Tube.

Discussion

The Florida Method

The Florida Method of reflecting individual medical condition and life expectancy on a case by case basis based on information gathered through individual medical assessments, and the Alternate Florida Method that Pinnacle applied in which past benefit costs are considered and one of three mortality tables were used depending on the nature of the claimant's medical condition that was determined from the available information, are in contrast with the approach that Oliver Wyman applies in evaluating the soundness of the Program in which we consider past benefit costs and apply the same average mortality table to each claimant.

If additional valid and credible information were made available, we believe the Florida Method would be a more actuarially sound method than the method we currently apply and that it should be used in evaluating the financial soundness of the Program. However, in order for the Florida Method to be applied, additional information must be collected by the Program: individual claimant medical assessments and life expectancy estimates must be performed as they are performed by NICA. Further, this data would need to be updated periodically and tested over a period of years for consistency and relevance before it could be fully relied on for this Program. We note that NICA has maintained such estimates over a period of many years and monitors the changes in these estimates. Testing would include evaluation of the causes of any changes in these estimates over time, comparison to current methodology, exploration of any differences with existing mortality studies and evaluation of the credibility of the results for use in establishing individual mortality expectations.

We have recommended that the Program collect this information in past actuarial reports that we have presented: the Program should

“...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.” (Page 15 of our August 2007 report)

If the Program management were to adopt this practice it would allow for the Florida Method to be applied to the Program, which cannot now be done.

"The Alternate Florida Method"

The Alternate Florida Method is a less precise method of reflecting individual medical condition and life expectancy than the Florida Method, and Pinnacle intended it to be used only until the information could be gathered by the Program for the Florida Method to be applied:

"It is important to recognize that these assumed mortalities were intended to be a placeholder until life expectancies for the Virginia children could be developed as part of more formal life care plans." (an excerpt from Pinnacle's response to questions we had raised)

As compared to Oliver Wyman's use of a single mortality table for all claimants, Pinnacle's use of separate mortality tables has appeal; however, the Alternate Florida Method would only lead to more accurate estimates if the separate mortality tables are more accurate than the single mortality table that would otherwise be used. As we have noted in our actuarial reports to the Bureau, the experience of the Program is not sufficiently credible for the purpose of developing a Program-specific mortality table with a high degree of confidence. The Program data is limited, for example, by the fact that there are relatively few claimants in the Program, and in fact the program has no mortality information beyond the age of 19 years. It is for these reasons that we have utilized an external mortality table that we believe is appropriate for the Program to date, and over the years we have changed the mortality table that we use to reflect the emerging experience of the Program.

As a separate calculation and apart from our standard loss reserving methodology (the results for which we present in this Report), we incorporated the Alternate Florida Method into our loss reserving methodology as part of this Appendix. To do this, we researched available mortality studies and developed three mortality tables that correspond to the same three categories of medical status that Pinnacle used. We note that our mortality tables differ from those used by Pinnacle. When we applied the Alternate Florida Method to our standard method - without changing any of the many other assumptions that we made - we found that our estimate of the

Program's future claim payments was reduced by approximately \$23.5 million. (We further discuss this \$23.5 million result in Part 2 of this Appendix.)

However, for the reasons we stated above, we are not convinced that this \$23.5 million dollar lower estimate is a more accurate estimate of the Program's future claim payments. There is simply too much uncertainty surrounding the life expectancy of the claimants, particularly beyond the age of 19.

Further, if the goal is for the Program to perform the necessary individual claimant medical assessments in order to apply the Florida Method, there is a risk that an interim adoption of the Alternate Florida Method could lead to funding estimates that are further apart from the funding estimates that would result from the use of the Florida Method as compared to our current funding estimates. That is, it could very well turn out that the use of the Florida Method would result in a future claim payment estimate that is higher than our current estimate; therefore, the interim adoption of the Alternate Florida Method could lead to an immediate reduction in the estimate of future claim payments, only to be followed by a large increase in the estimate of future claim payments when the Florida Method is adopted.

So, while we find the Alternate Florida Method to be reasonable, the use of the method, in and of itself, does not necessarily mean that the resulting future claim payment estimate will be a more accurate actuarial evaluation.

It is, therefore, our recommendation that the Alternate Florida Method not be adopted, and that the Program obtain the individual claimant assessments that are needed in order for the Florida Method to be used for the future actuarial studies.

PART 2

Discussion and Reconciliation of the \$44.1 Million Difference Between the Pinnacle and Oliver Wyman Estimates of the Program's Future Claim Payments as of December 31, 2006

Following the release of the Oliver Wyman August 2007 report, the Program retained Pinnacle to review our report and findings. Pinnacle presented its findings in a September 10, 2007 letter from Mr. Robert Walling of Pinnacle to Mr. George Deebo of the Program. Pinnacle found our findings to be reasonable given the uncertainty surrounding the Program's future costs; however, Pinnacle's best estimate of the Program's future claim payments as of December 31, 2006 was \$44.1 million less than our estimate.

We have not been able to fully reconcile the \$44.1 million difference to differences in the loss reserving methodologies and assumptions applied and made by Oliver Wyman and Pinnacle because we have not been provided with Pinnacle's actuarial report. However, based on the limited information we have received, we believe the \$44.1 million difference is primarily attributed to the following factors.

Pinnacle's Application of the Alternate Florida Method. As we have stated in Part 1 of this Appendix, we have determined that our application of the Alternate Florida Method (based on the three separate mortality tables that we developed) would have the effect of reducing our current estimate of the Program's future claim payments as of December 31, 2007 by \$23.5 million. We believe the impact on our estimate as of December 31, 2006

would be similar, and hence estimate that Pinnacle's application of the Alternate Florida Method accounts for approximately half of the \$44.1 million difference in our respective estimates of the future claim payments as of December 31, 2006. We note that the \$23.5 million difference includes the effect of the differences in the mortality tables used by Oliver Wyman and Pinnacle in applying the Alternate Florida Method.

Difference in the Manner in Which the Future Benefit Costs for Group B and Group C Claimants is Calculated We estimate that most of the remaining \$22 million or so difference in the Oliver Wyman and Pinnacle estimates of the Program's future claim payments as of December 31, 2006 is attributed to the manner in which future benefit costs for Group C claimants (those claimants born on or before December 31, 2006 that will file and be admitted to the Program after December 31, 2006) and, to a lesser extent, for Group B claimants, were calculated. As discussed in this Report, we have now refined our method for estimating future benefit costs for Group B and Group C claimants and we believe that our new approach is similar to the Pinnacle approach. Hence, the cost estimate reduction resulting from this new approach is incorporated into our current estimate of the Program's future claim payments as of December 31, 2007. However, as explained in this Report, some of the changes in assumptions that we have made in this year's study cause our estimate to be higher and hence offset the effect of this particular change.

Differences in Application of Mortality The remaining difference is largely due to a difference in how we how we applied the mortality table in estimating future claim payments in our 2006 report. As discussed in this Report, we have now refined our method of applying the mortality table in our estimates.

Differences in Other Assumptions We estimate that the relatively small remaining difference in the Oliver Wyman and Pinnacle estimates of the Program's future claim payments as of December 31, 2006 is attributed to differences in other assumptions that we respectively made. These other assumptions include: future benefit cost inflation, future investment returns, future changes in nursing care utilization, etc. These other assumptions are a matter of actuarial judgment and are assumptions that change over time as more claim experience for the Program becomes available.

We conclude this discussion with the following two points:

1. The \$44.1 million difference between the Oliver Wyman and Pinnacle estimates of the Program's future claim payments as of December 31, 2006 represents a difference of approximately 15% percent of Oliver Wyman's estimate of future claim payments (i.e., \$44.1 million is approximately 15% of our \$290.1 million estimate of future claim payments as of that date). Such a percentage difference is considered to be within a range of reasonableness for actuarial estimates of this nature, and, as we noted earlier, Pinnacle found the Oliver Wyman findings to be reasonable.
2. We expect that if Pinnacle reviewed our current report and performed its own evaluation of the Program's future claim payments as of December 31, 2007, the difference in our respective estimates would be much less than \$44.1 million. This is because of the change we made to the manner of estimating the future benefit cost of Group B and Group C claimants and the application of mortality and because it is likely that, as we have done, Pinnacle would make changes to other assumptions and reflect other factors (such as the consideration of the "De Novo" claims) similar to those that we made and reflected in recognition of the new information that has become available over the past year.