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October 25, 2011

Ms. Mary Bannister
Deputy Commissioner
Virginia State Corporation Commission
Tyler Building
1300 E. Main St.
Richmond, Virginia 23219

Re: 2011 Analysis of the Virginia Birth-Related Neurological Injury Compensation Program

Dear Mary,

Enclosed is the report summarizing Pinnacle Actuarial Resources, Inc.'s (Pinnacle's) actuarial analysis of the Virginia Birth-Related Neurological Injury Compensation Program (the Program), particularly the financial soundness of the Virginia Birth-Related Neurological Injury Compensation Fund (the Fund) overseen by the Program. Our analysis is based on Program benefits payments, assessments and investment results valued as of December 31, 2010. This report analyzes the indicated number ultimate of program participants, ultimate benefits payments and associated administrative expenses and provides estimates of the future financial condition of the Fund.

We have enjoyed performing this analysis on behalf of the Virginia State Corporation Commission and look forward to discussing these findings with you further.

Respectfully submitted,

Robert J. Walling, F.C.A.S., M.A.A.A.

Principal and Consulting Actuary

Robert of Willing III

Derek W. Freihaut, F.C.A.S., M.A.A.A.

Consulting Actuary

**Enclosures** 

# Commonwealth of Virginia State Corporation Commission – Bureau of Insurance

# 2011 Analysis of the Virginia Birth-Related Neurological Injury Compensation Program

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**Consulting Actuary** 

Pinnacle Actuarial Resources, Inc.

Bloomington, Illinois (309) 807-2320

October 25, 2011

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# Virginia Birth-Related Neurological Injury Compensation Program Actuarial Analysis as of December 31, 2010

## **EXECUTIVE SUMMARY**

Through a review and analysis of a significant amount of data and information, Pinnacle Actuarial Resources, Inc. (Pinnacle) has come to a number of key conclusions regarding the Virginia Birth-Related Neurological Injury Program (Program) and the Virginia Birth-Related Neurological Injury Fund (Fund) administered by the Program. This report summarizes Pinnacle's actuarial analysis based on data valued as of December 31, 2010. Beyond our key findings, there are several recommendations related to the ongoing operations of the Program.

## **Findings**

## Finding 1. Estimated Unpaid Benefits Liability and Surplus Position as of December 31, 2010

Pinnacle estimates that, as of December 31, 2010, the Fund had an outstanding liability of \$344.1 million related to future benefits payments for Program participants who have been born as of December 31, 2010, regardless of whether they have been admitted to the Program as of this date. When compared to assets valued at \$282.2 million, this results in an estimated surplus deficit of \$61.9 million.

Table 1 – Estimated Fund Surplus/Deficit as of December 31, 2010

Estimated Financial Position as of 12/31/2010 (\$ in millions, on a present value basis)					
Participant Status	Estimated Ultimate Number of Participants	Estimate of Future Benefit Payments	Estimate of Future Claim Admin. Expenses	Value of Total <u>Assets</u>	Forecasted Surplus/ (Deficit)
All Participants Admitted to the Program	155	232.1			
All Participants Not Yet Admitted to the Program	n 41	93.5			
Grand Total	196	325.6	18.5	282.2	(61.9)

These compare to estimates of the financial position of the Fund as of December 31, 2010 in the November 2010 report prepared by Oliver Wyman Actuarial Consulting, Inc. (Oliver Wyman)

using data as of December 31, 2009 of an outstanding liability of \$407.8 million, a forecasted asset value of \$246.3 million and a surplus deficit of \$161.5 million. From an actuarial perspective, we consider differences of this magnitude to be a material amount of favorable loss development and surplus position, even recognizing the range of variability inherent in a program like the Fund.

#### Several factors contribute to these differences:

- A lower number of actual new Program admissions (5) than forecast by Oliver Wyman (10).
- A lower estimated number of Program participants born as of December 31, 2010, but not admitted as of this date (41 versus 47).
- Lower than predicted benefits payments during calendar year 2010.
- Favorable investment income results during calendar year 2010 contributing to higher asset values. This is one of the largest contributing factors to the reduction in the surplus deficit.
- Several methodology changes which will be detailed later in this report.
- Continued increases in assessment income from participating physicians and hospitals and non-participating physicians due to legislated assessment levels.

#### Finding 2. Actuarial Soundness of the Fund as of December 31, 2010

As a result of the estimated surplus deficit of \$61.9 million as of December 31, 2010, we find that the Fund continues to not be actuarially sound as of this date. In essence, this means that the current value of the Fund's assets is less than the present value of its liabilities, most notably the present value of the future benefits obligations and related administrative expenses for all Program participants born on or before December 31, 2010, regardless of whether they have been admitted to the Program at this time or not.

This definition of actuarial soundness has been used with regard to the Program and the Fund since 1992. However, it is worth noting that the Fund <u>does</u> currently have sufficient assets as of December 31, 2010 (\$282.2 million) to meet all expected future benefits obligations of participants that had been admitted to the Program as of December 31, 2010 (\$231.1 million, excluding future administrative expenses). This suggests that the Fund can be viewed as having sufficient funding

for all currently admitted participants. While this is not sufficient for the Fund to be viewed as actuarially sound, it is a positive finding regarding the financial condition of the Fund.

## Finding 3. Forecasted Unpaid Benefits Liability and Surplus Position as of December 31, 2011

We forecast that the Fund will continue not being actuarially sound as of December 31, 2011, and will have unpaid benefits liabilities of \$369.9 million and a surplus deficit that has grown slightly to approximately \$63.6 million. This is shown in Table 2 below.

Table 2 – Estimated Fund Surplus/Deficit as of December 31, 2011

Estimated Financial Position as of 12/31/2011 (\$ in millions, on a present value basis)					
Participant Status	Estimated Ultimate Number of Participants	Estimate of Future Benefit Payments	Estimate of Future Claim Admin. Expenses	Value of Total <u>Assets</u>	Forecasted Surplus/ (Deficit)
All Participants Admitted to the Program	164	250.6			
All Participants Not Yet Admitted to the Program	n 42	100.7			
Grand Total	206	351.3	18.6	306.4	(63.6)

This estimates that the total number of participants as of December 31, 2011 will be 206. This is an increase of 10 participants from the total number of participants that we estimate as of December 31, 2010.

# Finding 4. Forecasted Unpaid Benefits Liability and Surplus Position as of December 31, 2012 and December 31, 2013

Similar forecasts for the next two calendar year ends (i.e. 2012 and 2013) produce comparable results as the estimated Fund surplus deficit will grow to \$67.2 million at the end of 2012, and to \$73.0 million at the end of 2013. This is shown in Tables 3 and 4, which follow. This modest worsening of the surplus deficit of the three year projection period is consistent with estimated assessment revenues and investment income not being quite sufficient to keep pace with calendar

year benefits payments and additional unpaid benefits liabilities associated with new eligible Program participants, whether admitted or not.

Table 3 – Estimated Fund Surplus/Deficit as of December 31, 2012

able 5 - Estimated Fund Sur plus/Deficit as of December 31, 2012						
Estimated Financial Position as of 12/31/2012						
(\$ in millio	(\$ in millions, on a present value basis)					
Participant Status	Estimated Ultimate Number of Participants	Estimate of Future Benefit Payments	Estimate of Future Claim Admin. Expenses	Value of Total <u>Assets</u>	Forecasted Surplus/ (Deficit)	
All Participants Admitted to the Program	174	271.4				
All Participants Not Yet Admitted to the Program	n 42	107.7				
Grand Total	216	379.1	18.7	330.6	(67.2)	

Table 4 – Estimated Fund Surplus/Deficit as of December 31, 2013

Estimated Financial Position as of 12/31/2013 (\$ in millions, on a present value basis)					
Participant Status	Estimated Ultimate Number of Participants	Estimate of Future Benefit Payments	Estimate of Future Claim Admin. Expenses	Value of Total <u>Assets</u>	Forecasted Surplus/ (Deficit)
All Participants Admitted to the Program	184	294.0			
All Participants Not Yet Admitted to the Progran	n 42	116.0			
Grand Total	226	409.9	18.7	355.7	(73.0)

The steady growth of the Fund's assets and liabilities over the forecast period, as well as the slight deterioration in the surplus deficit can be seen in the following graph.

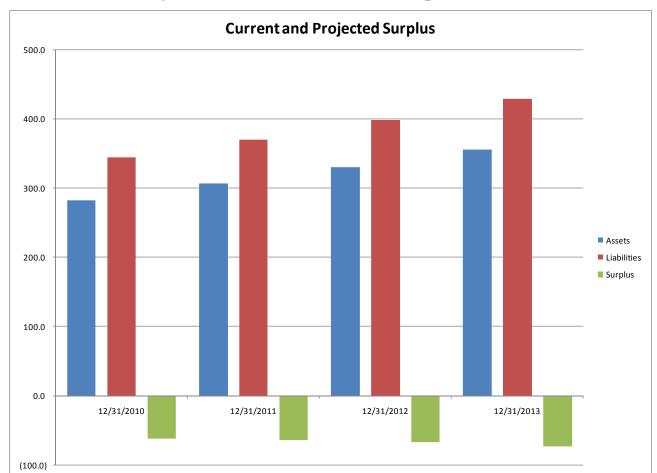


Table 5 – Projected Fund Assets, Liabilities and Surplus (Deficit) 2010-2013

#### **Finding 5. Cash Position**

The Fund is in a strong position to continue paying Program benefits for many years into the future. There does not appear to be a material risk of a cash shortfall for decades. This is based on a comparison of the current Fund asset value of \$282.2 million compared to forecasted annual benefits payments in the range of \$10 million to \$20 million in the near future, before recognizing the impact of mortality and discounting for the time value of money. Although the Fund is not actuarially sound, it has sufficient assets to continue paying expected benefits and related administrative expenses for eligible claimants as of December 31, 2010, both admitted and non-admitted, for over thirty years.

#### **Recommendations**

In addition, there are several recommendations related to the ongoing operations of the Program that we find appropriate at this time. These recommendations are:

- 1. The Program should continue to assess the maximum levels permitted by law for participating and non-participating physicians and participating hospitals.
- 2. The Program should continue to assess liability insurers at the maximum amount permitted by law, currently one-fourth of one percent of net direct liability premiums written in Virginia.
- 3. The Program should continue investigating means of increasing Fund revenues, either through assessments or through the identification of other sources, to reduce the estimated deficit of the Program and to keep pace with inflationary pressures on Program benefits.
- 4. Reviews of the Program should be undertaken at least biennially by the SCC to assess the Fund's actuarial soundness. If a biennial comprehensive review is determined to be sufficient, an interim evaluation, on a smaller scale, to ascertain if any material changes impacting the Program have occurred may still be appropriate. These changes might include material changes in Program benefits payments or investment results, changes in Program administration or the legislation governing the Program, and/or other legislative or judicial changes at the state or federal level, including the implementation of the Patient Protection and Affordable Care Act (PPACA), that may materially impact Program benefits payments and therefore the Fund deficit.
- 5. The Program should continue to maintain claimant payment, personal information and life plans for all Program participants, as well as Fund assessment information in formats suitable for future actuarial studies.

- 6. The Program should continue to maintain current copies of the claimants' insurance policies.
- 7. We recommend that the Program continue to evaluate potential changes in the estimated life expectancies for Program participants based on actual participant survival rates, changes in Life Plans, and changes in the life expectancies in the Life Plans. In addition, to continue to satisfy the legislative intent to consider individual participant costs, increases in estimated life expectancies have historically been a major source of adverse development for the Fund and remain potentially the single greatest risk factors for the Program going forward.
- 8. The Program should consider engaging a consultant to evaluate the potential impact of PPACA on the Program generally, potential changes in future benefits payments and ultimately the likely impact of PPACA on the indicated Fund surplus or deficit.

## **SCOPE & BACKGROUND**

## Scope

Pinnacle Actuarial Resources, Inc. (Pinnacle) has been retained by the Virginia State Corporation Commission, Bureau of Insurance (VA SCC) to perform an actuarial analysis of the Virginia Birth-Related Neurological Injury Compensation Program (the Program) and particularly the Virginia Birth-Related Neurological Injury Compensation Fund (the Fund) overseen by the Program.

This report summarizes Pinnacle Actuarial Resources, Inc.'s (Pinnacle's) actuarial analysis of the adequacy of the funding of the Program as well as the financial soundness of the Fund. This actuarial report has five major objectives:

- Estimate the total unpaid benefits liabilities for all current and future Program participants born on or before December 31, 2010;
- Evaluate the surplus or deficit position of the Fund as of December 31, 2010;
- Project the surplus or deficit position of the Fund as of December 31, 2011, 2012 and 2013;
- Evaluate the benefits paying ability of the Program in light of the current and projected
   Fund cash and invested assets, surplus/deficit position, and expected annual benefits
   payments; and
- Provide recommendations regarding assessment levels and other revenue sources for the
   Program in light of current operating results and financial conditions.

Our analysis is based on assessment revenue, participant counts, benefits payments, investment returns, Program administrative costs, and participant life expectancies and Life Plans data valued as of December 31, 2011. Estimates with valuation dates of December 31, 2010, 2011, 2012, and 2013 are provided in the report.

This actuarial report summarizes our analysis and recommendations. The exhibits and analysis supporting our recommendations are contained in a separate set of exhibits. These exhibits detail

many of our methodologies, assumptions, selections and findings. As such, the exhibits should be considered an integral part of this report.

## **Background**

The Virginia Birth-Related Neurological Injury Compensation Program was created in 1987 to provide the exclusive remedy for covered birth-related neurological injuries in Virginia for births on or after January 1, 1988. Injury must have resulted from oxygen deprivation or mechanical injury during labor, delivery, or resuscitation in the immediate post delivery period in a hospital. The injury must result in both physical and mental impairment. In addition, either the obstetrical services related to the birth must be provided by a participating physician or they must have occurred in a participating hospital, or both. Participation is voluntary for physicians, registered nurses, midwives and hospitals. The Virginia Workers' Compensation Commission is the exclusive venue for hearings to determine whether a claimant will be admitted to the Program. The Virginia Office of the Attorney General supports the Program by providing requested legal services.

## Benefits provided include:

- Unlimited actual, medically necessary medical expenses including physicians, nursing, hospital, rehabilitation and therapy, prescription medications, medical equipment and appliances and related travel expenses. This also includes certain housing and transportation expenses.
- Loss of earnings from the age of 18 to age 65 based on 50% of the average weekly wage in the Commonwealth for workers in the private, non-farm sector.
- Reasonable attorney fees and other expenses associated with the application for admittance. The birth fund legislation in Virginia also explicitly states several expenses not covered. A ten year statute of limitations applies to all claims for Program benefits.

The Program is governed by a nine-member board of directors. The board is appointed by the Governor with six citizen representatives and one representative each of participating physicians, participating hospitals, and liability insurers. The board's powers are clearly delineated in the Program's enabling legislation. Day to day operations are managed by an Executive Director,

George Deebo, and his Deputy Director, Candace Thomas, hired by the Board. The executive director is supported by additional staff as needed.

The Program is funded through the Virginia Birth-Related Neurological Injury Compensation Fund (the Fund), which is organized as a segregated account, trust fund. The assets of the Fund are administered by the board of directors of the Program. The Board has retained investment advisors to manage the Program's assets.

The Program uses a variety of funding approaches. First, participating physicians are required to pay an assessment. In 2011, this assessment is \$6,000. Annual increases of \$100 will be applied until assessments reach \$6,200 in 2013. In addition, all licensed physicians that do not participate in the Program are required to pay a fee of \$300 annually as a condition of being licensed in Virginia. Hospitals pay an assessment of \$55 per live birth to participate, subject to a maximum of \$200,000 in assessments annually. A number of exclusions to the assessments apply for physicians with extenuating circumstances. Finally, if and only if the Program is determined not to be actuarially sound, an assessment of up to 0.25% of all "net direct premiums written" by liability insurers in Virginia may be charged. These assessments of liability insurers have been charged at the maximum amount for many years. All changes in assessment levels require a legislative action.

Medical professional liability insurers in the Commonwealth of Virginia are required by law to provide a discount for hospitals and healthcare providers that participate in the Program. These discounts typically range from 10% to 15% of otherwise indicated premiums.

Several legislative changes have been made to the Program in the last decade, many of them in response to increasing estimated surplus deficits for the Fund. While a detailed description of these changes is beyond the scope of this report, a brief summary of elements of each legislative action follows:

Effective July 1, 2003 – Provided for the payment of legal expenses for applicants not admitted to the Program and allowed an award of \$100,000 to the families of children who died within 180 days of birth.

Effective July 1, 2004 – Removed the benefit for the payment of legal expenses for applicants not admitted to the Program created in 2003 and increased assessments.

Effective July 1, 2006 – Allowed an additional opportunity for claim reporting for births between January 1, 1988 and July 1, 1993 and made minor changes governing investment controls.

Effective July 1, 2008 – Allowed 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 them vacated and the claim redetermined De Novo. By filing a petition ... on or before July 1, 2009." Added a requirement to "account for individual participant costs and injury characteristics" in the unpaid benefits liability assessment. Allowed reimbursement of nursing and attendant care from a relative or legal guardian. Provided additional annual increases in assessments.

An annual audit by a certified public accountant selected by the board is a required element of the Program's financial controls. In addition, a biannual actuarial study on the financial soundness of the program and recommended assessment rates is required. The actuarial study is funded and directed by the Virginia State Corporation Commission. Since the inception of the Program, these actuarial studies have been performed by Oliver Wyman Actuarial Consulting, Inc. (Oliver Wyman). Detailed information regarding these prior studies is contained in last year's report. Pinnacle has provided actuarial services to VA SCC since 2011 and this is our first study of the Program and Fund on behalf of VA SCC. Previous to this, Pinnacle provided a variety of actuarial services to the Program itself from 2003 to 2010.

Pinnacle is an Illinois corporation owned by six members of its professional staff. It has been providing property/casualty actuarial consulting services since it was formed in 2003, although many of our client relationships predate this reorganization. Our 18 consultants make Pinnacle one of the 10 largest property/casualty actuarial consulting firms in the U.S. We specialize in insurance

pricing, loss reserving, alternative markets, legislative costing, market analysis and financial risk modeling. Our headquarters are located in Bloomington, IL.

Pinnacle has established a reputation as a provider of unbiased, independent, actuarially sound analyses and reports. This reputation is demonstrated in the variety of clients that have engaged us for projects similar to this one. Clients that have engaged Pinnacle in similar assignments include patient compensation funds, birth-related neurological injury funds, joint underwriting associations and state insurance regulators in a wide variety of states including Connecticut, Florida, Illinois, Indiana, Iowa, Maine, Michigan, New Mexico, New York, Ohio, Oregon, Texas, Virginia, and Wisconsin. Specifically, Pinnacle currently also serves the Florida Neurological Injury Compensation Association (NICA), the Wisconsin Injured Patients and Families Compensation Fund, and advises the New York State Insurance Department regarding the New York Medical Indemnity Fund.

## **DATA SOURCES**

Pinnacle was provided a significant amount of material from the Fund and from VA SCC's former actuarial consultants, Oliver Wyman Actuarial Consulting, Inc. This information was primarily provided by Candace Thomas, CGFM, the Program's Deputy Director. The data provided included:

- Detailed benefits by participant, year and benefit category,
- Detailed Life Plans for almost all Program participants,
- Mortality tables previously used by Oliver Wyman, including Shavelle life tables for almost all Program participants,
- Historical assessment income by year and source (participating physicians, nonparticipating physicians, participating hospitals, and insurance company premium-based assessments),
- Fund Investment Reports as of 4<sup>th</sup> Quarter 2010 and 1<sup>st</sup> Quarter 2011,
- Historical data regarding the number of live births in Virginia from the Virginia
   Department of Health,
- Historical administrative expenses for the Program,
- Projections of future wage loss benefits,
- A detailed nursing cost trends analysis, and
- The 2010 audit report for the Program produced by KPMG.

The historical benefits payments by Program participant were organized into detailed categories:

- Nursing Costs (by far the largest individual category)
- Medical Expenses
  - o Hospital and Physician
  - o Physical Therapy
  - Medical Equipment
  - o Prescription Drugs
- Non-Medical Expenses
  - o Vans

- o Housing Benefits
- o Incidental Expenses
- o Automobile & Health Insurance
- Wage Loss Benefits
- Admission Expenses
  - o Medical Review/Intake
  - o Legal Fees

The data is appropriate for the intended purpose of the analyses. There were no additional records that Pinnacle required to complete its analysis and issue this report.

## **METHODS & ASSUMPTIONS**

#### **Overview**

The general approach taken to estimate the unpaid benefits liability of the Fund as of December 31, 2010 is quite similar to the approach used by Oliver Wyman in the previous report, although a number of specific methods and assumptions have changed. The steps in developing this estimate are as follows:

- 1) Estimate the ultimate number of participants born on or before December 31, 2010 that will ultimately be admitted to the Program.
- 2) Forecast the expected benefits payments and claims administration expenses for each participant by benefit type and year, assuming that the participant survives until that year.
- 3) Adjust these future benefits payments for two factors
  - a. The probability that the participant will survive until that year, and
  - b. Discounting to reflect the time value of money and the expected investment income the Fund should realize between December 31, 2010 and the payment of the benefits.

This information can be combined with actual assessment income, investment income, administrative expenses and benefit payments from 2010 to estimate the surplus or deficit balance of the Fund as of December 31, 2010.

In addition, once the estimates of future benefits payments have been made and the December 31, 2010 surplus or deficit estimate is developed, this information can be combined with estimates of future assessment revenue, along with the number of new eligible births by year and their associated lifetime costs to estimate the likely surplus or deficit of the Fund as of future valuation dates (i.e. December 31, 2011, 2012, and 2013).

The current invested assets of the Fund and the historical and estimated annual benefit payment and administrative expenses cash flows can also be used to support an evaluation of the benefits paying ability of the Program.

Finally, the current surplus or deficit balance of the Fund, along with annual assessment income and benefits payments provide information that is necessary to make recommendations regarding future assessment levels and other revenue sources for the Program.

This Methods and Assumptions section of the report will go through the analysis process described above (in order) and provide additional detail and support for key methods and assumptions underlying our analysis.

## Number of Program Participants

Because of the ten year statute of limitations for applying for admittance to the Program, many participants are not known of by the Program until many years after their birth. As a result, estimates of the ultimate number of participants admitted to the Program for the last ten birth years must be developed. The Fund carries a liability on its balance sheet for these children that have already been born and will eventually be admitted as participants to the Program. The analysis used to estimate these currently non-admitted participants is documented in Exhibit 4.

Three methods were used to estimate the number of ultimate Program participants by birth year. The first method, often called a loss development method in the insurance industry, examines the pattern of Program admissions by birth year and the calendar year of the admission. This information is shown in Exhibit 4, Page 2. These historical admissions patterns were then used to extrapolate the ultimate number of participants by birth year. The estimated number of claims by birth year is shown in Exhibit 4, Page 1, column 4.

The second method, known as an expected loss or expected count method, estimates the long term average number of Program participants per 100,000 live births in Virginia. This ratio is shown in column 10 of Exhibit 4, Page 1. While this ratio was in excess of ten claims per 100,000 live births in the 1990's, it has decreased significantly in more recent years. We have selected an expected rate of 9.5 claims per 100,000 births for this method. The estimated number of claims by birth year is shown in Exhibit 4, Page 1, column 5.

The final method, called the Bornheutter-Ferguson or B-F method, combines the loss development and expected loss techniques. The purpose of the expected loss approach is to add stability to ultimate loss estimates in years where a substantial amount of development on reported losses is expected or where a small portion of the expected ultimate loss has emerged. If:

A = Admitted Participants to Date

B = Expected Percentage of Ultimate Participants Admitted to Date

C = # of Live Births (in 100,000s)

D = Expected Participant Rate per 100,000 Live Births

then the estimated ultimate losses using the expected loss technique is:

$$A + [C \times D \times (1 - B)]$$

The estimated number of claims by birth year is shown in Exhibit 4, Page 1, column 6.

Our estimate of the ultimate number of Program participants by birth year was then selected based on these methods and is shown in column 8. The number of currently non-admitted participants is then computed in column 9.

## Benefit Payments by Cohort

In prior analyses, Oliver Wyman segregated Program participants into three cohorts:

- Group A Participants who had been in the Program for at least three years.
- Group B Participants who had been admitted to the Program for less than three years.
- Group C Participants who had been already been born, but who were not yet admitted to the Program.

Estimates for future benefits payments for Group A participants were heavily reliant on benefits payments in the last three years, either individually or collectively depending on the benefit. Averages for the Group A participants then formed the basis for future benefits estimates for Groups B and C.

While this delineation worked quite well, it presents several opportunities for improvement. For example, benefits payments from periods prior to the last three years are largely ignored. The recent payment activity for Group B members is also given little or no consideration. Individual participants with exceptionally large annual benefits payments, and often lower than average life expectancies, may need more customized treatment in developing the overall unpaid benefits estimates. Finally, no consideration appears to be given to the physical condition of the individual participant and the impact this may have on annual benefits payments.

To address some of these opportunities, Pinnacle made several changes to how the data was organized to develop our future benefits payments. First, older years of benefits payments for Group A members were included in our assessment of historical benefits payments. For example, we examined not only three year averages, but also five year and all admitted year averages to develop our assumptions regarding future benefits payments levels. Group B data, although only for a limited number of years, was included to increase the credibility of the benefits payment data in recent years. For many benefits categories, individual participants with average annual benefits of more than twice the average for that benefit type were individually modeled for future years. However, the most significant change in the organization of the historical benefits payment data by cohort may deal with the incorporation of information regarding the physical condition of the participant.

The life plans provided for each admitted Program participant, contained five specific items regarding each child's condition: their ambulatory status, whether they have a gastric feeding tube (g-tube), ventilator, or tracheostomy tube (trach tube), and their ability to lift their head. Based on previous work and experience, Pinnacle organized the admitted participants into three categories based on their ambulatory and g-tube status for the purpose of estimating average annual benefits payments:

- 1) Ambulatory all ambulatory participants regardless of whether they have a g-tube (only three ambulatory participants have g-tubes)
- 2) Non-ambulatory without g-tube all non-ambulatory participants who do not have a g-tube

3) Non-ambulatory with g-tube – all non-ambulatory participants who have a g-tube

The current distribution of admitted Program participants (groups A and B) by these three categories, excluding those that have died to date, is as follows

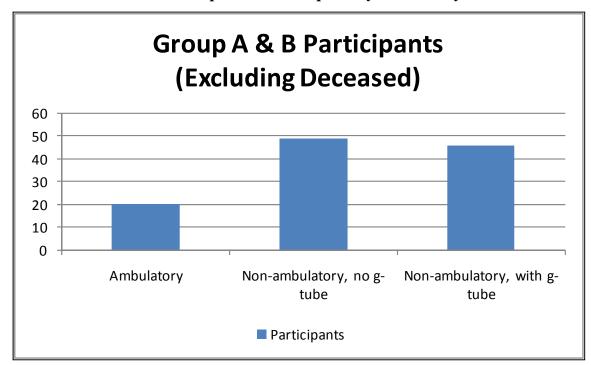


Table 6 – Distribution of Group A & B Participants by Ambulatory and G-Tube Status

It is also noteworthy that based on the current participant life plans and the related Shavelle mortality tables, these three groups have markedly different life expectancies as will be discussed further in a later section.

For several of the benefits categories, these groups have markedly different historical average annual benefits payments. This suggests that different assumptions for future payments by category may be appropriate. Further, these groups have significantly different remaining life expectancies. Interestingly, the non-ambulatory with g-tube group has remained a steady proportion of approximately 40% of the total admitted participant population for the last decade. More detailed discussion on how this impacted our assumptions by benefit type will be provided in the appropriate part of the Methods and Assumptions section.

## **Claimants Who Are Deceased at the Time of Acceptance**

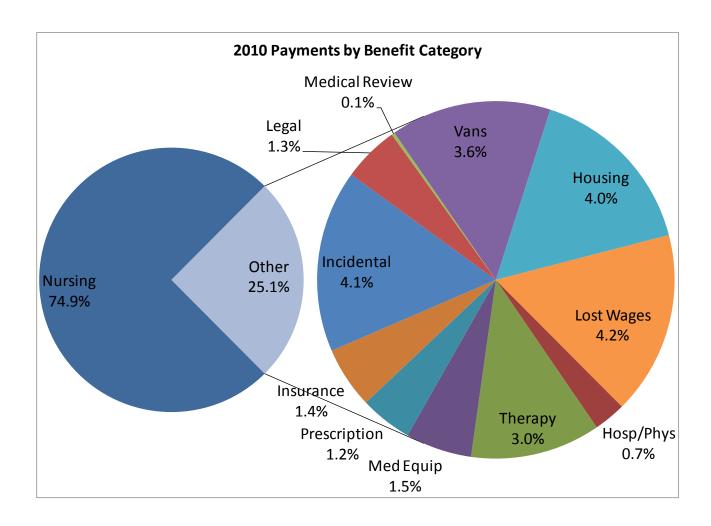
Historically, a small number of Program participants have died prior to the completion of the admission process. For the purposes of our analysis of the Fund's unpaid benefits liabilities and surplus deficit position, we model the approximate number of Group C claimants that will pass away prior to admission and their benefits. We have continued to accept the Oliver Wyman assumption that 5% of participants will pass away within 180 days of birth. This assumption seems reasonable given the limited amount of data available. For each of these Group C claimants, we have assumed their families will receive the \$100,000 benefit prescribed by law. This benefit is over and beyond legal and medical intake expenses related to the admission process which are contemplated in the analysis of those benefits categories.

## Benefit Payments by Benefit Type

The approach used to estimate future benefits payments varies somewhat according to the specific type of benefit being evaluated. The following sections will review each benefit type individually. A brief recap of historical Fund benefits payments by benefit type is shown in Table 7 and the accompanying chart that follows.

Table 7 – Summary of Benefits Payments 2010 and All Years Combined

Total Benefit Payments Through 12/31/2010 and During 2010						
	Payments	Percentage		Percentage		
Benefit	Through	of Total	Payments	of 2010		
Category	12/31/2010	<u>Payments</u>	<u>In 2010</u>	<u>Payments</u>		
Nursing	63,411,881	60.34%	7,954,097	74.94%		
Hospital/Physician	2,045,320	1.95%	77,531	0.73%		
Physical Therapy	2,702,545	2.57%	313,304	2.95%		
Medical Equipment	2,256,955	2.15%	159,659	1.50%		
Prescription Drugs	1,213,822	1.16%	125,895	1.19%		
Incidental	3,882,075	3.69%	439,342	4.14%		
Housing	18,222,105	17.34%	427,095	4.02%		
Vans	6,141,932	5.84%	387,213	3.65%		
Insurance	1,105,039	1.05%	148,549	1.40%		
Lost Wages	1,174,762	1.12%	441,148	4.16%		
Medical Review / Intake	215,023	0.20%	4,163	0.04%		
Legal	2,714,960	2.58%	135,334	1.28%		
Total	105,086,419	100.00%	10,613,329	100.00%		



#### **Nursing**

As Table 7 shows, nursing costs have historically been, and continue to be, by far the largest benefits category for the Fund. Nursing costs also provide the largest amount of benefits variability between not only participant category (i.e. ambulatory, g-tube status), but also between individuals within these groups. For example, the average annual benefits payments for non-ambulatory participants with g-tubes is consistently above \$100,000 per participant, while the other groups consistently average less than \$40,000 per participant a year. Furthermore, several participants average nursing benefits of over \$300,000 per year.

To reflect this variety of benefits being received by individuals and also reflect the differences between the medical statuses of the groups, a hybrid approach to estimating future benefits payments has been used. For a group of 20 individual participants with very high annual nursing costs, individual future severity assumptions have been developed based predominantly on the three

and five year averages for the individuals. For the remainder of the participants, an annual benefit cost of \$70,000 was selected for non-ambulatory participants with a g-tube and a severity of \$30,000 was selected for other participants. These selections produce an annual average nursing benefit of approximately \$72,000 as shown in Table 8 below. The selections produce averages by group that are consistent with the three, five and all years averages. Group C is then based on this overall average, reflecting the potential for some Group C claimants to also have potentially high nursing costs.

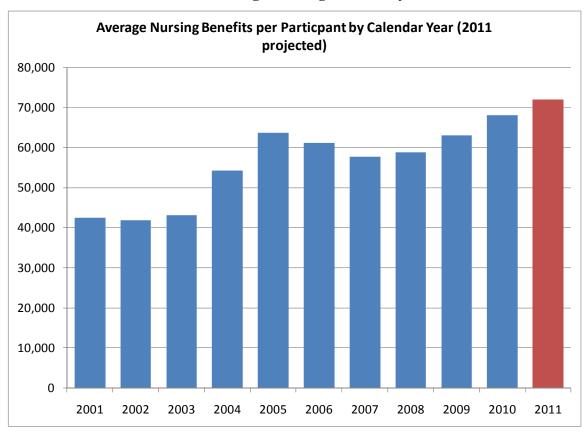


Table 8 – Average Nursing Benefits by Year

We believe this approach does a good job of incorporating as much of the historical experience as possible (thus creating stable benefits assumptions) and also matching unique participant benefits situations to their corresponding life expectancies. The historical approach of using the most recent year's nursing costs only for developing the assumption of future costs led to some volatility in this benefits category. These previous studies also imposed maximums and minimums that are not necessary with our approach.

Based on discussions with Program staff, this category will need to continue to be monitored as two perceived trends develop over time. There appear to be both increased utilization of the nursing benefit by more participants over the years and more participants are using the option of having family members provide some portion of the nursing benefit. The impact of these perceived trends will be seen more clearly in the coming years.

#### **Hospital & Physician Expenses**

This category is somewhat self-explanatory and provides for the portion of physician, hospital, emergency room and other direct medical treatment costs not otherwise covered by private insurance or Medicaid. Generally, these costs on an annual, per participant basis are relatively small, often averaging less than \$1,000 on a Program-wide basis for a year.

We have assumed an average annual cost of \$925 per ambulatory participant, \$800 per non-ambulatory participant without a g-tube and \$1,500 per non-ambulatory participant with a g-tube. These assumptions are based on a review of historical three, five and all years averages by category. The resulting overall average of about \$1,100 per participant, per year was then applied to Group C. All of these assumptions are net of otherwise applicable private insurance and/or Medicaid.

#### **Physical Therapy**

Most Program participants receive some form of physical therapy for several years. Oftentimes, this level of physical therapy diminishes as the children grow older. This change in benefits costs over time makes the physical therapy benefit an intricate one to model into the future. We have assumed that all physical therapy benefits are made within ten years of admittance to the Program. For Group A participants, we have modeled future costs based on each child's historical trended average costs over the last three years. For Group B, participants who are non-ambulatory and have a g-tube are assumed to have average costs of \$2,500 annually. All others are assumed to have annual costs of \$3,000. We assume these costs occur for five years and then are reduced to half these values for another five years to replicate historical severities. A similar approach is used for Group C claimants, based on an average across the medical statuses, starting the year of admittance.

Both private insurance and Medicaid often provide coverage for items in this category and costs to the Fund are net of these collateral sources.

## **Medical Equipment**

This benefit category deals with durable medical equipment, most notably wheelchairs. The non-ambulatory participant categories have higher historical average benefits costs for this category than the ambulatory participants. As a result, we have assumed \$1,250 currently valued dollars per year in benefits for each ambulatory participant in Groups A and B going forward, compared to \$2,500 annually per participant for the two non-ambulatory categories. The current overall average (\$2,284) is then applied to each Group C participant. These selections are somewhat higher than actual experience in recent years, but are consistent for longer term averages for this benefit category.

Both private insurance and Medicaid often provide coverage for items in this category.

## **Prescription Drugs**

This category continues to grow as a benefits cost to the Program, consistent with national trends. Several individual participants have thousands of dollars in annual prescription drugs costs, while many participants have hundreds of dollars in annual costs, but not thousands. In order to get an appropriate matching of individual costs and life expectancies for the high annual cost participants, we have made eleven individual selections of prospective prescription drug costs based on these children's experience in the last three to five years. For the remaining participants, an average cost of \$500 annually for ambulatory and non-ambulatory, without g-tube participants and \$600 for non-ambulatory, with g-tube participants provides a reasonable approximation of historical benefits levels. Group C is based on the estimated overall average per participant cost of \$1,459, including the eleven individual exceptions, to reflect the potential for Group C claimants to also have unique prescription drug needs.

We expect private insurance and Medicaid will continue to provide some coverage for this category as they have in the past.

#### **Vans**

The Program purchases a van with a wheelchair lift for every participant who is restricted to a wheelchair, upon request. The vans are equipped with whatever special equipment is needed, based on the participant's needs. The Program also covers all ongoing repairs and maintenance to the specialized equipment, but not maintenance and repairs to the van itself, other than the automobile insurance benefits described elsewhere in this section. This van can be replaced every 100,000 miles. As a result, the average van provided to Program participants is updated on average every six years.

Historically, it was assumed that only non-ambulatory participants were using this benefit. The Program's detailed benefits information suggests this is not true. Therefore, we have also assumed that all future participants will get a van and will receive their first van at age six. This is based on historical averages for the Program and is somewhat of a conservative assumption. The assumed benefit cost of \$40,000 also includes a provision for ongoing maintenance costs, based on an analysis of historical costs for this benefits category.

## **Housing**

There are five categories of housing benefits that each needs to be modeled separately. These include:

- Trust homes For participants who have received trust homes (9/24/1999 and prior), we assumed the three year trended average for ongoing expenses will continue in the future.
- Housing Grant Based on historical data for individual grants, we have assumed that the outstanding balance on these grants will be incurred over the next four years.
- Rental assistance For individual participants electing this housing benefit, we have assumed the three year trended average will continue into the future, subject to a \$175,000 maximum established by the Program.
- Renovation completed no future costs are associated with participants that have completed renovations.

Participants with no notes – We have conservatively assumed that participants with no
information available on their housing situation are still eligible for a renovation and
have allocated costs of \$150,000 for renovation over the next four years.

For Group C participants, we have assumed they will receive a \$150,000 benefit over a four year period (generally either for renovations or rental expenses) when they are admitted and at least six years of age.

#### **Incidental Benefits**

Incidental benefits are those related to a wide variety of not otherwise classified items including non-durable medical supplies, over-the-counter drugs, feeding tubes, diapers, computers and related equipment, and travel expenses. These items generally have relatively low average annual costs. In recent years, incidental benefits have averaged between \$2,500 and \$2,800 per admitted participant. Interestingly, participants who are non-ambulatory and have a g-tube have incidental costs higher than other participants. Based on our review of program benefits experience for this category, we have assumed future annual benefits payments of \$3,400 for each non-ambulatory participant with a g-tube, \$2,100 for each non-ambulatory without a g-tube, and \$2,300 annually for each ambulatory participant. This results in an overall average of \$2,650, consistent with overall averages. No individual participant had historical benefits levels materially different enough from the overall average to justify individual assumptions. We expect this approach may be somewhat more stable and more reflective of the differences by participant than the Oliver Wyman approach of selecting based on the most recent year's experience of the Group A members and then using the average of this to project Groups B and C.

#### **Insurance**

As in prior reports, we have continued to assume that the Program will pay automobile insurance premiums of \$529 annually. We have conservatively assumed this benefit will be paid to all Program participants, consistent with our assumption that all participants will ultimately have vans. While somewhat conservative, the impact of this assumption is immaterial to the overall results of our analysis. We have also assumed that health insurance premiums will only be paid to Group A and B participants who currently receive this benefit. We assume future costs will be consistent with each participant's three year trended average.

Group C participants are each assumed to receive the overall average of the assumed insurance costs for the Group A and B participants to reflect that some of them will also purchase health insurance.

## **Wage Loss**

As in previous analyses, we have continued to assume that Program participants age 18 and older will be eligible to receive wage loss benefits consistent with workers compensation benefits in the state, that is fifty percent (50%) of the private, non-agricultural average weekly wage. We have assumed this benefit will be approximately \$23,322 in 2010. We also continue to assume that all participants that are eligible for the benefit will utilize it.

The issue of some participants losing Medicaid benefits, and thus incurring higher Program costs for medical-related benefits, due to receipt of the wage loss benefit remains an ongoing concern.

## **Medical Review/Intake**

This category is related to non-legal expenses incurred by admitted Program participants during the application process. As such there should be no unpaid benefits in this category for participants in Groups A and B. On average, Group A and B participants, including those currently deceased, have average medical review and intake expenses of approximately \$1,400. After consideration of inflationary trends, we have assumed each Group C participant will incur approximately \$1,500 in medical review and intake expenses, stated in currently valued dollars.

#### **Legal Fees**

The legal fees included in our unpaid benefits estimates are limited to those associated with the application process for the Group C participants. Groups A and B are assumed to have no additional legal fees. On average, Group A and B participants, including those currently deceased, have average legal fees of approximately \$17,500. After consideration of inflationary trends, we have assumed each Group C participant will incur approximately \$20,000 in legal fees, stated in currently valued dollars.

#### Interest Rates

In the summaries of the financial condition of the Fund provided in the analysis, unpaid benefits liabilities are presented on a discounted basis to reflect the time value of money associated with an estimate of the future investment earnings expected to be generated from assets supporting these future benefits payments between the accounting date and the benefit payment date. That is, the Fund presents its liability for unpaid benefits on a discounted (or present value) basis. The key issue for this analysis is determining the appropriate interest rate to use to discount the future benefits payments.

Pinnacle's approach to discounting the Fund's unpaid benefits liabilities, and specifically selecting a discount rate, has several issues associated with it. Considerations include:

- Does the Fund have valid invested assets supporting all unpaid benefits liabilities?
- What is a reasonable investment return to expect during the period between December 31, 2010 and the various loss payment dates?
- How should the recent financial uncertainty be contemplated?
- What is a reasonable investment return expectation over the decades of future benefits payments?
- Are there actuarial professionalism considerations that need to be taken into account?

For the purpose of discounting loss reserves for a financial statement Actuarial Standard of Practice No. 20, *Discounting of Property and Casualty Loss and Loss Adjustment Expenses Reserves* (ASOP 20) provides tremendous guidance to an actuary and defines the issues and considerations that an actuary should take into account in determining discounted reserves. Actuarial literature and publications can provide additional assistance in determining the approach. However, these are not binding on the actuary whereas ASOP 20 is.

Section 5.4 of ASOP 20 provides guidance for selecting the interest rates for discounting. This section specifically notes that the appropriate selected interest rates are <u>a function of the context in which the discounted reserves are used</u> (emphasis added). Two choices are provided, a time value

of money approach or a rate of return from a particular portfolio. First, we discuss the two choices followed by a discussion of the context.

The time value of money approach uses a selected interest rate that should approximate the risk-free interest rate. The risk-free interest rate is often approximated by reviewing Treasuries with a maturity that is consistent with the duration of the liability. The Treasury, Constant Maturity rates at year end 2010 are as follows:

1 year	0.29%
3 year	1.02%
5 year	2.01%
7 year	2.71%
10 year	3.30%
20 year	4.13%
30 year	4.34%

As you can see, these rates are materially lower than those historically selected by Oliver Wyman.

For a portfolio interest rate approach, the actuary should consider the relationships between market and book values of the assets, between portfolio and market interest rates and between the maturities of the assets and the timing of loss and loss adjustment expense payments. Section 5.4.3, which addresses the portfolio interest rate approach, further notes that the actuary should adjust the portfolio rates to be consistent with assets having low risk.

Oliver Wyman has historically used interest rates of between 6% and 7% to discount unpaid benefits liabilities for the Fund. In general, these assumptions have been based on the target rates of return for Fund invested assets provided by the Fund's investment managers, sometimes reduced by an explicit adjustment to reflect the significant risk in the investment portfolio. This adjustment has been appropriate as the Fund has not always hit its investment targets in the past. The historical investment returns for the Program are shown in Exhibit 1. The amount of risk inherent in the Fund's investment portfolio is also seen in a comment in the current investment management report that states that the Fund's risk tolerance is as follows: "Risk Tolerance The annual nominal return is expected to fall within a range of -1.8% to +15.8% two thirds of the time (one standard deviation) over this period. There is a 95% probability that losses will not exceed -7.5% in any given year."

This is a significant amount of variability and risk. Both the highs and lows of this volatility can be seen in the historical returns in Exhibit 1. The current investment management report also suggests that the target rate of return for the investment portfolio is a "7.0% annualized return or 4¼ % over inflation as measured by the CPI-U. This projection is based on 2010 Callan Capital Markets Projections for the ensuing ten years." This expected return appears much too high for the purpose of discounting future benefits payments, particularly in light of recent financial events.

Finally, section 5.5 of ASOP 20 makes it clear that a discounted reserve is an <u>inadequate estimate</u> (emphasis added) of economic value unless an appropriate risk margin is included. One means of complying with actuarial standards and to provide for a reasonable adjustment for investment risk in the current financial climate is to include some form of implicit risk margin in the selected discount rate. Pinnacle has selected a discount rate of 5.5% that we believe is reasonable based on the considerations reflected in this section.

## Inflation Rates

For each benefit category, future annual costs need to be adjusted by an appropriate factor to reflect expected cost inflation. In addition, historical benefits payments need to be adjusted for inflation to develop our selections of average benefits costs at current cost levels. As with the previous Oliver Wyman studies, we have taken a two step process of first estimating general inflation (both historical and prospective) and then indexing specific inflation rates for each benefit category off of these general inflation rates. Both long and short term averages were considered in our selections and are provided in Exhibit 2. Our selections and a comparison to the selections in the most recent Oliver Wyman report are summarized in Table 9 below

**Table 9 – Selected Historical and Prospective Inflation Assumptions** 

	Prior Report			Current S	election
		Selected	Selected		
		Historical	Future	Historical	Future
Benefit Category	CPI Category	Inflation	Inflation	Inflation	Inflation
Nursing	Professional services	3.34%	4.34%	3.25%	4.48%
Hospital/Physician	Medical care services	4.67%	5.67%	4.24%	4.91%
Physical Therapy	Professional services	3.34%	4.34%	3.25%	4.48%
Medical Equipment	Medical care commodities	4.10%	5.10%	2.53%	2.85%
Prescription Drugs	Prescription drugs	4.10%	5.10%	3.07%	4.03%
Incidental	All items	2.85%	3.85%	2.25%	2.91%
Housing	Shelter	3.08%	4.08%	2.17%	3.62%
Vans	New vehicles	0.00%	1.00%	0.00%	2.59%
Auto Ins	Motor vehicle insurance	2.85%	3.85%	3.12%	4.08%
Health Ins	Health insurance	2.85%	3.85%	3.12%	4.00%
Lost Wages	Based on BLS VA data	2.85%	3.85%	2.71%	3.72%
Medical Review / Intake	All items	2.85%	3.85%	2.25%	2.91%
Legal	Legal services	4.77%	5.77%	3.83%	4.32%

## Mortality and Life Expectancy

One the most difficult assumptions needed in estimating the future benefits payments for the Fund relates to the life expectancy of the Program's participants. Between 1999 and 2009, Oliver Wyman has had to consistently, steadily increase their assumption of life expectancies as the actual experience of the Program's participants continued to outperform modeled expectations.

A significant change occurred with the addition of individual life plans and mortality tables for each admitted Program participant. The Shavelle tables provide individual expected survival rates by year for each participant and appear to provide a reasonable life expectancy not only for each child, but also appear to reflect differences between groups of participants based on ambulatory and g-tube status. Therefore, we have relied on the Shavelle tables for each Group A and B participant to reflect the likelihood of a child surviving to receive the assumed benefits. The challenge this approach presents is the treatment of Group C participants.

For Group C, we have developed a mortality table that combines the life tables for each of the current Group A and B participants. This approach works really well for older ages where almost all participants' data can be included. It is somewhat less effective for the younger ages. As a

result, selections were made for the younger ages based on the available information and in order to maintain consistency between the indicated survival rates by age. This blended mortality table for Group C is summarized in Exhibit 3. A comparison of the life expectancies of the historical Oliver Wyman mortality tables and the composite Shavelle table is shown in Table 10 below.

**Table 10 – Comparison of Mortality Assumptions** 

	Life Expect	tancy at
<u>Table</u>	<u>Birth</u>	Age 3
1999 Table	17.5	19.5
Blended Table	22.1	24.7
2009 Table	26.4	28.3
2010 Table	28.5	30.1
Shavelle Composite Table	28.4	29.2

# Summary of Changes

As has been discussed in the Methods and Assumptions section of this report, there are a myriad of changes in both methods and assumptions from the previous Oliver Wyman study. Some of the most important changes include:

- Combination of Group A and B experience for development of future benefits estimates
- Addition of groups reflecting ambulatory and g-tube status
- Reliance on Shavelle mortality tables
- Inclusion of five year and all year averages in developing future benefits estimates
- Downward adjustment in the interest rate used for discounting

This list does not include all of the smaller changes in approaches to projecting future benefits for each benefit category and participant. Some of these approaches are very similar to Oliver Wyman's and some are quite different.

While it is impossible to quantify the impact of any single parameter change, we have made an attempt to quantify the cumulative impact of all of the changes. This was accomplished by attempting to estimate the unpaid benefits liability and surplus deficit our approach might have provided as of December 31, 2009. This process is inherently complicated by the additional information available to us as of December 31, 2010. In some respects, it is difficult to determine what we might have assumed with only the December 31, 2009 data. However, we determined that an understanding of how our methodology compared to Oliver Wyman's and what impact this had on our December 31, 2010 and subsequent findings was an important model validation step.

As shown in Table 11, when our assumptions and methods are applied to the data as of December 31, 2009, we produced future unpaid benefits liabilities of \$326.1 million and a surplus deficit of approximately \$103.8 million. These compare to Oliver Wyman's estimates of \$377.0 million in future unpaid benefits liabilities and a \$154.6 million surplus deficit.

Table 11 – Revised Estimate of Fund Surplus/Deficit as of December 31, 2009

Estimated Financial Position as of 12/31/2009 (\$ in millions, on a present value basis)					
Claimant Status	Estimated Ultimate Number of Claimants	Estimate of Future Claim Payments	Estimate of Future Claim Admin. Expenses	Value of Total <u>Assets</u>	Forecasted Surplus/ (Deficit)
All Claimants Admitted to the Program	150	211.9			
All Claimants Not Yet Admitted to the Program	43	95.2			
Grand Total	193	307.1	19.0	222.3	(103.8)

# **DISCUSSION AND ANALYSIS**

# Number of Program Participants

As of December 31, 2010, there were 155 admitted Program participants. We estimate that an additional 41 children that are eligible for the Program and who will eventually be admitted have been born as of December 31, 2010. This estimate compares to Oliver Wyman's estimate of 47 Group C participants in their prior analysis. Our analysis of the total number of Program participants as of December 31, 2010 is attached as Exhibit 4 and a summary by birth year is provided in Table 12 below.

**\Table 12 - Estimated Ultimate Participants as of December 31, 2010** 

		Select	
Birth	Admitted	Ultimate	Non-admitted
Year	<b>Participants</b>	<b>Particpants</b>	<u>Particpants</u>
1988	2	2.0	0
1989	9	9.0	0
1990	5	5.0	0
1991	9	9.0	0
1992	8	8.0	0
1993	11	11.0	0
1994	6	6.0	0
1995	10	10.0	0
1996	8	8.0	0
1997	11	11.0	0
1998	7	7.0	0
1999	7	7.0	0
2000	13	13.0	0
2001	10	10.0	0
2002	10	11.0	1
2003	10	12.0	2 2 3
2004	4	6.0	2
2005	2	5.0	3
2006	4	8.0	4
2007	3	8.0	5
2008	3	10.0	7
2009	3	10.0	7
2010	0	10.0	10
Total	155	196	41
1995-2010	105	146.0	41
2000-05	49	57	8
2000-07	56	73	17

# **Estimated Lifetime Benefits**

A history of benefits payments made by the Fund by year since its inception is provided in Table 13 below.

Table 13 - Summary of Calendar Year Benefits Payments Through 2010

	Total Benefit Payments				
	Incremental	Cumulative			
As Of	Amount Paid	Amount Paid			
12/31/1988	0	0			
12/31/1989	0	0			
12/31/1990	0	0			
12/31/1991	0	0			
12/31/1992	14,161	14,161			
12/31/1993	97,886	112,047			
12/31/1994	239,124	351,171			
12/31/1995	1,860,514	2,211,685			
12/31/1996	4,667,043	6,878,728			
12/31/1997	4,547,735	11,426,463			
12/31/1998	2,920,146	14,346,609			
12/31/1999	3,505,686	17,852,295			
12/31/2000	5,685,588	23,537,882			
12/31/2001	5,745,413	29,283,295			
12/31/2002	4,638,442	33,921,737			
12/31/2003	5,429,845	39,351,582			
12/31/2004	6,012,468	45,364,050			
12/31/2005	8,548,706	53,912,757			
12/31/2006	10,482,314	64,395,070			
12/31/2007	9,230,255	73,625,326			
12/31/2008	10,778,949	84,404,275			
12/31/2009	10,068,816	94,473,091			
12/31/2010	10,613,329	105,086,419			

The calendar year payments have been relatively steady over the last five years, generally between \$10 million and \$11 million per year.

A table with historical benefits payments for both 2010 and all years combined by benefit category follows as Table 14. Between 2009 and 2010, significant changes in payments by benefit type included:

• An increase in nursing from \$7.2 million to almost \$8.0 million.

- An increase in physical therapy expenses from about \$222,000 to about \$313,000
- A near doubling of incidental benefits to \$439,000
- A significant reduction in housing benefits payments
- Continued growth in wage loss benefits

Table 14 - Summary of Calendar Year Paid and Incurred Losses 1998-2010

Total Benefit Payments Through 12/31/2010 and During 2010				
	Payments	Percentage		Percentage
Benefit	Through	of Total	Payments	of 2010
Category	12/31/2010	<u>Payments</u>	<u>In 2010</u>	<u>Payments</u>
Nursing	63,411,881	60.34%	7,954,097	74.94%
Hospital/Physician	2,045,320	1.95%	77,531	0.73%
Physical Therapy	2,702,545	2.57%	313,304	2.95%
Medical Equipment	2,256,955	2.15%	159,659	1.50%
Prescription Drugs	1,213,822	1.16%	125,895	1.19%
Incidental	3,882,075	3.69%	439,342	4.14%
Housing	18,222,105	17.34%	427,095	4.02%
Vans	6,141,932	5.84%	387,213	3.65%
Insurance	1,105,039	1.05%	148,549	1.40%
Lost Wages	1,174,762	1.12%	441,148	4.16%
Medical Review / Intake	215,023	0.20%	4,163	0.04%
Legal	2,714,960	2.58%	135,334	1.28%
Total	105,086,419	100.00%	10,613,329	100.00%

As described in the *Methods and Assumptions* section of this report, a number of changes have been made in the approach to estimating future benefits payments for all participants and specifically for Group C participants. The cumulative impact of these changes is summarized in Table 15. We have estimated a continued increase in average nursing costs, consistent with ongoing nursing cost trends for the Program. Conversely, several health care related categories have significant reductions in their lifetime benefits estimates. These are impacted by several factors including the introduction of adjustments for ambulatory and g-tube status and removal of maximums and minimums. Vans reflect a fairly large percentage increase largely due to changes in our assumption on who will receive vans and the frequency of van replacement. Finally, expected wage loss estimates have increased continuing a trend of recent years in the Oliver Wyman studies.

Table 15 – Forecasted Present Value of Lifetime Benefits for Group C Participants as of December 31, 2010

Forecasted Lifetime Benefits				
(Present Value at 12/31/2010)				
'	(Flesell value at 12/3	31/2010)		
	Avg. Benefit for			
	All Group C	Avg. Benefit for	Change	
Benefit	•	•	From Prior	
1	Participants from	All Group C		
Category	Prior Report	<u>Participants</u>	Report	
Nursing	1 547 044	1 667 540	7 00/	
Nursing	1,547,344	1,667,512	7.8%	
Hospital/Physician	48,744	25,920	-46.8%	
Physical Therapy	33,047	13,713	-58.5%	
Medical Equipment	64,809	41,341	-36.2%	
Prescription Drugs	55,350	31,321	-43.4%	
Incidental	48,162	48,382	0.5%	
Housing	124,157	105,013	-15.4%	
Vans	57,299	94,553	65.0%	
Auto Ins		9,000		
Health Ins	22,099	19,052	-13.8%	
Lost Wages	148,969	196,583	32.0%	
Medical Review / Intake	1,529	1,377	-9.9%	
Legal	21,956	18,687	-14.9%	
Death		7,408		
Total	2,173,463	2,279,861	4.9%	

# Administrative Expenses

Exhibit 6 provides a historical summary of benefits administration expenses for the Program. As you can see, the average annual costs per living participant have decreased as the Program has grown. One possible explanation is that some Program expenses are relatively fixed costs that do not increase as the number of Program participants increases. Based on this information, we have assumed that in the immediate future the Fund will pay benefits administration expenses of approximately \$7,500 per living participant (currently valued dollars). For our estimates of the current and prospective Fund surplus deficits, these future liabilities were discounted to present value using a similar approach to the benefits payments themselves.

# Estimated Fund Surplus/Deficit as of December 31, 2010

As previously shown in Table 1, and repeated here as Table 16, we estimate that the Fund has future benefits payments with a present value of approximately \$325.6, along with future benefits administration expenses with an additional present value of \$18.5 million. When compared to actual asset values as of this valuation date, these estimates result in an estimated surplus deficit of \$61.9 million.

The estimated present values for the future benefits payments and benefits administration expenses were modeled for each individual Group A and B participant and also on an individual basis for Group C, although certain assumptions such as mortality had to be generalized for this group. Death benefits for all Program participants and the appropriate benefits for participants who have died prior to Program admittance have also been included into these cash flow models. It is important to recognize that the accuracy of the overall liability for future benefits payments is of paramount importance, while the accuracy of individual participant estimates is of lesser importance and may vary greatly due to changes in individual care situations and mortality.

Table 16 – Estimated Fund Surplus/Deficit as of December 31, 2010

Estimated Financial Position as of 12/31/2010 (\$ in millions, on a present value basis)					
Participant Status	Estimated Ultimate Number of Participants	Estimate of Future Benefit Payments	Estimate of Future Claim Admin. Expenses	Value of Total <u>Assets</u>	Forecasted Surplus/ (Deficit)
All Participants Admitted to the Program	155	232.1			
All Participants Not Yet Admitted to the Program	n 41	93.5			
Grand Total	196	325.6	18.5	282.2	(61.9)

### Projection to 2011-2013 Years

To forecast our estimates of Fund liabilities and asset values forward to future years, several additional steps from the current year model are needed. For example,

- An estimate of the additional year of assessment revenue is added to assets.
- The expected benefit payments and benefit administrative expenses are paid.
- Estimated investment income is included in income.
- The benefits liabilities for the births occurring during the new year are added to the Fund's liabilities.

Exhibit 7 details the impact of each of these factors in the roll forward calculations and supports the summaries provided in Tables 2 through 4. It is important to recognize that the investment income realized by the Fund is largely offset by the loss of one year of discounting as the present value of existing benefits liabilities is moved forward one year. Similarly, in an ideal situation, the expected assessment income in a year would be approximately equal and offsetting to the loss of one year of discounting the benefits liabilities for the births occurring during the new year.

## Program Assessment Levels

From the perspective of the actuarial soundness of the Fund, it is noteworthy that expected future annual assessment income of approximately \$25 million is slightly in excess of the expected present value of lifetime new participant liabilities of approximately \$22.8 million (an average of 10 participants per year with present value lifetime benefits of approximately \$2.28 million). All other things being equal, this should contribute to gradual reductions in the fund deficit over time. However, assessment levels need to be monitored to ensure that they keep pace with inflationary pressure on participant benefits over time.

# Sensitivity Testing

As in past actuarial studies of the Fund, we felt it imperative to stress test a number of the key assumptions in our analysis to evaluate the impact of differences between our assumptions and other possible actual outcomes. We have performed stress tests of our interest rate, inflation rate and mortality assumptions using an approach similar to prior years.

Table 17 shows the results of a series of stress tests examining inflation scenarios of up to 150 basis points above and below our general inflation assumption, with corresponding changes in the benefits specific inflation rates. For the purpose of these stress tests, we have focused on the impact of the underlying assumption changes on our estimated future benefits payments as of December 31, 2010. At the extreme values, these differences in assumptions have the potential to eliminate the surplus deficit entirely in an extremely low inflation scenario or more than double the deficit should inflation be much higher than expected for an extended period of time.

**Table 17 – Inflation Rate Sensitivity Testing** 

(Φ :		-:-\		
(\$ in millions, on a present value basis)				
Annual	Estimated	Difference		
Inflation	Future Benefit	From		
(Baseline +/-)	<u>Payments</u>	<u>Baseline</u>		
-1.50%	259.0	-66.6		
-1.00%	278.4	-47.3		
-0.50%	300.3	-25.3		
Baseline	325.6	0.0		
0.50%	355.4	29.8		
1.00%	390.3	64.7		
1.50%	431.6	106.0		

Table 18 provides a similar stress test examining the impact of long term differences in investment returns from those assumed in our analysis. This is a particularly important test given the differences between our selected interest rate and the investment manager's target return and also in light of current uncertainty regarding the financial markets. The impact of actual investment returns that are different than our assumptions have a similar magnitude to the inflation tests, although with the signs reversed. This is intuitive as inflation impacts benefits and thus liabilities, while interest rates impact investment and thus assets.

**Table 18 – Interest Rate Sensitivity Testing** 

(\$ in millions, on a present value basis)			
Interest	Estimated	Difference	
Rate	Future Benefit	From	
(Baseline +/-)	<b>Payments</b>	<u>Baseline</u>	
-1.5% (risk-free rate)	432.0	106.4	
-1.00%	390.2	64.6	
-0.50%	355.3	29.7	
Baseline	325.6	0.0	
0.50%	300.6	-25.0	
1.00%	279.0	-46.6	
1.50%	260.3	-65.3	

Finally, we have tested differences between the mortality rates assumed in the Shavelle tables and the composite Shavelle table and alternate mortality outcomes. The outcomes of these tests are shown in Table 19. Interestingly, an error of even two years in the overall life expectancy has an impact of only about \$26 million on our estimates of the overall present value of unpaid future benefits. This appears to be an intuitive result in that the additional benefits added by an increase in life expectancy would be many years in the future and thus subject to significant discounting.

**Table 19 – Mortality Rate Sensitivity Testing** 

	-			
(\$ in millions, on a present value basis)				
Average Expected	Estimated	Difference		
Remaining Lifetime	Future Benefit	From		
(Baseline +/-) Payments Baseline				
- 2 years	299.7	-25.9		
- 1 year	312.7	-12.9		
Baseline	325.6	0.0		
+ 1 year	338.8	13.2		
+ 2 years	351.7	26.1		

# **GLOSSARY OF TERMS AND ABBREVIATIONS**

The definitions included in this glossary are intended to be practical definitions to assist non-technical readers in understanding the key technical contents of this report. We recognize that some technical clarifications and elaborations have been omitted for the sake of clarity and brevity. We do not believe any of these omissions materially impact the reader's understanding of the report or materially misrepresent the gist of the terms.

**Actuarially sound** – Actuarial judgment that the current value of assets will be greater than or equal to the present value of liabilities.

**Adverse development** – Future liabilities developing greater than originally estimated.

**Ambulatory** – Having the ability to walk; not bedridden or wheelchair bound.

**Assessments levels** – The percentage of full value at which an entity is assessed as mandated by state law.

**De Novo** – Restarting the claims process from the beginning.

**Discount rate** – Rate used to discount future values to the equivalent current day present value.

**Implicit risk margin** – Implied though not plainly expressed value above discounted best estimate cash flows, to protect against worse than expected outcomes.

**Gastric feeding tube** (**g-tube**) – A medical device used to provide nutrition to patients who cannot obtain nutrition by swallowing.

**Life plans** – Actuarial table predicting a participant's unique estimated life expectancies and survival rates.

**Mortality tables** – Actuarial tables used in the insurance industry to predict the life expectancy and the mortality rates for various types of people.

**Present value** – The value on a given date of future liabilities or a series of future liabilities, discounted to reflect the time value of money and other factors such as investment risk.

**Shavelle life tables** – Life tables providing individual expected survival rates by year for each participant.

**Statute of limitations** – A statute prescribing a period of limitation for the bringing of certain kinds of legal action.

**Surplus** – Assets minus liabilities.

**Time value of money** – The value of money figuring in a given amount of interest earned over a given amount of time.

 $\boldsymbol{Trend}-The\ direction\ in\ and\ amount\ that\ rates,\ premium,\ or\ losses\ tend\ to\ move\ over\ time.$ 

**Unpaid benefits liability** – The unpaid portion of benefits owed to people as the result of injuries occurred to these people resulting from one's operations.

# **LEGAL DISCLOSURES**

## Qualifications and Actuarial Standards of Practice

I, Robert J. Walling III, FCAS, MAAA, am a Principal with Pinnacle Actuarial Resources, Inc. I am a Fellow of the Casualty Actuarial Society (CAS), a member in good standing of the American Academy of Actuaries. I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

This actuarial report complies with all relevant Actuarial Standards of Practice, Statements of Principles and other professional guidance by the Actuarial Standards Board and/or the CAS. In addition, the estimates of the ultimate number of program participants, ultimate benefits payments and associated administrative expenses were developed using generally accepted actuarial methods and techniques.

### Distribution and Use

Pinnacle's actuarial report and supporting work papers are prepared solely for the internal business use of the Program and the Virginia State Corporation Commission, Bureau of Insurance. It is understood that this report may also be distributed to a variety of interested parties. In the event our report is distributed to other parties due to statute or regulations, or by agreement of Pinnacle and VA SCC, we require that the report and supporting exhibits be distributed in their entirety. Pinnacle advises that any recipient have their own actuary review the work. Pinnacle does not intend to benefit any third party recipient of its work product or create any legal duty from Pinnacle to a third party even if Pinnacle consents to the release of its work product to such third party.

In addition, VA SCC may desire to distribute the Executive Summary separately to summarize key findings. This distribution is also granted. Individual findings may also be referenced in press releases and other public communications along with proper citation of the report.

Third party users of any of the elements of this report should recognize that the furnishing of this report is not a substitute for their own due diligence and should place no reliance on this report or

the data, computations, and interpretations contained herein that would result in the creation of any duty or liability by Pinnacle to the third party.

### Reliances and Limitations

It is important to emphasize the nature of our work for the Program and the Fund. While the unpaid participant benefits liability estimates contained in this report represent our best professional judgment, arrived at after careful actuarial analysis of the available data, any study of this type of unpaid lifetime benefits involves estimates of future contingencies which are subject to the outcome of events yet to occur, e.g., legislative changes, jury decisions, healthcare reforms, and attitudes of claimants with respect to settlements. A high severity, low frequency coverage such as no-fault benefits for children suffering from birth-related neurological and physical injuries, which also has extended reporting and Program admission lags, is especially difficult to estimate.

A reasonable estimate of unpaid benefits liabilities to Program participants born prior to a given valuation date should be interpreted as just that - an estimate, with no implication of certainty. When the ultimate costs of claims occurring prior to any financial statement date are known, variation from our estimates is not only possible but, in fact, probable. While the degree of such variation cannot be quantified, it could be in either direction from our estimates. This variation is particularly significant given the small number of participants and very large lifetime benefits available.

In performing this analysis, we have relied on data and other information provided to us by Program management and VA SCC's former actuarial consultants, Oliver Wyman Actuarial Consulting, Inc. This experience base includes detailed historical data listings of benefits payments, Program participant counts and investment results by year. This data was supplemented by appropriate industry benchmark data, such as historical interest and inflation rates. We have relied upon all of this information without audit or verification. Pinnacle reviewed as many elements of this data and information as practical for reasonableness and consistency. We have not anticipated any extraordinary changes to the legal, social, and economic environment that might affect benefits costs or participant counts.

Pinnacle has not examined the Fund's assets, and is not expressing any opinion as to their validity or value. We have made an assessment of whether the Fund's unpaid claims liabilities are backed by valid assets in our discount calculations. We have assumed the assets have suitably scheduled maturities and an adequate liquidity to meet cash flow requirements. We have not examined the Plan's current investment portfolio or its current investment philosophy, other than for the purpose of establishing a reasonable discount rate for future benefits payments.

Judgments as to conclusions, recommendations, methods, and data contained in this report should be made only after studying the report in its entirety. Further reliances and limitations are contained in the report text and the exhibits accompanying the report. Furthermore, Pinnacle is available to explain any matter presented herein, and it is assumed that the user of this report will seek such explanation as to any matter in question. The exhibits should be considered an integral part of this report.

# **Index of Exhibits**

Exhibit	Description
1	Selected Discount Rate
2	Inflation Assumptions
3	Composite Shavelle Mortality Table
4	Ultimate Participant Development
5	Present Value of Projected Future Unpaid Benefits by Category and Medical Status
6	Claim Administration Expense Estimate
7	Roll Forward Analysis Detail

# Virginia Birth Related Neurological Injury Compensation Fund Reserve Analysis as of 12/31/2010

Exhibit 1

Selected Discount Rate

_	Annual Return				
	<u>1 Yr.</u>	<u>2 Yr.</u>	<u>3 Yr.</u>	<u>5 Yr.</u>	
VBIF Gross	11.2%	15.9%	2.0%	5.4%	
VBIF Net	11.0%	15.7%	1.8%	5.2%	
Index Target	10.9%	14.8%	2.0%	5.0%	
S&P 500	15.1%		-2.9%	2.3%	
Expected Return from Plan	7.0%				
Selected Return used in Prior Actuarial Analysis			6.34%		
Selected Return used in Ac	5.50%				

Source: Market Review and Plan Performance Analysis for Period Ending December 31, 2010

# Virginia Birth Related Neurological Injury Compensation Fund Reserve Analysis as of 12/31/2010

Inflation Asssumptions

		_		Indi	cated Inflati	on		Prior F	Report	Current S	Selection
		_						Selected	Selected		
		Years	All Yr	25 Yr.	10 Yr.	5 Yr.		Historical	Future	Historical	Future
Benefit Category	CPI Category	<u>Available</u>	Trend	<u>Trend</u>	<u>Trend</u>	<u>Trend</u>	<u>2010</u>	<u>Inflation</u>	<u>Inflation</u>	<u>Inflation</u>	<u>Inflation</u>
Nursing	Professional services	1967 to 2011	5.65%	4.05%	3.32%	3.17%	2.76%	3.34%	4.34%	3.25%	4.48%
Hospital/Physician	Medical care services	1935 to 2011	5.34%	5.00%	4.48%	4.00%	3.50%	4.67%	5.67%	4.24%	4.91%
Physical Therapy	Professional services	1967 to 2011	5.65%	4.05%	3.32%	3.17%	2.76%	3.34%	4.34%	3.25%	4.48%
Medical Equipment	Medical care commodities	1935 to 2011	3.11%	3.69%	2.60%	2.46%	3.15%	4.10%	5.10%	2.53%	2.85%
Prescription Drugs	Prescription drugs	1935 to 2011	3.51%	4.54%	3.25%	2.90%	4.29%	4.10%	5.10%	3.07%	4.03%
Incidental	All items	1913 to 2011	3.24%	2.83%	2.58%	1.93%	1.64%	2.85%	3.85%	2.25%	2.91%
Housing	Shelter	1967 to 2011	4.64%	3.27%	2.60%	1.73%	-0.38%	3.08%	4.08%	2.17%	3.62%
Vans	New vehicles	1935 to 2011	2.59%	0.73%	-0.39%	0.01%	1.76%	0.00%	1.00%	0.00%	2.59%
Auto Ins	Motor vehicle insurance	1935 to 2011	5.11%	4.00%	3.05%	3.20%	5.09%	2.85%	3.85%	3.12%	4.08%
Health Ins	Health insurance	2005 to 2011	0.84%	N/A	N/A	0.41%	-3.53%	2.85%	3.85%	3.12%	4.00%
Lost Wages	Based on BLS VA data	1979 to 2010	3.72%	3.16%	2.63%	2.79%	1.08%	2.85%	3.85%	2.71%	3.72%
Medical Review / Intake	All items	1913 to 2011	3.24%	2.83%	2.58%	1.93%	1.64%	2.85%	3.85%	2.25%	2.91%
Legal	Legal services	1986 to 2011	4.56%	N/A	4.09%	3.57%	3.59%	4.77%	5.77%	3.83%	4.32%

Source: Bureau of Labor Statistics, Consumer Price Index: All Urban Consumers, US City Average

# **Virginia Birth Related Neurological Injury Compensation Fund** Reserve Analysis as of 12/31/2010 Composite Shavelle Mortality Table

Exhibit 3 Page 1

	Based	d on Composite of	of Shavelle In	dividual Life T	ables	Selec	cted
		Number in		Chance of	Future	Chance of	Future
	Entry	Group before		Death at	Life	Death at	Life
<u>Age</u>	<u>Lives</u>	<u>Deaths</u>	<u>Deaths</u>	Current Age	Expectancy	Current Age	Expectancy
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(.)	(=)	(0)	( . /	(0)	(0)	(' )	(0)
0	0	0	0			0.0750	28.4
1	0	0	0			0.0250	29.7
2	200,000	200,000	6,392	0.0320	26.6	0.0250	29.4
3	100,000		12,471	0.0425	26.5	0.0250	29.2
4	300,000	581,137	22,018	0.0379	26.6	0.0250	28.9
5	300,000	859,119	26,112	0.0304	26.7	0.0250	28.6
6	400,000	1,233,007	47,211	0.0383	26.5	0.0260	28.3
7	700,000		69,893	0.0371	26.5	0.0270	28.1
8	900,000		114,297	0.0421	26.5	0.0280	27.8
9	700,000		131,712	0.0399	26.7	0.0290	27.6
10	700,000		150,605	0.0389	26.8	0.0300	27.4
11	500,000		161,708	0.0383	26.8	0.0310	27.3
12	300,000		160,455	0.0368	26.9	0.0320	27.1
13	500,000		166,365	0.0354	26.9	0.0330	27.0
14	900,000	5,430,760	197,379	0.0363	26.8	0.0340	26.9
15	600,000	5,833,381	206,537	0.0354	26.8	0.0350	26.9
16	800,000	6,426,844	230,255	0.0358	26.8	0.0358	26.8
17	800,000	6,996,589	243,627	0.0348	26.8	0.0348	26.8
18	700,000	7,452,962	255,577	0.0343	26.7	0.0343	26.7
19	400,000	7,597,385	255,865	0.0337	26.7	0.0337	26.7
20	800,000	8,141,520	274,352	0.0337	26.6	0.0337	26.6
21	400,000	8,267,168	274,414	0.0332	26.5	0.0332	26.5
22	0	7,992,754	264,135	0.0330	26.4	0.0330	26.4
23	0	7,728,619	253,938	0.0329	26.3	0.0329	26.3
24	0	7,474,681	244,650	0.0327	26.1	0.0327	26.1
25	0		235,187	0.0325	26.0	0.0325	26.0
26	0	6,994,844	226,460	0.0324	25.9	0.0324	25.9
27	0	6,768,383	217,828	0.0322	25.7	0.0322	25.7
28	0		209,761	0.0320	25.5	0.0320	25.5
29	0		202,127	0.0319	25.4	0.0319	25.4
30	0		194,857	0.0317	25.2	0.0317	25.2
31	0		187,705	0.0316	25.0	0.0316	25.0
32	0		180,896	0.0314	24.8	0.0314	24.8
33	0		174,525	0.0313	24.6	0.0313	24.6
34	0		168,377	0.0312	24.4	0.0312	24.4
35	0		162,608	0.0311	24.1	0.0311	24.1
36	0		157,281	0.0310	23.9	0.0310	23.9
37	0		151,853	0.0309	23.6	0.0309	23.6
38	0		146,677	0.0308	23.4	0.0308	23.4
39	0		141,947	0.0308	23.1	0.0308	23.1
40	0		137,517	0.0308	22.8	0.0308	22.8
41	0		133,191	0.0307	22.5	0.0307	22.5
42	0		129,179	0.0307	22.2	0.0307	22.2
43 44	0		124,950	0.0307	21.9 21.6	0.0307	21.9
	0		121,521	0.0308		0.0308	21.6
45	0	3,825,584	117,703	0.0308	21.3	0.0308	21.3

# Virginia Birth Related Neurological Injury Compensation Fund Reserve Analysis as of 12/31/2010 Composite Shavelle Mortality Table

Exhibit 3 Page 2

	Bas	sed	on Composite o	of Shavelle In	ables	s Selected				
			Number in		Chance of	Future	Chance of	Future		
	Entry	(	Group before		Death at	Life	Death at	Life		
<u>Age</u>	Lives		<u>Deaths</u>	<u>Deaths</u>	Current Age	Expectancy	Current Age	Expectancy		
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)		
( ' )	(=)		(0)	( . /	(0)	(0)	(,)	(0)		
46		0	3,707,880	114,914	0.0310	20.9	0.0310	20.9		
47		0	3,592,966	111,414	0.0310	20.6	0.0310	20.6		
48		0	3,481,552	108,312	0.0311	20.2	0.0311	20.2		
49		0	3,373,240	105,656	0.0313	19.9	0.0313	19.9		
50		0	3,267,584	102,849	0.0315	19.5	0.0315	19.5		
51		0	3,164,735	100,123	0.0316	19.1	0.0316	19.1		
52		0	3,064,612	97,943	0.0320	18.7	0.0320	18.7		
53		0	2,966,669	94,868	0.0320	18.3	0.0320	18.3		
54		0	2,871,801	93,587	0.0326	17.9	0.0326	17.9		
55		0	2,778,214	91,136	0.0328	17.5	0.0328	17.5		
56		0	2,687,078	90,477	0.0337	17.1	0.0337	17.1		
57		0	2,596,601	86,981	0.0335	16.6	0.0335	16.6		
58		0	2,509,620	87,237	0.0348	16.2	0.0348	16.2		
59		0	2,422,383	86,182	0.0356	15.8	0.0356	15.8		
60		0	2,336,201	85,797	0.0367	15.3	0.0367	15.3		
61		0	2,250,404	83,494	0.0371	14.9	0.0371	14.9		
62		0	2,166,910	83,892	0.0387	14.5	0.0387	14.5		
63		0	2,083,018	82,408	0.0396	14.0	0.0396	14.0		
64		0	2,000,610	82,096	0.0410	13.6	0.0410	13.6		
65		0	1,918,514	80,901	0.0422	13.1	0.0422	13.1		
66		0	1,837,613	80,273	0.0437	12.7	0.0437	12.7		
67		0	1,757,340	80,161	0.0456	12.2	0.0456	12.2		
68		0	1,677,180	79,268	0.0473	11.8	0.0473	11.8		
69		0	1,597,912	79,089	0.0495	11.4	0.0495	11.4		
70		0	1,518,823	79,026	0.0520	10.9	0.0520	10.9		
71		0	1,439,797	77,675	0.0539	10.5	0.0539	10.5		
72		0	1,362,122	78,062	0.0573	10.1	0.0573	10.1		
73		0	1,284,059	76,995	0.0600	9.7	0.0600	9.7		
74		0	1,207,064	76,377	0.0633	9.2	0.0633	9.2		
75		0	1,130,687	76,322	0.0675	8.8	0.0675	8.8		
76		0	1,054,365	75,388	0.0715	8.4	0.0715	8.4		
77		0	978,977	74,222	0.0758	8.1	0.0758	8.1		
78		0	904,756	72,573	0.0802	7.7	0.0802	7.7		
79		0	832,183	71,480	0.0859	7.3	0.0859	7.3		
80		0	760,702	70,504	0.0927	6.9	0.0927	6.9		
81		0	690,198	67,971	0.0985	6.6	0.0985	6.6		
82		0	622,228	65,103	0.1046	6.3	0.1046	6.3		
83		0	557,125	64,615	0.1160	5.9	0.1160	5.9		
84		0	492,510	58,488	0.1188	5.6	0.1188	5.6		
85		0	434,023	55,195	0.1272	5.3	0.1272	5.3		
86		0	378,827	51,669	0.1364	5.0	0.1364	5.0		
87		0	327,158	47,882	0.1464	4.8	0.1464	4.8		
88		0	279,276	43,805	0.1569	4.5	0.1569	4.5		
89		0	235,471	39,614	0.1682	4.2	0.1682	4.2		
90		0	195,857	35,257	0.1800	4.0	0.1800	4.0		
91		0	160,600	31,042	0.1933	3.8	0.1933	3.8		

# Virginia Birth Related Neurological Injury Compensation Fund Reserve Analysis as of 12/31/2010

Exhibit 3 Page 3

**Composite Shavelle Mortality Table** 

	Bas	sed (	on Composite o	f Shavelle In	idividual Life T	ables	Sele	cted
			Number in		Chance of	Future	Chance of	Future
	Entry	(	Group before		Death at	Life	Death at	Life
<u>Age</u>	Lives		<u>Deaths</u>	<u>Deaths</u>	Current Age	Expectancy	Current Age	Expectancy
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)
92		0	129,558	26,763	0.2066	3.5	0.2066	3.5
93		0	102,795	22,741	0.2212	3.3	0.2212	3.3
94		0	80,054	18,933	0.2365	3.1	0.2365	3.1
95		0	61,122	15,398	0.2519	2.9	0.2519	2.9
96		0	45,724	12,312	0.2693	2.8	0.2693	2.8
97		0	33,411	9,577	0.2866	2.6	0.2866	2.6
98		0	23,834	7,269	0.3050	2.5	0.3050	2.5
99		0	16,565	5,363	0.3237	2.3	0.3237	2.3
100		0	11,203	4,192	0.3742	2.2	0.3742	2.2
101		0	7,010	2,610	0.3723	2.2	0.3723	2.2
102		0	4,400	1,630	0.3705	2.2	0.3705	2.2
103		0	2,770	1,022	0.3688	2.1	0.3688	2.1
104		0	1,748	642	0.3673	2.1	0.3673	2.1
105		0	1,106	405	0.3658	2.0	0.3658	2.0
106		0	702	256	0.3643	1.9	0.3643	1.9
107		0	446	162	0.3630	1.7	0.3630	1.7
108		0	284	103	0.3616	1.5	0.3616	1.5
109		0	181	181	1.0000	1.0	1.0000	1.0

#### <u>Notes</u>

- (2) 100,000 x Number of Shavelle life tables added to composite at age in Col (1)
- (3) Prior Col (3) Prior Col (4) + Col (2)
- (4) Sum of deaths in Shavelle life tables at age in Col (1)
- (5) Col (4) / Col (3)
- (6) Expected Lifetime at age in Col (1) based on Col (5)
- (7) Judgment
- (8) Expected Lifetime at age in Col (1) based on Col (7)

# Virginia Birth Related Neurological Injury Compensation Fund

Reserve Analysis as of 12/31/2010

**Ultimate Participant Development** 

Exhibit 4 Page 1

				Indicated Ultimate Participants			•	Indicated		
					Expected		Prior Sel.	Select		Particpants
Birth		Admitted	Dev.	Development	Count	B-F	Ultimate	Ultimate	Non-admitted	per 100K
<u>Year</u>	<u>Births</u>	<u>Participants</u>	<u>Factor</u>	<u>Method</u>	Method	<u>Method</u>	<u>Particpants</u>	<u>Particpants</u>	<u>Particpants</u>	<u>Births</u>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
4000		0	4 0000	0.0			0.0	0.0	0	
1988		2	1.0000 1.0000				2.0 9.0	2.0 9.0	0	
1989		9							0	
1990		5	1.0000				5.0		0	
1991		9	1.0000				9.0		0	
1992		8	1.0000				8.0		0	
1993		11	1.0000				11.0		0	
1994	04.074	6	1.0000		0.7	40.0	6.0	6.0	0	40.00
1995	91,871	10	1.0000		8.7	10.0	10.0	10.0		10.88
1996	92,115	8	1.0000		8.8	8.0	8.0			8.68
1997	91,664	11	1.0000		8.7	11.0	11.0			12.00
1998	94,114	7	1.0000		8.9	7.0	7.0			7.44
1999	95,207	7	1.0000		9.0	7.0	6.0	7.0	0	7.35
2000	98,864	13	1.0000		9.4	13.0	14.0	13.0	0	13.15
2001	98,531	10	1.0000		9.4	10.0	11.0	10.0		10.15
2002	99,235	10	1.1000		9.4	10.9	11.0	11.0		11.08
2003	100,561	10	1.1550		9.6	11.3	11.0	12.0		11.93
2004	103,830	4	1.2705	5.1	9.9	6.1	10.0	6.0		5.78
2005	104,488	2	1.5246	3.0	9.9	5.4	8.0	5.0		4.79
2006	106,474	4	1.8295	7.3	10.1	8.6	10.0	8.0		7.51
2007	108,417	3	2.2869	6.9	10.3	8.8	10.0	8.0	5	7.38
2008	106,578	3	3.4304	10.3	10.1	10.2	10.0	10.0	7	9.38
2009	104,979	3	8.5759	25.7	10.0	11.8	10.0	10.0	7	9.53
2010	105,000	0	21.4397	0.0	10.0	9.5		10.0	10	9.52
Total		155		196.9			197	196	41	
1995-2010	1,601,928	105		146.9	152.2	148.5	147.0	146.0	41	9.11
2000-05	605,509	49		53.7	57.5	56.7	65	57	8	9.41
2000-07	820,400	56		67.9	77.9	74.0	85	73	17	8.90
2000 01	020,700	30		01.3	11.5	74.0	05	73	11	0.30

#### **Notes**

(1) From Virginia Department of Health

(2),(3) From Exhibit

(4) Col (2) x Col (3)

(5) Col (1) x [9.5 / 100,000]

(6)  $\operatorname{Col}(2) + \left\{\operatorname{Col}(1) \times [9.5 / 100,000]\right\} \times [1 - 1 / \operatorname{Col}(3)]$ 

(7) From Prior Report

(8) Judgment

(9) Col (8) - Col (2)

(10) Col (8) / Col (1) x 100,000

Birth											Months	of Developr	nent										
Year	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276
1988	0	0	0	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1989	0	0	0	1	2	3	5	5	5	5	7	7	9	9	9	9	9	9	9	9	9	9	
1990	0	0	0	0	0	0	1	1	1	2	3	3	3	3	3	3	3	4	5	5	5		
1991	0	0	1	1	3	4	5	7	8	8	9	9	9	9	9	9	9	9	9	9			
1992	1	1	1	4	5	6	7	8	8	8	8	8	8	8	8	8	8	8	8				
1993	0	3	5	5	5	6	7	8	8	9	10	10	10	10	11	11	11	11					
1994	0	1	1	3	3	3	3	3	4	5	6	6	6	6	6	6	6						
1995	2	2	3	3	4	5	5	6	6	6	9	10	10	10	10	10							
1996	0	1	3	3	7	8	8	8	8	8	8	8	8	8	8								
1997	2	2	5	7	8	8	9	9	9	9	10	11	11	11									
1998	0	1	3	4	5	5	6	6	6	7	7	7	7										
1999	0	0	1	1	2	3	5	6	6	6	6	7											
2000	0	0	2	6	6	9	11	12	12	12	13												
2001	0	1	4	5	6	6	8	10	10	10													
2002	1	1	5	8	9	9	10	10	10														
2003	0	2	4	6	8	8	10	10															
2004	0	0	1	3	4	4	4																
2005	0	0	2	2	2	2																	
2006	0	2	3	4	4																		
2007	0	1	3	3																			
2008	0	2	3																				
2009	1	3																					
2010	0																						
Birth	40.04	04.00	00.40	40.00	00.70	70.04	04.00	00.400	400 400	400 400	400 444	444.450	450 400	400 400	400 400	400.004	004.040	040.000	000 040	0.40, 050	050.004	004.070	070 111
<u>Year</u>	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192	192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-Ult.
1988				1.0000	1.0000	1.0000	2.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
1989				2.0000	1.5000	1.6667	1.0000	1.0000	1.0000	1.4000	1.0000	1.2857	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		
1990							1.0000	1.0000	2.0000	1.5000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.3333	1.2500	1.0000	1.0000			
1991			1.0000	3.0000	1.3333	1.2500	1.4000	1.1429	1.0000	1.1250	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				
1992	1.0000	1.0000	4.0000	1.2500	1.2000	1.1667	1.1429	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000					
1993		1.6667	1.0000	1.0000	1.2000	1.1667	1.1429	1.0000	1.1250	1.1111	1.0000	1.0000	1.0000	1.1000	1.0000	1.0000	1.0000						
1994		1.0000	3.0000	1.0000	1.0000	1.0000	1.0000	1.3333	1.2500	1.2000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000							
1995	1.0000	1.5000	1.0000	1.3333	1.2500	1.0000	1.2000	1.0000	1.0000	1.5000	1.1111	1.0000	1.0000	1.0000	1.0000								
1996	4.0000	3.0000	1.0000	2.3333	1.1429	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000									
1997	1.0000	2.5000	1.4000	1.1429	1.0000	1.1250	1.0000	1.0000	1.0000	1.1111	1.1000	1.0000	1.0000										
1998		3.0000	1.3333	1.2500	1.0000	1.2000	1.0000	1.0000	1.1667	1.0000	1.0000	1.0000											
1999			1.0000	2.0000	1.5000	1.6667	1.2000	1.0000	1.0000	1.0000	1.1667												
2000 2001		4.0000	3.0000 1.2500	1.0000 1.2000	1.5000 1.0000	1.2222 1.3333	1.0909 1.2500	1.0000 1.0000	1.0000 1.0000	1.0833													
2001	1.0000	5.0000	1.6000	1.1250	1.0000	1.1111	1.0000	1.0000	1.0000														
2002	1.0000	2.0000	1.5000	1.3333	1.0000	1.1111	1.0000	1.0000															
2003		2.0000	3.0000	1.3333	1.0000	1.2500	1.0000																
2004			1.0000	1.0000	1.0000	1.0000																	
2005		1.5000	1.3333	1.0000	1.0000																		
2007		3.0000	1.0000	1.0000																			
2007		1.5000	1.0000																				
2008	3.0000	1.5000																					
2003	3.0000																						
Avg.	1.4000	2.3590	1.6716	1.4056	1.1545	1.1974	1.1517	1.0317	1.1101	1.1562	1.0315	1.0260	1.0000	1.0111	1.0000	1.0000	1.0556	1.0500	1.0000	1.0000	1.0000	1.0000	
Wgt. Avg.	3.2857	2.5000	1.4894	1.2537	1.1250	1.1974	1.0990	1.0198	1.0430	1.1264	1.0313	1.0247	1.0000	1.0154	1.0000	1.0000	1.0238	1.0300	1.0000	1.0000	1.0000	1.0000	
10-year	2.0000	2.8333	1.6017	1.2385	1.1143	1.1908	1.0741	1.0333	1.0542	1.1131	1.0333	1.0247	1.0000	1.0134	1.0000	1.0000	1.0556	1.0500	1.0000	1.0000	1.0000	1.0000	
15-year	1.5000	2.5455	1.5611	1.2867	1.1417	1.1780	1.0951	1.0333	1.1101	1.1562	1.0376	1.0260	1.0000	1.0111	1.0000	1.0000	1.0556	1.0500	1.0000	1.0000	1.0000	1.0000	
10 year	1.0000	2.0400	1.0011	1.2007	1.1711	1.1700	1.0001	1.0017	1.1101	1.1002	1.0010	1.0200	1.0000	1.0111	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Sel. LDF:	2.5000	2.5000	1.5000	1.2500	1.2000	1.2000	1.1000	1.0500	1.1000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
LDF to Ult.:	21.4397	8.5759	3.4304	2.2869	1.8295	1.5246	1.2705	1.1550	1.1000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

# Virginia Birth Related Neurological Injury Compensation Fund

Reserve Analysis as of 12/31/2010

Present Value of Projected Future Unpaid Benefits by Category and Medical Status

Exhibit 5
Page 1

				Total		
	Non-Ambulatory	Non-Ambulatory		Admitted	Group C	
Benefit Category	/ No G-Tube	<u>/ G-Tube</u>	<u>Ambulatory</u>	<u>Participants</u>	<u>Participants</u>	<u>Total</u>
Nursing	47,810,259	64,944,829	37,195,992	149,951,080	68,368,005	218,319,084
Hospital/Physician	1,037,431	932,550	794,952	2,764,933	1,062,730	3,827,663
Physical Therapy	1,107,846	588,018	268,697	1,964,561	562,231	2,526,792
Medical Equipment	2,269,591	1,258,196	666,942	4,194,730	1,694,965	5,889,695
Prescription Drugs	725,616	1,282,252	614,217	2,622,085	1,284,160	3,906,245
Incidental	1,923,245	1,720,401	1,241,499	4,885,145	1,983,647	6,868,793
Housing	3,483,572	3,647,188	2,550,840	9,681,600	4,305,538	13,987,139
Vans	5,846,365	3,223,623	3,388,869	12,458,857	3,876,657	16,335,514
Auto Ins	567,366	279,951	353,127	1,200,444	368,995	1,569,439
Health Ins	381,703	690,475	549,693	1,621,871	781,134	2,403,005
Lost Wages	19,154,346	8,277,320	13,018,996	40,450,662	8,059,886	48,510,548
Medical Review / Intake	0	0	0	0	56,463	56,463
Legal	0	0	0	0	766,187	766,187
Death Benefit	137,547	167,870	33,722	339,138	303,713	642,852
Total	84,444,888	87,012,673	60,677,547	232,135,108	93,474,312	325,609,420

# Virginia Birth Related Neurological Injury Compensation Fund

Reserve Analysis as of 12/31/2010

Present Value of Average Projected Future Unpaid Benefits by Category and Medical Status Excludes Deceased Participants

Exhibit 5 Page 2

				Total	All	
	Non-Ambulatory	Non-Ambulatory		Living	Group C	
Benefit Category	/ No G-Tube	/ G-Tube	<u>Ambulatory</u>	<u>Participants</u>	<u>Participants</u>	<u>Total</u>
Nursing	956,205	1,411,844	1,859,800	1,292,682	1,667,512	1,390,567
Hospital/Physician	20,749	20,273	39,748	23,836	25,920	24,380
Physical Therapy	22,157	12,783	13,435	16,936	13,713	16,094
Medical Equipment	45,392	27,352	33,347	36,161	41,341	37,514
Prescription Drugs	14,512	27,875	30,711	22,604	31,321	24,881
Incidental	38,465	37,400	62,075	42,113	48,382	43,750
Housing	69,671	79,287	127,542	83,462	105,013	89,090
Vans	116,927	70,079	169,443	107,404	94,553	104,048
Auto Ins	11,347	6,086	17,656	10,349	9,000	9,996
Health Ins	7,634	15,010	27,485	13,982	19,052	15,306
Lost Wages	383,087	179,942	650,950	348,713	196,583	308,984
Medical Review / Intake	0	0	0	0	1,377	360
Legal	0	0	0	0	18,687	4,880
Death Benefit	2,751	3,649	1,686	2,924	7,408	4,095
Total	1,688,898	1,891,580	3,033,877	2,001,165	2,279,861	2,073,945

# Virginia Birth Related Neurological Injury Compensation Fund Reserve Analysis as of 12/31/2010

Exhibit 6

**Claim Administration Expense Estimate** 

Calendar <u>Year</u>	Living Participants (1)	Claim Administration <u>Expense</u> (2)	•	Selected Clm Admn Exp Per Living Participant (4)	Projected Living Participants Born in 2011 or Prior (5)	Selected Inflationary <u>Trend</u> (6)	Projected Claim Administration Expenses (7)	Present Value Projected Claim Administration Expenses (8)
2002	59	495,000	8,390					
2003	64	562,500	8,789					
2004	72	546,278	7,587					
2005	81	732,654	9,045					
2006	93	754,290	8,111					
2007	96	789,411	8,223					
2008	109	752,504	6,904					
2009	113	784,645	6,944					
2010	116	851,426	7,340					
2011					119.73		897,954	874,234
2012					123.01		949,450	876,180
2013					124.44		988,404	864,577
2014					124.64		1,018,781	844,690
2015					123.96		1,042,738	819,481
2016					122.54		1,060,744	790,173
Total Future	Expenses						70,995,543	18,465,829
Total	803	6,268,708	7,807	7,500		2.91%		

### <u>Notes</u>

- (1),(2) From Virginia Department of Health
- (3) Col (2) / Col (1)
- (4) Selected 2011 value based on Col (3)
- (5) Projected based on Life Tables
- (6) Judgment
- (7) Col (4) \* Col (5) trended forward based on Col (6)
- (8) Col (7) discounted by 5.5%

#### Roll Forward 2011 282.2 Liabilities as of 12/31/10 344.1 Assets as of 12/31/10 For Admitted Participants 232.1 For Not Yet Admitted Participants 93.5 For Claimant Adminsistrations Expenses 18.5 2011 Assessments Admitted Participants Impact Participating Hospitals: One Year's Interest 4.2 12.8 Participating Physicians: 4.1 Estimated Future Payments for Participants Non-Participating Physicians: 4.4 Admitted in 2011 21.6 Liability Insurers: 12.9 Payments in 2011 (15.9)Total Assessments 25.6 **Total Admitted Participants Impact** 18.5 2011 Payments Not Yet Admitted Participants Benefit Payments to Participants: (16.0)One Year's Interest 5.1 Future Payments for Participants born in 2011 23.8 Claimant Administration Expenses: (0.9)**Unallocated Expenses:** Estimated Future Payments for Participants (0.2)Admitted in 2011 (21.6)**Total Payments** (17.2)Total Not Yet Admitted Participants Impact 7.3 2011 Interest Accrual Interest Accrual on 12/31/10 Assets 15.5 Claimant Administration Expenses Interest Accrual on 2011 Assessments 0.7 One Year's Interest 1.0 Interest Accrual on 2011 Payments (0.5)Expense Payments in 2011 (0.9)**Total Claimant Administration Expenses Impact** 0.1 Total Interest Accrual 15.7 Assets as of 12/31/11 306.4 Liabilities as of 12/31/11 369.9 For Admitted Participants 250.6 For Not Yet Admitted Participants 100.7 For Claimant Adminsistrations Expenses 18.6 Surplus/(Deficit) As of 12/31/10 (61.9)Surplus/(Deficit) As of 12/31/11 (63.6)

Exhibit 7

Page 1

Virginia Birth Related Neurological Injury Compensation Fund

Reserve Analysis as of 12/31/2010

## Virginia Birth Related Neurological Injury Compensation Fund Reserve Analysis as of 12/31/2010 Roll Forward 2012

Exhibit 7 Page 2

Assets as of 12/31/11		306.4	Liabilities as of 12/31/11			369.9
			For Admitted Participants	250.6		
			For Not Yet Admitted Participants	100.7		
			For Claimant Adminsistrations Expenses	18.6		
2012 Assessments			Admitted Participants Impact			
Participating Hospitals:	4.2		One Year's Interest	13.8		
Participating Physicians:	4.1		Estimated Future Payments for Participants			
Non-Participating Physicians:	4.4		Admitted in 2012	23.3		
Liability Insurers:	12.9		Payments in 2012	(16.3)		
Total Assessments	25.7		Total Admitted Participants Impact		20.8	
2012 Payments			Not Yet Admitted Participants			
Benefit Payments to Participants:	(17.3)		One Year's Interest	5.5		
Claimant Administration Expenses:	(0.9)		Future Payments for Participants born in 2012	24.8		
Unallocated Expenses:	(0.2)		Estimated Future Payments for Participants			
			Admitted in 2012	(23.3)		
Total Payments	(18.5)	)				
			Total Not Yet Admitted Participants Impact		7.0	
2012 Interest Accrual						
Interest Accrual on 12/31/11 Assets	16.8		Claimant Administration Expenses			
Interest Accrual on 2012 Assessments	0.7		One Year's Interest	1.0		
Interest Accrual on 2012 Payments	(0.5)		Expense Payments in 2012	(0.9)		
			Total Claimant Administration Expenses Impact		0.1	
Total Interest Accrual	17.0					
Assets as of 12/31/12		330.6	Liabilities as of 12/31/12			397.8
			For Admitted Participants	271.4		
			For Not Yet Admitted Participants	107.7		
			For Claimant Adminsistrations Expenses	18.7		
Surplus/(Deficit) As of 12/31/11		(63.6)	Surplus/(Deficit) As of 12/31/12			(67.2)
Outplus/(Delicit) As of 12/31/11		(03.0)	Outplus/(Delicit) As of 12/31/12			(01.2)

#### Reserve Analysis as of 12/31/2010 Page 3 **Roll Forward 2013** 330.6 Liabilities as of 12/31/12 397.8 Assets as of 12/31/12 For Admitted Participants 271.4 For Not Yet Admitted Participants 107.7 For Claimant Adminsistrations Expenses 18.7 2013 Assessments Admitted Participants Impact Participating Hospitals: One Year's Interest 4.2 14.9 Participating Physicians: 4.2 Estimated Future Payments for Participants Non-Participating Physicians: 4.4 Admitted in 2013 23.5 Liability Insurers: 12.9 Payments in 2013 (15.8)Total Assessments 25.7 **Total Admitted Participants Impact** 22.6 2013 Payments Not Yet Admitted Participants Benefit Payments to Participants: (17.7)One Year's Interest 5.9 Future Payments for Participants born in 2013 25.8 Claimant Administration Expenses: (1.0)**Unallocated Expenses:** Estimated Future Payments for Participants (0.2)Admitted in 2013 (23.5)**Total Payments** (19.0)Total Not Yet Admitted Participants Impact 8.3 2013 Interest Accrual Interest Accrual on 12/31/12 Assets 18.2 Claimant Administration Expenses Interest Accrual on 2013 Assessments 0.7 One Year's Interest 1.0 Interest Accrual on 2013 Payments (0.5)Expense Payments in 2013 (1.0)**Total Claimant Administration Expenses Impact** 0.0 Total Interest Accrual 18.4 Assets as of 12/31/13 355.7 Liabilities as of 12/31/13 428.6 For Admitted Participants 294.0 For Not Yet Admitted Participants 116.0 For Claimant Adminsistrations Expenses 18.7

Exhibit 7

(73.0)

Virginia Birth Related Neurological Injury Compensation Fund

Surplus/(Deficit) As of 12/31/12

VA BRNICP Reserve Exhibits.xlsx 8/9/2011

Surplus/(Deficit) As of 12/31/13

(67.2)