

EXHIBIT 8



Summaries of Risk Adjustment, Transitional Reinsurance, and Risk Corridor Programs

February 25, 2014

“3Rs” Premium Stabilization Programs – Challenge: Uncertainty in Complex Workings of 3Rs



The “3Rs” were established under ACA to mitigate possible adverse financial consequences of the ACA-imposed changes to the way carriers do business and to hedge against the uncertainty.

Two of the three Rs phase out by 2017 as the financial impacts are better understood.

1. Reinsurance (2014-2016)

- Reduces the uncertainty of insurance risk in the individual market by subsidizing the impact of high-cost cases via a pool of funds from an assessment of all carriers and self-insured accounts.
- Funds phase down over 3-year period: \$10B in 2014; \$6B in 2015; \$4B in 2016 nationally.

2. Risk Adjustment (Permanent)

- Intended to even out rates among carriers by transferring funds to carriers that attract high-risk populations from carriers that attract low-risk populations.

3. Risk Corridors (2014-2016)

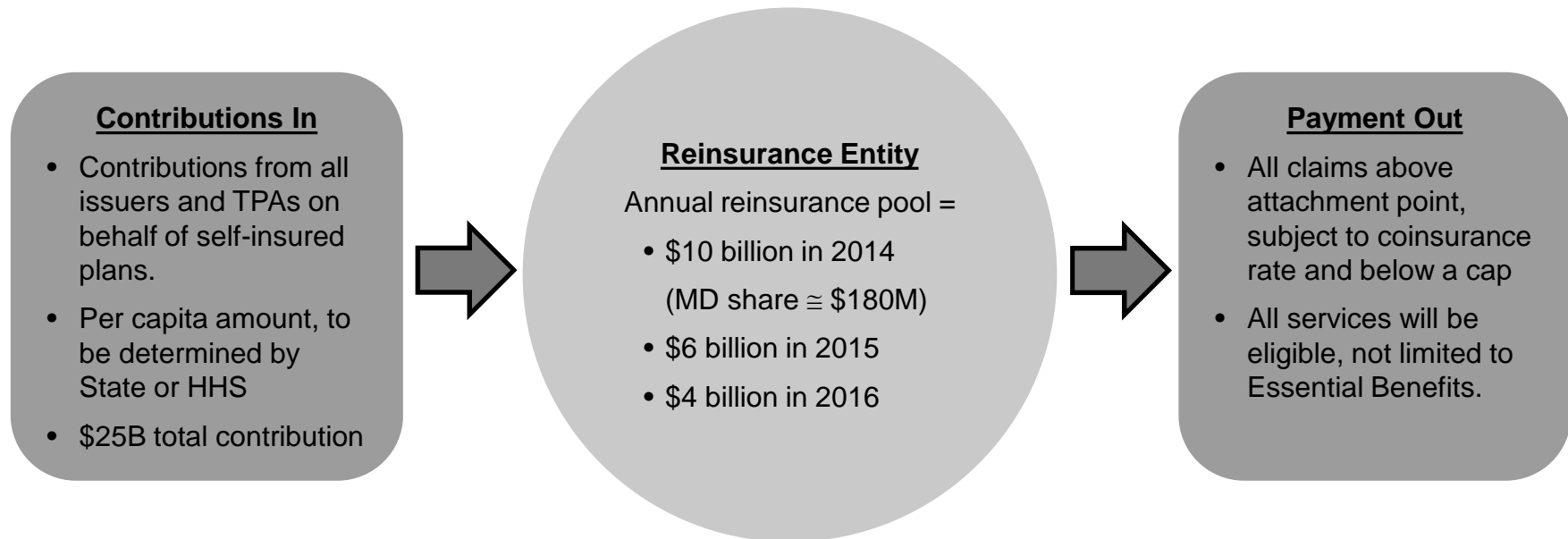
- Protects against incorrect estimation of average or total costs in the startup years of ACA.
- This “safety net” program ends after 2016, leaving insurers at greater financial risk.

	Inside Exchange		Outside Exchange			Who Administers
	Individual	Small Group	Individual	Small Group	Grand-fathered	
Reinsurance	✓		✓			State or HHS
Risk Adjustment	✓	✓	✓	✓		HHS
Risk Corridors	✓	✓	✓*	✓*		HHS

*Risk corridors will be applied to products off Exchange if they are substantially the same as products on the Exchange.

Reinsurance (Federal: 2014-2016)

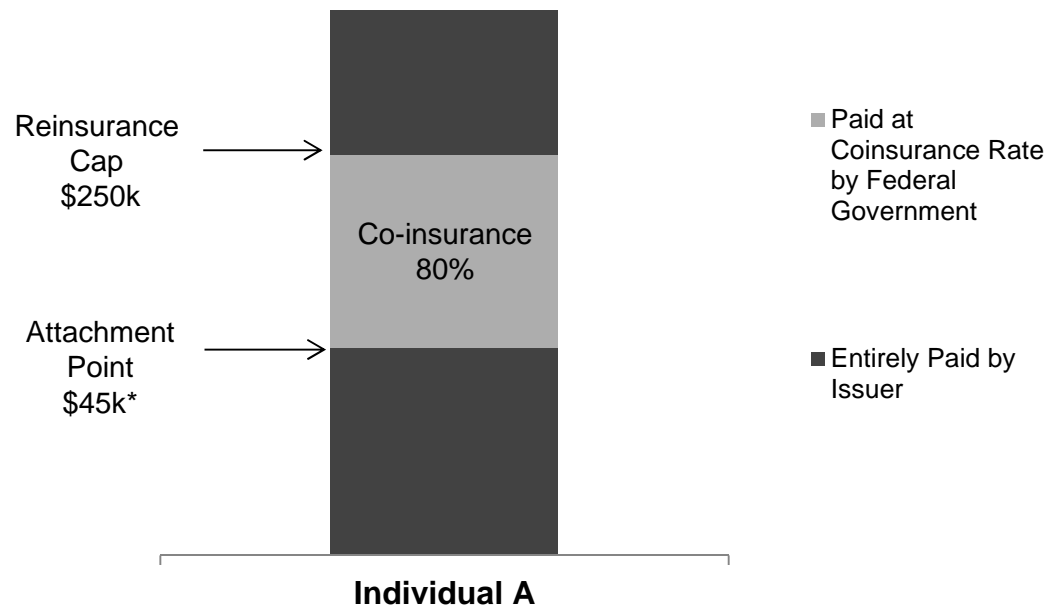
- Each state may elect to operate its own reinsurance program regardless of whether it establishes its own Exchange. If a State does not, HHS will take the place of the State and establish the program.
- All issuers (including ASO plans) and third party administrators (TPAs) must contribute funding, on a per capita basis, to be determined by the state or HHS.
 - The total national contribution is \$25B over 3 years - \$20B of which will be used for the reinsurance pool (\$5B will be used to fund costs).
 - ASO and TPA plans are likely to push back when they begin to be assessed. There is a current proposal (pending regulatory approval) that would exempt ASOs from contributing to reinsurance in 2015 and 2016.
- Federal reinsurance will be assessed quarterly and reconciled annually. First reinsurance payment is scheduled for May 2014.



Reinsurance Payment Example

- Reinsurance will cover all claims in non-grandfathered individual plans.
- Revised 2014 reinsurance guidance were released mid-November 2013 and included:
 - **Attachment point of \$45k***: Dollar amount threshold where reinsurance begins
 - **Reinsurance cap of \$250k**: Dollar limit threshold where reinsurance ends
 - **Co-insurance rate of 80%**: Rate applied to dollar amounts above the attachment point and below the reinsurance cap the Federal Government will pay

Carriers will be liable for 100% of all claims below the attachment point and above the cap, unless a secondary reinsurance is available to wrap around the Federal reinsurance model.



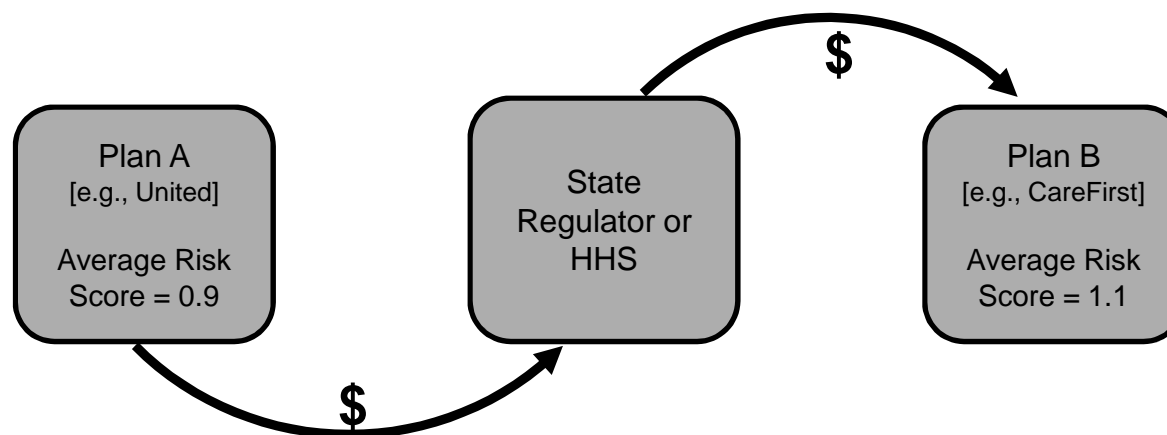
* \$60k attachment point currently approved; \$45k attachment point pending approval

Source: CMS

Risk Adjustment Rules

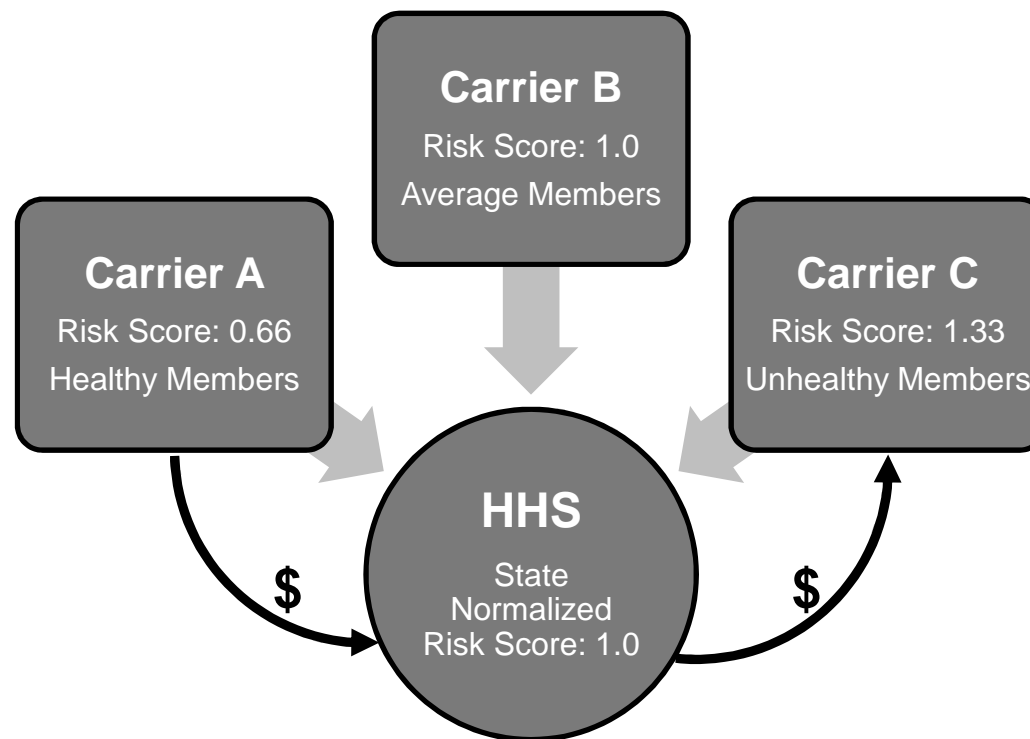
- Risk adjustment involves a transfer of funds to carriers that attract high-risk populations (higher average risk scores) from carriers that attract low-risk populations (lower average risk scores).
- States may elect to operate their own risk adjustment program only if they establish an Exchange. Risk pools must be aggregated at the state level, meaning a plan's risk score will be compared to other plans in the state.
- If state elects to operate its own program, it must use a “federally-certified risk adjustment methodology” either by using a pre-approved methodology or having its own methodology approved by HHS.
- The risk adjustment methodology has been untested – there will be insufficient data on the new risk pool up front to determine accurate risk scores.
- All non-grandfathered individual and small group market plans, on and off the Exchange, must participate.

Risk Adjustment at Plan Level



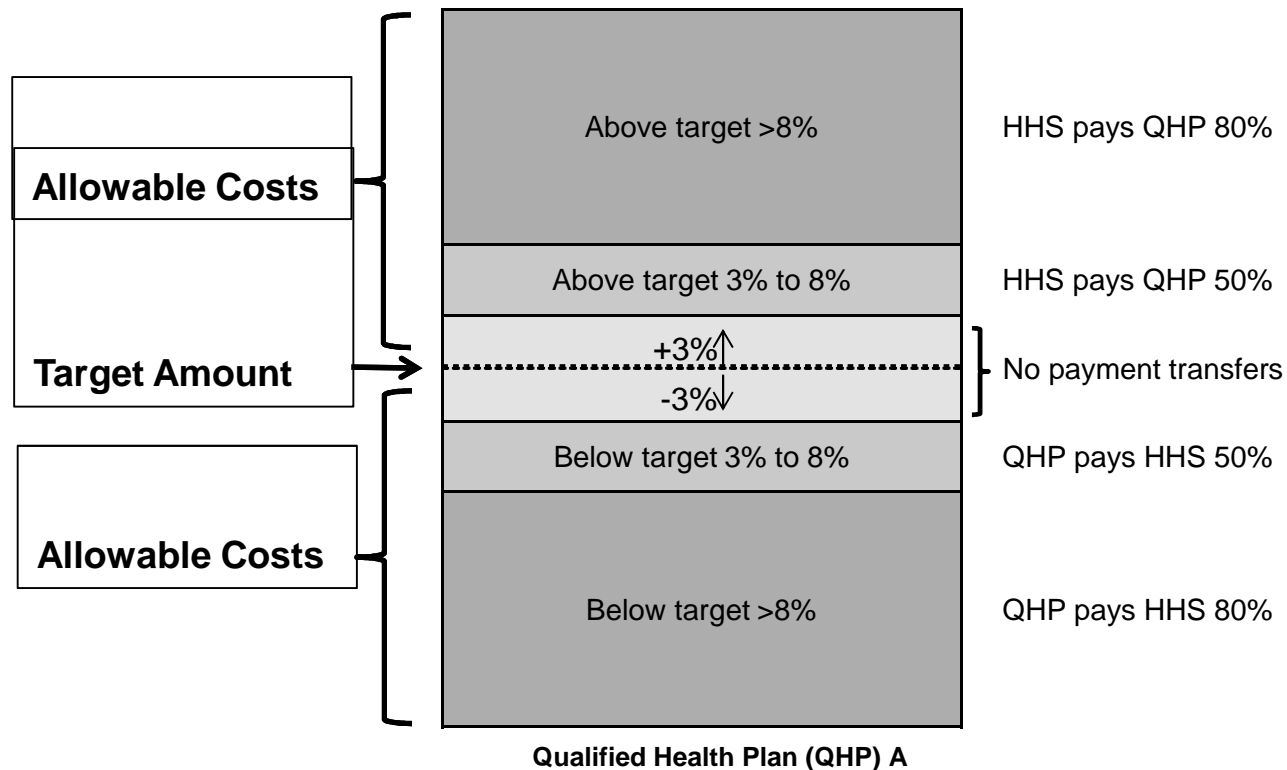
Risk Adjustment Process

1. Carriers calculate their plan average risk scores and submit the scores to HHS.
2. HHS collects all data to determine the average risk score for the state. Transfer payments will be calculated based on the average risk scores.
3. Carriers with lower than average risk scores will make payments to HHS and carriers with higher than average risk scores will receive payments from HHS.
 - All carriers will submit risk score data to HHS.
 - Carrier A, with a lower risk score, will submit payment to HHS.
 - Carrier B, with an average risk score, will neither pay or receive anything.
 - Carrier C, with a higher risk score, will receive payment from HHS.



Risk Corridors (2014-2016)

- Risk corridor, calculated last after reinsurance and risk adjustments, compares allowable claims costs (“actual claims minus impact of 2Rs”) to target claims costs (“predicted costs”).
- HHS will pay a QHP carrier whose incurred allowable costs for a benefit year are **greater than 103% of its target amount**, and QHP carriers must pay HHS if its QHP allowable costs for a benefit year are **less than 97% of its target amount**.
- For a QHP with allowable costs in excess of 103%, but not more than 108% of the target amount, HHS will pay the QHP carrier **50% of the amount in excess of 103%**.
- For a QHP with allowable costs less than 97%, but not less than 92% of the target amount, the QHP carrier must pay HHS **50% of the amount below 97%**.



Pricing and 3Rs Timeline – Full 2014 Experience Will be Reflected in 2016 Rates (at the Earliest)



3Rs Implementation Timeline

		2013	2014	2015
Insurer Experience Year	Affects All Years	<p>Q1 2013</p> <ul style="list-style-type: none"> Final HHS Payment Notice State Publish Notice for Benefit and Payment Parameters <p style="text-align: center;">October 2013</p> <ul style="list-style-type: none"> Exchanges come online 		
	2014	<p>January 2013</p> <ul style="list-style-type: none"> Collect reinsurance contribution; continues quarterly <p style="text-align: center;">April 2013</p> <ul style="list-style-type: none"> File 2014 rates 	<p>Q2 2014</p> <ul style="list-style-type: none"> First quarterly reinsurance payment; continues quarterly. 	<p>Q1 2015</p> <ul style="list-style-type: none"> 2014 Risk Adjustment data ready for calculation <p>Q2 2015</p> <ul style="list-style-type: none"> Risk Adjustment calculated Data for Risk Corridor sent to HHS Risk Adjustment payments and charges distributed MLR Rebates
	2015	<p>Q2 2014</p> <ul style="list-style-type: none"> File 2015 rates 		
	2016	<p>Q2 2015</p> <ul style="list-style-type: none"> File 2016 rates 		

EXHIBIT 9

Financial Impact of DC Individual and Small Group Pricing Decisions

	(A)		(B)		(C)		(D)		(E)				(F)			
	Premium (in 1,000's)	Contracts	% of Contracts Renewing	Target CtR	Filed CtR	Implied CtR	Needed Renewal	Approved Renewal	Financial Impact vs. Filed Ctr (\$'s in 1,000's)				Financial Impact vs. 0% Ctr (\$'s in 1,000's)			
4Q2010									2011	2012	2013	Total	2011	2012	2013	Total
Individual	\$27,748	7,934	24%	2%	1.8%	-0.6%	14.2%	11.8%	(\$134)			(\$134)	(\$34)			(\$34)
Small Group	\$339,693	42,817	26%	3%	2.5%	2.4%	5.2%	5.1%	(\$46)			(\$46)	\$1,773			\$1,773
Combined	\$367,440	50,751	26%				7%	6%	(\$180)			(\$180)	\$1,739			\$1,739
1Q2011																
Individual	\$30,364	8,106	27%	2%	1.3%	-0.9%	11.7%	9.4%	(\$169)	(\$15)		(\$184)	(\$70)	(\$6)		(\$76)
Small Group	\$381,748	41,719	31%	3%	0.7%	-2.3%	8.6%	5.6%	(\$3,269)	(\$297)		(\$3,566)	(\$2,538)	(\$231)		(\$2,769)
Combined	\$412,112	49,825	30%				9%	6%	(\$3,438)	(\$313)		(\$3,751)	(\$2,608)	(\$237)		(\$2,845)
2Q2011																
Individual	\$31,124	8,156	37%	2%	1.3%	-9.4%	8.2%	-2.5%	(\$772)	(\$463)		(\$1,235)	(\$676)	(\$406)		(\$1,082)
Small Group	\$378,919	41,719	28%	3%	0.7%	-3.6%	-0.1%	-4.4%	(\$2,783)	(\$1,670)		(\$4,453)	(\$2,340)	(\$1,404)		(\$3,743)
Combined	\$410,043	49,875	29%				1%	-4%	(\$3,555)	(\$2,133)		(\$5,688)	(\$3,016)	(\$1,809)		(\$4,825)
3Q2011																
Individual	\$31,124	8,156	18%	2%	1.3%	-12.3%	3.0%	-10.6%	(\$284)	(\$474)		(\$759)	(\$257)	(\$428)		(\$685)
Small Group	\$342,317	42,461	17%	3%	-4.0%	-3.9%	-12.7%	-12.6%	(\$836)	(\$1,394)		(\$2,230)	(\$836)	(\$1,394)		(\$2,230)
Combined	\$373,440	50,617	17%				-10%	-12%	(\$1,121)	(\$1,868)		(\$2,989)	(\$1,093)	(\$1,822)		(\$2,915)
4Q2011																
Individual	\$31,374	8,020	25%	2%	-10.0%	-9.7%	-13.3%	-13.0%	(\$128)	(\$639)		(\$767)	(\$128)	(\$639)		(\$767)
Small Group	\$325,456	40,764	26%	3%	-2.0%	-2.0%	-12.6%	-12.5%	(\$275)	(\$1,375)		(\$1,650)	(\$275)	(\$1,375)		(\$1,650)
Combined	\$356,830	48,784	26%				-13%	-13%	(\$403)	(\$2,014)		(\$2,417)	(\$403)	(\$2,014)		(\$2,417)
1Q2012																
Individual	\$27,996	8,292	26%	2%	-5.0%	-5.4%	-8.8%	-9.2%		(\$368)	(\$33)	(\$402)		(\$368)	(\$33)	(\$402)
Small Group	\$328,816	40,604	29%	3%	5.0%	-2.2%	-2.7%	-9.8%		(\$6,267)	(\$570)	(\$6,837)		(\$1,888)	(\$172)	(\$2,060)
Combined	\$356,812	48,896	29%				-4%	-10%		(\$6,635)	(\$603)	(\$7,238)		(\$2,256)	(\$205)	(\$2,461)
2Q2012																
Individual	\$27,761	7,890	28%	2%	0.0%	-5.8%	-6.7%	-12.5%		(\$301)	(\$151)	(\$452)		(\$301)	(\$151)	(\$452)
Small Group	\$325,767	42,270	20%	3%	0.0%	1.1%	2.5%	3.7%		\$486	\$243	\$729		\$486	\$243	\$729
Combined	\$353,527	50,160	21%				1%	1%		\$185	\$92	\$277		\$185	\$92	\$277
3Q2012																
Individual	\$28,059	7,764	27%	2%	2.0%	-15.7%	20.1%	2.4%		(\$554)	(\$776)	(\$1,330)		(\$491)	(\$688)	(\$1,179)
Small Group	\$348,826	42,290	25%	3%	0.7%	-1.6%	10.3%	8.0%		(\$831)	(\$1,163)	(\$1,994)		(\$587)	(\$821)	(\$1,408)
Combined	\$376,885	50,054	25%				12%	7%		(\$1,385)	(\$1,939)	(\$3,324)		(\$1,078)	(\$1,509)	(\$2,587)
4Q2012																
Individual	\$29,743	7,821	25%	2%	3.2%	-19.4%	31.0%	8.4%		(\$280)	(\$1,401)	(\$1,681)		(\$241)	(\$1,205)	(\$1,446)
Small Group	\$342,260	42,616	26%	3%	2.0%	-10.5%	22.4%	9.9%		(\$1,866)	(\$9,331)	(\$11,197)		(\$1,567)	(\$7,834)	(\$9,401)
Combined	\$372,003	50,437	26%				24%	10%		(\$2,146)	(\$10,732)	(\$12,878)		(\$1,808)	(\$9,039)	(\$10,847)

Comments

Calculation for Columns (E) and (F):

(E) = (A) * (B) * (D-C) if Filed CtR > 0

(E) = (A) * (B) * (D) if Filed CtR < 0

(F) = (A) * (B) * (D)

This number is then divided between calendar years based on the portion of that year impacted by the renewal increase. For example, for a 1Q2011 renewal we assumed the average group renews in February and therefore 11/12 of the rate action will impact 2011 while 1/12 will impact 2012.

PDR

For DC, we booked a PDR of \$7.2m in 2011 and \$13.1m in 2012.

Total Financial Impact				
Individual	(\$1,487)	(\$3,096)	(\$2,361)	(\$6,944)
Small Group	(\$7,210)	(\$13,214)	(\$10,821)	(\$31,245)
Subtotal	(\$8,697)	(\$16,310)	(\$13,182)	(\$38,188)
Large Group	(\$1,600)	(\$5,400)		(\$7,000)
Grand Total	(\$10,297)	(\$21,710)	(\$13,182)	(\$45,188)

(\$1,164)	(\$2,881)	(\$2,077)	(\$6,122)
(\$4,216)	(\$7,959)	(\$8,584)	(\$20,759)
(\$5,380)	(\$10,840)	(\$10,661)	(\$26,881)

EXHIBIT 10

GHMSI 2011 and 2013 Surplus and Benefit Expenses

Using 2011 and 2013 experience, GHMSI's total surplus is equivalent to only three months of benefit expenses incurred directly by GHMSI and GHMSI's share of the expenses incurred by CareFirst BlueChoice, Inc. (BlueChoice).¹ Currently, GHMSI spends more than four times its total surplus in medical claims costs.

**Chart A:
GHMSI Benefit Expenses, Surplus and RBC-ACL as Reported to DISB**

	2011	2013
GHMSI net incurred benefits ²	\$2,694,989,918	\$2,799,374,283
BlueChoice net incurred benefits: ³	\$1,597,017,014	\$1,911,857,575
Total GHMSI net incurred benefits, including 49.999% ownership of BlueChoice: ⁴	\$3,493,482,454	\$3,755,283,952
GHMSI total claims/day ⁵	\$9,571,184	\$10,288,449
GHMSI RBC-ACL ⁶	\$963,581,310 (998% RBC-ACL)	\$934,751,475 (932% RBC-ACL)

¹ GHMSI and CareFirst of Maryland, Inc. (CFMI) jointly own BlueChoice -- GHMSI holds a 49.999% ownership interest in BlueChoice. BlueChoice does not hold surplus of its own; BlueChoice surplus is attributed to GHMSI and CFMI in proportion to their ownership interests, and liabilities from BlueChoice are included in the risk based capital calculations for GHMSI and CFMI.

² Source: Annual Statements for the Year 2011 and 2013 of Group Hospitalization and Medical Services, Inc., Underwriting and Investment Exhibit, Part 2.

³ Source: Annual Statements for the Year 2011 and 2013 of CareFirst BlueChoice, Inc., Underwriting and Investment Exhibit, Part 2.

⁴ For 2011: $\$2,694,989,918 + (0.49999 \times \$1,597,017,014) = \$3,493,482,454$
For 2013: $\$2,799,374,283 + (0.49999 \times \$1,911,857,575) = \$3,755,283,952$

⁵ Calculated as (Total GHMSI net incurred benefits/365).

⁶ As reported to DISB in annual RBC filings.

**Chart B:
Ratios of Benefit Expenses to Surplus Levels**

Surplus Level	2011		2013	
	Dollar Amount	Days of Benefit Expenses	Dollar Amount	Days of Benefit Expenses
100% RBC-ACL	\$96,518,715	10.08	\$100,267,875	9.75
200% RBC-ACL	\$193,037,430	20.17	\$200,535,750	19.49
375% RBC-ACL	\$361,945,181	37.82	\$376,004,531	36.54
Entire GHMSI surplus	\$963,581,310 (998% RBC-ACL)	100.68	\$934,751,475 (932% RBC-ACL)	90.85

EXHIBIT 11

**GHMSI Underwriting Margins From 2009 through 2013,
Including Proportionate Experience of BlueChoice**

	GHMSI Alone		BlueChoice Alone		GHMSI + 0.49999% share in BlueChoice	
	Underwriting Gain/(Loss) (Thousands \$)	UW G/L as % of Revenue	Underwriting Gain/(Loss) (Thousands \$)	UW G/L as % of Revenue	Underwriting Gain/(Loss) (Thousands \$)	UW G/L as % of Revenue
2009	(1,133)	-0.04%	25,631	1.37%	11,682	0.31%
2010	60,798	2.08%	179,528	9.01%	150,560	3.85%
2011	14,705	0.48%	33,283	1.66%	31,346	0.77%
2012	(47,874)	-1.51%	(2,798)	-0.13%	(49,273)	-1.16%
2013	(35,866)	-1.13%	53,256	2.22%	(9,239)	-0.21%
5-year Average	(1,874)	-0.06%	57,780	2.77%	27,015	0.66%

Source: Annual Statements for the Years 2009, 2010, 2011, 2012, and 2013 for Group Hospitalization and Medical Services, Inc. and CareFirst BlueChoice, Inc., on public file with the District of Columbia Department of Securities, Insurance, and Banking.

EXHIBIT 12

CareFirst Of Maryland, Inc.

Development of Optimal Surplus Target Range

June 29, 2011

Prepared by:

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A. BACKGROUND AND SUMMARY OF RESULTS

At the request of CareFirst, Inc. (CFI) generally and its CareFirst of Maryland, Inc. (CFMI) affiliate specifically, Milliman has carried out an analysis of surplus requirements for CFMI. The purpose of this analysis is to address the need for statutory surplus for CFMI, including its ownership share of CareFirst Holdings, Inc., and to quantify an optimal surplus target range within which we believe the company should strive to operate, under normal circumstances.

This study is an update of a similar study carried out by Milliman for CFI in 2008. We issued a December 10, 2008 report titled "*CareFirst of Maryland, Inc.; Need for Statutory Surplus and Development of Optimal Surplus Target Range*", providing a discussion of the requirements and uses of surplus and presenting our findings. That report also described our approach and methodology, and the principles involved in assessing surplus targets and management of surplus within a target range. We have followed the same general approach in this current analysis, and our previous report provides background information that may be of assistance in understanding the process and the concepts involved. We have included references to that document where appropriate.

The passage of the federal health care reform law (PPACA¹) in 2010 has produced a number of significant changes in the financial and operating environments of health plans, some of which have currently taken effect and others that are scheduled for implementation starting in 2014. We have therefore expanded our analytical techniques to consider the impact on CFMI and its surplus requirements of those health care reform provisions that are currently in effect, and have reflected that additional analysis in our results as presented here. As noted below, we have also separately considered certain aspects of the changes to be made in 2014.

Background

The Company – CFMI does business as CareFirst BlueCross BlueShield in all but two counties in Maryland. The company is affiliated with CFI, a not-for-profit company also affiliated with Group Hospitalization and Medical Services, Inc. (GHMSI). In addition, CFMI owns 50% of CareFirst Holdings, LLC (CFH). CFH, in turn, owns CareFirst BlueChoice, an HMO operating in the District of Columbia, Maryland and certain counties in Virginia, as well as other smaller subsidiaries. This structure became effective December 31, 2010; prior to that date, and at the time of our previous study, CFMI's ownership share of BlueChoice was 60% and BlueChoice was held directly by CFMI rather than through a holding company.

For the purpose of this report, CFMI is understood to mean the combination of 100% of the business of CFMI itself and 50% of the business of CFH, the vast majority of which consists of CareFirst BlueChoice. For consistency with our prior report, we will refer to BlueChoice rather than CFH when

¹ Patient Protection and Affordable Care Act (PPACA). As used in this paper, the term federal health care reform will refer to the PPACA as amended.

discussing the CFMI ownership share of those companies. The business of GHMSI is not reflected in this report.

Chart 1 below shows the breakdown of the company's business between non-FEP insured (or risk) business, FEP, and ASC. In this report FEP refers to the Plan's participation in the BlueCross BlueShield Association Federal Employee Program, and ASC refers to administrative services only contracts with employers. The relatively large proportion of CFMI's business that is FEP is unusual among BlueCross BlueShield Plans, and hence we have split it out separately. While FEP is an insured program, the contract is held by the BlueCross BlueShield Association. Separate rate stabilization reserves are held on behalf of this program, which, at their current level, significantly reduce the short-term underwriting risk to individual BlueCross and BlueShield Plans such as CFMI. ASC business, by its nature, does not present an underwriting risk, but involves other risks which we have taken into consideration.

Chart 1
CFMI Distribution of Business
2010 Premium and Premium Equivalents (GAAP Basis)
(millions)

	Non-FEP Insured	FEP¹	ASC	Total
CFMI	\$942.8	\$950.1	\$2,771.2	\$4,664.0
BlueChoice	\$1,990.9	--	--	\$1,990.9
CFMI + 50% of BlueChoice	\$1,938.2	\$950.1	\$2,771.2	\$5,659.5

¹ Includes only CFMI's participation in the BCBSA Federal Employee Program. HMO offerings within the Federal Employees Health Benefits Program are included as non-FEP insured.

General – Adequate surplus is central to the viability and sound operation of any insuring organization. It is needed to enable a company like CFMI to ensure that the promises and commitments made in offering health care protection to its customers, directly and through its subsidiaries, can continue to be met. It is also needed to ensure that its promises and obligations to hospitals, physicians, and other providers can be met. Further, surplus is needed to develop new products, maintain and operate complementary services and coverages, build infrastructure, respond to new business opportunities, develop and maintain service capabilities, and generally operate effectively as a viable ongoing business entity over time.

CFMI, as an affiliate of CFI, has committed itself to the following corporate mission:

The mission of CareFirst BlueCross BlueShield is to provide health benefit services of value to customers across the region comprised of Maryland and the National Capital Area. To fulfill this mission, CareFirst BlueCross BlueShield commits to:

- *Offer a broad array of quality, innovative insurance plans and administrative services that are affordable and accessible to our customers;*
- *Fairly address the needs of customers in each of the jurisdictions in which we operate;*
- *Conduct business responsibly as a non-profit health service plan, to ensure the plan's long-term financial viability and growth;*
- *Collaborate with the community to advance health care effectiveness and quality;*
- *Support public and private efforts to meet needs of persons lacking health insurance;*
- *Foster health systems integration and health care cost containment to benefit people in areas we serve, and*
- *Promote respect, fairness and opportunity for our associates.*

This is an important factor with regard to the platform on which the company plans and builds for the future. It means that CFMI must always keep itself in a position to meet the promises and commitments it has made, under whatever circumstances (anticipated or unforeseen) may arise. It also means that CFMI must continue over time to offer health care coverage products that customers voluntarily choose to purchase.

In order to fulfill its corporate mission, CFMI must be stable and strong financially. It must systematically build and maintain sufficient statutory surplus to remain viable over time, while competing in a market against strong local or regional entities and very large national managed care companies. These national competitors, in particular, have enormous financial and technological resources, extremely large enrollment bases over which to spread overhead costs, and the ability to diminish participation or withdraw from CFMI's markets as they see fit. The difficulty of fulfilling the commitment made in the CFI corporate mission should never be underestimated.

Financial strength for CFMI, under these conditions, requires ever vigilant attention to the fundamental financial elements of the health insurance business. Principal among these elements are adequate rates, competitive costs (medical costs and administrative expenses), reasonable investment returns, and strong statutory surplus. Inadequate performance over time with regard to these elements is almost certain to lead to failure in meeting CFMI's mission and commitments, and failure to sustain itself as a viable business.

Summary of Results

The results of our analysis of surplus requirements for CFMI are as follows:

- (a) **Optimal Surplus Target Range for CFMI** – Based on our analysis, we conclude that an appropriate target for CFMI's surplus falls in the range of **1050% to 1300% of RBC-ACL²**, taking into account the impact of federal health care reforms currently in effect. These reforms include: (a) the new minimum loss ratio (MLR) standards that became effective in 2011, requiring the payment of rebates if minimum loss ratio levels are not met, (b) the increased regulatory review of premium rate increases, and (c) the new benefit coverage requirements that became effective in 2010 as a result of the passage of the PPACA.
- (b) **Future Adverse Selection and Operation of Exchanges** – While we have not directly incorporated in our analysis the potential impact of the health care reform provisions that are scheduled for implementation beginning in 2014 or later, including the new health care exchanges, we have separately considered certain aspects of those provisions. Specifically, we have estimated the impact on the CFMI surplus target range of potential increases in adverse selection in the individual and small group markets that would not be anticipated in premium rates, and would not be fully offset by the risk mitigation programs that are required by the PPACA to be established after the implementation of new rating and underwriting rules in 2014³.

Any such estimate is subject to significantly increased uncertainty, due in part to the current lack of regulations prescribing how the exchanges and the risk mitigation programs will operate, but more importantly, a lack of knowledge as to how health plans, plan sponsors, and consumers will respond. We estimate that the surplus target range for CFMI could be expected to **increase by 50% to 100%** of RBC-ACL, if the potential for such adverse selection were taken into account. We would characterize this as an indication of the directional nature of the impact of the health care exchanges, rather than a precise quantification of their potential financial consequences.

Our approach to the development of these surplus target ranges is discussed later in this report.

Importance of Surplus Management

The establishment of a surplus target range is among the most important fiduciary responsibilities and financial policy issues that the management and Board of a company like CFMI must address. The same applies to the development, implementation, and periodic updating of business plans to reach and maintain a surplus position within an optimal surplus target range. Failure to provide adequate surplus protection against cyclical underwriting results as well as other adverse financial events, both anticipated and unanticipated and including those which are catastrophic in nature, could lead to loss of viability or even result in financial failure.

² RBC-ACL refers to the Risk Based Capital Authorized Control Level, a key reference value for the National Association of Insurance Commissioners (NAIC) risk based capital formula and a commonly accepted measure of surplus levels for insurance organizations.

³ The PPACA calls for the following risk mitigation programs to be implemented effective in 2014 and later: (i) transitional reinsurance program for the individual market; (ii) risk corridors for plans in individual and small group markets; and (iii) risk adjustment in the individual and small group markets.

Access to Capital – CFMI is a not-for-profit health insurer offering health care products in its licensed service areas, directly under the CareFirst BlueCross BlueShield and CareFirst BlueChoice names. As mentioned above, the company's corporate mission is to "provide health benefit services of value to customers across the region. . ." To fulfill this mission, CFMI must compete successfully in the market against all competitors who elect to enter, whenever they choose to do so. It must not only sell its health care coverage products to willing customers, but it must do so on a basis which can be sustained indefinitely.

A significant requirement of meeting this mission and competing effectively is to maintain sufficient equity capital resources. CFMI faces the same insuring and business needs for equity capital as its major competitors – for-profit or not-for-profit. Since it is not owned by shareholders, it has no access to equity capital other than its surplus. This necessitates both the maintenance of a strong surplus level, and the cautious management of that surplus. Failure to do so would jeopardize the entire foundation of CFMI – including its future viability, and therefore its ability to reliably and sustainably provide access to affordable and quality health care.

The surplus held by not-for-profit health insurance companies comes largely from accumulated underwriting gains and investment income. Today, most of the major national health insurers and managed care companies, as well as many regional ones, are publicly traded stock companies. This affords them long-term access to equity capital markets for risk-taking, operational development, or growth needs – in addition to their accumulated underwriting gains and investment income (i.e., in addition to their surplus). Further, the holding company structure of these companies enables (and encourages) holding capital and maintaining access to additional insurance company surplus outside of the insurance operating companies themselves. As a result, these organizations are not comparable when it comes to the structuring, reporting, and level of statutory surplus held.

The market value of publicly traded health insurers and managed care companies is very large relative to the surplus of such companies accumulated from operations. The excess of their market value over tangible net worth (a rough proxy for surplus) represents additional equity capital value to which the company can gain access for various purposes, if necessary. Clearly, this is a major financial advantage which these for-profit companies hold in access to equity capital.

Risk-Taking Capital Needs – The surplus for a Plan like CFMI is the equity capital (excess of assets over liabilities) available to ensure the future viability of the company. Ensuring future viability recognizes (i) the possibility of adverse financial results and of unexpected events occurring, (ii) the periodic need to provide for extraordinary health care development costs or investments in support of the company's operations, and (iii) the capacity necessary to enable reasonable growth.

The overall surplus needs of a not-for-profit BlueCross BlueShield Plan include all of these considerations – risk capital, funding of health care development costs, and growth capital. All of CFMI's risk-taking capital needs created by the varying risk characteristics of its business and all other immediate needs for equity capital must be met by the company's surplus.

To ensure the future viability of a health insurer requires recognition of all of the kinds of adverse financial results and unexpected events or circumstances that might occur. Some of these adverse results and unexpected occurrences are directly related to the types of insurance risk assumed by the company through the normal course of conducting its business. Other types of risk pertain more generally to various aspects of the operation of the company – including fluctuations in expense levels,

fluctuations in interest rates and asset values, and various business risks. Finally, risk is associated with a variety of catastrophic events that might occur, and that a company like CFMI must be prepared to withstand.

Broadly speaking, these risks represent the adverse cyclical results and the contingencies or unexpected occurrences faced by a health insurer in the day-to-day conduct of its business. The term risk capital can be used to refer to the level of surplus needed by the company to prudently manage and absorb these risks. Maintaining an adequate level of risk capital is necessary for a health insurer in order to ensure that provision is made for all of these risks assumed by the company.

The recent financial downturn highlighted the potential for severe adverse financial circumstances to arise without adequate opportunity to make explicit compensatory financial provision. Many insurers experienced significant reductions to their asset portfolios, and some of those with defined benefit pension plans faced material additional funding requirements. Further, a prolonged economic downturn may result in other business pressures, such as membership declines, increases in health care utilization in anticipation of job loss, or inflationary increases. It is essential that a company such as CFMI anticipate the potential for such adverse events, as well as other unforeseen or unpredictable occurrences that may lead to reductions in surplus.

Surplus Management within Target Range – The development of an optimal surplus target range is an important undertaking as a matter of prudent business practice and planning. The company should strive to operate within the range under normal circumstances, in order to be able to withstand adverse circumstances. The range should be updated periodically, to reflect fundamental changes in operations and the environment.

Based on the analysis contained in this report, we conclude that an appropriate target for CFMI's surplus falls in the range of 1050% to 1300% of RBC-ACL, and even higher when recognizing additional health care reform provisions to be implemented in 2014. In view of the fact that CFMI is currently below this recommended targeted surplus range, the company should seek to achieve this target by establishing rates overall with a premium margin (surplus contribution factor, along with other financial elements) sufficient to place the company well within the target surplus range, and then maintaining that level. The target range should be wide enough to allow for a reasonable degree of fluctuation in operating results year-to-year, under normal operating circumstances, over a multi-year horizon.

Once CFMI is within the range, the company can then take measured steps in the management of day-by-day financial operations. As the actual level of surplus fluctuates within this range, CFMI should generally take steps to (i) gradually increase the RBC ratio level as surplus nears the lower end of the target range, and (ii) slow the rate of surplus growth as it nears the upper end. By focusing on actions to strengthen surplus as it nears the lower end of the target range, and before it drops below the target range, CFMI can ensure the degree of security that a viable company might wish to have. Likewise, by taking actions to ease surplus growth as it nears the upper end of the target range, CFMI can reduce the likelihood of accumulating surplus amounts that do not further the well-being of the company, without jeopardizing its security.

Considerations Regarding the Impact of Health Care Reform

The health care reform law that was passed in 2010 will have a far-reaching impact on virtually all aspects of the operations of health plans. While some of its provisions are now in effect, some of the most significant will not occur until 2014 or later, and many of the regulations implementing the new law have yet to be issued. It is clear that the industry will face a new layer of regulatory complexity, and that health plans will be more heavily scrutinized and restricted at both the state and federal levels.

Against this background, it is obviously impossible to fully anticipate or reflect in our analysis the impact of health care reform on CFMI's surplus requirements, and we have not attempted to do so. We have, however, incorporated techniques to simulate the effects of the minimum loss ratio standards and rebate requirements as well as the potential restrictions on premium rate increases, and we have reflected the impact of the new benefit coverage requirements that became effective in 2010.

Following is a discussion of a number of considerations regarding the impact of these and other aspects of the federal health care reform provisions on CFMI's surplus requirements and the evaluation of surplus targets.

Uncertainty of the Impact of Reform – There is still significant uncertainty as to the impact of the recent health care reform legislation on health care plans such as CFMI, both in the short term and over time as additional provisions come into effect. In particular, much is unknown regarding the operations of the health care exchanges and the impact of the new rating and underwriting restrictions in the individual and small group markets, both of which will begin in 2014.

The changes in the marketplace are likely to be profound, and could significantly alter the composition of CFMI's membership and risk profile. Because these changes cannot be fully anticipated in premium rates, and might not be approved by regulators if they were anticipated, the potential for significant premium shortfalls will exist. This will likely be exacerbated by the exchange structure, which is designed to increase competition and will almost certainly put downward pressure on premium margins.

The changes taking place as a result of the passage of the PPACA are evolving, and their ultimate impact will not be known for several years. Such uncertainty entails additional financial risk to the company, due to the increased variability in expected future claims and operating cost levels, and therefore tends to indicate the need for higher levels of surplus than would otherwise be considered prudent. In particular, the potential for significant membership growth as the individual mandate takes effect in 2014 would call for conservatism in selecting a surplus target range, given the direct correlation between growth in membership and an increase in the RBC-ACL value.

Pricing Margins – In our modeling, we have assumed an average pricing margin of 4.0% on underwritten business (excluding the Federal Employee Program). The overall average underwriting margin is 1.8%, including FEP business and gains/(losses) from ASC business. Based on our analysis of the financial operations of CFMI, we estimate that if the company's surplus were at a level equal to 1050% of RBC-ACL, an average margin of 4.5% would be required for the non-FEP insured business in order to maintain that 1050% level on an ongoing basis, assuming that premium were to grow at an annual rate of 9% and that experience were to develop as anticipated in pricing.

It is our understanding, however, that the company's current pricing strategy produces margins averaging approximately 3% for underwritten business excluding FEP over the next two to three years. In view of these current pricing margins, and the low likelihood of achieving average pricing margins of

4.5% in the near future, we have selected a 4.0% pricing margin for purposes of our modeling. It is important to note that in the absence of financial experience more favorable than that anticipated in premium rate development, the company would not be able to maintain a surplus level of 1050% with margins of 4.0%. Rather, a starting surplus level of 1050% of RBC-ACL would be expected to erode over time if actual realized underwriting margins for the non-FEP insured business were less than 4.5%. Further, in the current environment recovery of surplus funds will be made more difficult by the impact of the recent health care reform legislation, in particular due to the minimum loss ratio requirements.

Difficulty in Recovering from Declines in Surplus Levels – In the normal course of business, a health plan's surplus requirements can be expected to increase annually as its risk exposure increases due to growth in health care expenditures. Changes in membership levels may amplify or diminish the rate of increase. The calculation of the RBC-ACL (see discussion below), which is a value that is determined as part of the NAIC annual financial statement filing and is used by regulators to assess solvency, is directly dependent upon the company's incurred claims volume and operating expense levels, and will commonly increase as claims volume increases.

Therefore, a continued income stream is generally required in order to maintain surplus at a given percentage-of-RBC level over time, as noted in the example above. An even greater level of income above operating expenses would be required in order to increase the percentage-of-RBC level, if that is determined to be necessary or desirable.

Under the federal health care reform provisions, the new minimum loss ratio standards and regulatory limitations on premium increases serve to limit the company's ability to achieve a level of underwriting gains that would allow it to generate the income needed to restore surplus funds, if they should be materially depleted due to unfavorable financial experience or inadequate premium rates. It is therefore essential for CFMI to strive to maintain adequate surplus levels at all times, in order to minimize the need to grow surplus at a rate beyond that which is achievable under the constraints of health care reform.

B. APPROACH AND METHODOLOGY

The approach taken by Milliman in developing an optimal target surplus range for CFMI involves the evaluation of the minimum level of surplus that will allow the company, with sufficient certainty, to maintain policyholder protections even under circumstances of adverse or severe financial outcomes. This analysis requires the identification of minimum capital thresholds and the testing of various surplus levels under simulations of multi-year periods of financial losses, or loss cycles. Following is an outline of the general steps involved in this approach. Our December 2008 report provides a more detailed description of the process.

Establishment of Goals for Determining a Surplus Target Range

The Risk Based Capital (RBC) mechanism adopted by the National Association of Insurance Commissioners (NAIC) is widely recognized as a standardized approach to developing minimum solvency indicators. Calculated RBC values are required for inclusion in the NAIC annual financial statements filed by health insurers, and most States (including Maryland) have adopted the NAIC's RBC-based compliance standards to help assure that health plans meet minimum requirements for solvency. The RBC methodology provides for the calculation, by detailed formula, of a benchmark or reference value, multiples of which are used to establish standards for external monitoring and intervention.

Minimum Capital Thresholds – The use of Risk Based Capital (RBC) measurements is intended to provide a systematic approach to developing benchmarks for individual companies for use in monitoring minimum levels of statutory surplus needed for protection from insolvency. The RBC formula adopted by the NAIC for health organizations (including BlueCross and BlueShield Plans) provides an objectively calculated reference value that can be used for this purpose. Although far from perfect, it does recognize a company's size, structure, and volume of retained risk. It also incorporates elements that address underwriting or insurance risk, asset risk and various forms of business risk.

The key reference value developed by the RBC formula is termed the Authorized Control Level, or RBC-ACL. Multiples of the RBC-ACL (e.g., 1000% of RBC-ACL) can then be used to establish thresholds, with higher multiples producing an increased likelihood of security against insolvency.

This use of consistently calculated reference values, along with various multiples for different purposes or degrees of concern and security, provides a useful tool for State regulators and industry organizations, such as the BlueCross BlueShield Association (BCBSA). Key RBC threshold levels applicable to CFMI are described below⁴. Also indicated are the actions associated with these key RBC-based levels, along with equivalent measurements of them in terms of percentages of annual premium.

Consistent with an overall operation perspective, we have analyzed the historical financial results, operating characteristics, and surplus requirements of CFMI and its proportionate share of BlueChoice

⁴ All surplus and related financial items addressed in this report are on a statutory basis, unless stated otherwise.

as an overall, combined entity. This is not unlike viewing the respective segments of insurance business within CFMI and BlueChoice as if they were lines of business within a single insuring entity.

BCBSA Minimum RBC-Based Thresholds – BCBSA maintains certain minimum financial requirements that BlueCross and BlueShield Plans must meet, as part of the membership standards for use of the trademark. Two key thresholds involving surplus are based on the RBC formula, and are expressed generally as follows:

BCBSA Threshold	Percent of RBC-ACL
Early Warning Monitoring Level	375%
Loss of Trademark Level	200%

A BlueCross BlueShield Plan that falls below the 375% of RBC-ACL monitoring level is subject to special reporting requirements and aggressive financial management. Below 200%, a Plan will lose the use of the BlueCross BlueShield trademark.

Maryland Minimum RBC Requirements – Maryland has adopted statutory minimum requirements for the surplus levels of commercial health insurance companies, non-profit health service plans, and HMOs domiciled in the State. These minimum requirements are expressed in terms of a company's RBC-ACL level, and are generally consistent with the corresponding standards recommended by the NAIC and adopted by most states around the country. Upon triggering the 200% of RBC-ACL threshold, a domestic insurer must formally notify the Maryland Insurance Commissioner of the corrective actions it plans to take. Direct regulatory interventions are triggered if surplus drops to even lower percentage levels.

Implications of RBC Minimum Requirements – As indicated above, 200% of RBC-ACL is the threshold for mandatory notification of a corrective action plan by domestic insurers to the Maryland Insurance Commissioner. The 200% of RBC-ACL level is also the threshold at which a BlueCross and BlueShield Plan loses the use of the trademark. Stated in terms that may be more intuitive, 200% of RBC-ACL equates to approximately 2.75 weeks' worth of insured (including FEP) member claims and expenses for CFMI and its proportionate share of BlueChoice.

The loss of trademark due to inadequate financial strength would likely be a catastrophic event: if the trademark were lost the remaining organization, and more importantly its Maryland subscribers, would lose the breadth and strength of the Blues' system. Product recognition, favorable reimbursement rates out-of-area, and current levels of service would be forfeited. Certain other financial opportunities would also be lost as a result, such as the ability to offer benefits to certain large national accounts and the Federal Employees Health Benefits Program and the access fees for offering CFMI's network to

other BCBS Plans. Furthermore, removal of the trademark due to financial weakness would open the door to the entry of a replacement BCBS Plan, presumably one domiciled outside of Maryland.

The Early Warning Monitoring threshold is characterized as a warning level. As noted above, a Plan that falls below this level is subject to financial management oversight and special reporting requirements. The Plan Performance and Financial Standards Committee (PPFSC) of the BCBSA is responsible for carrying out such monitoring, which is generally initiated when a Plan's surplus falls below 375% of RBC-ACL. A Plan in this status is required to submit an action plan for improving its surplus position and to undergo intensive scrutiny by the PPFSC.

The initiation of this BCBSA monitoring and oversight carries implications regarding the company's image in the marketplace. Certain disclosure requirements may be enforced, requiring notifications to providers, accounts and direct pay subscribers, with the risk of a loss of confidence in the Plan's financial health. An affected Plan is likely to be required to curtail the type of long-term investment that is essential for a viable health plan in today's marketplace, and to limit or suspend its social mission initiatives. Further, innovation in markets and products will be limited or non-existent, as the company is focused on returning to strong financial health. It is therefore of utmost importance to the long-term financial viability of a BCBS Plan to maintain surplus above the 375% of RBC-ACL level.

Goals for Optimal Surplus Target Range – As mentioned previously, the establishment of an optimal target range for its surplus is one of the more important financial policy issues that CFMI management must address. It has fiduciary, business management, and strategic implications. We recommend that the objectives for CFMI in determining a target surplus range be established to achieve the following goals:

- (a) **Early Warning Monitoring Threshold Avoidance** – Provide a *high likelihood* that the overall surplus level for CFMI, as a combined operation, will remain above the BCBSA Early Warning Monitoring threshold level of 375% of RBC-ACL, even after a particularly adverse period of multi-year underwriting losses, and/or capital market losses, thereby enabling ongoing viability;
- (b) **Loss of Trademark Avoidance** – Assure with *virtual certainty* that surplus will remain above the BCBSA Loss of Trademark threshold level of 200% of RBC-ACL for the operation, even if a severely adverse period of multi-year underwriting losses and/or capital market losses were experienced, or if back-to-back loss cycles were to occur without adequate recovery between them, thereby avoiding failure; and
- (c) **Adequate Provision for Development and Growth** – Provide equity capital to enable periodic investments in technology, product development, building or acquisition of complementary business capacity, and growth in business in force without jeopardizing the company's risk capital position.

This statement of goals for the CFMI operation is based, as indicated previously, on the perspective of CFMI as a combined operation, including its subsidiaries. The statutory surplus reported by CFMI, as parent, is the surplus for the entire operation. CFMI and GHMSI also operate under an intercompany agreement that contemplates the movement of funds between the entities in certain circumstances. But any such movement would require regulatory approvals, possibly by several jurisdictions, and the prospect of obtaining such approvals is unclear. We understand from CareFirst that no such movement of funds has occurred to date.

To represent the goal of maintaining a surplus level that provides a “high likelihood” that CFMI surplus will remain above the BCBSA Early Warning Monitoring threshold, we have selected confidence levels ranging from the 90th to the 95th percentiles based on the Monte Carlo distributions (see discussion below). This would correspond to a 5% to 10% likelihood that surplus would fall below the 375% of RBC-ACL BCBSA Early Warning threshold. Given the high level of significance of the need to avoid falling below the 375% threshold, as discussed above, we believe that confidence levels of at least this magnitude are warranted.

We have used values representing a confidence level at the 98th percentile for the “virtual certainty” criteria outlined above, corresponding to a 2% likelihood of falling below the 200% BCBSA Loss of Trademark threshold. We believe that a confidence level of this magnitude is appropriate, given the severe consequences to CFMI of the loss of the BlueCross BlueShield trademark, as outlined above. Some would argue that 2% is too high a risk for this scenario, and that the 99th percentile is more appropriate for “virtual certainty”.

In our experience these assumptions are consistent with the criteria generally used for such analysis within the insurance industry. For example, the Solvency II standards, which are regulatory requirements for insurance firms that operate in the European Union, require capital levels that will ensure that the company will be able to meet its obligations over the next twelve months with a probability of at least 99.5%. Further, the criteria applied by Standard & Poor’s for analyzing insurer capital adequacy involve application of confidence levels in establishing the degree of certainty for individual risks. These confidence levels range from 97.2% for “BBB” to 99.9% for “AAA” ratings⁵.

Assessment of the Range of Historical Underwriting Losses

We tabulated and analyzed the patterns of historical underwriting losses experienced by CFMI as well as those of a comparison set of BlueCross BlueShield Plans, in order to provide an empirical experience base for evaluating loss periods that carriers have had to withstand. The approach, which tabulates all multi-year periods of underwriting losses, is the same as that of our previous study, as described in our December 2008 report. A more extensive discussion of this historical information can also be found in that earlier report.

Adverse Loss Cycles Experienced by CFMI – There were four distinct adverse underwriting cycles experienced by CFMI since 1980. Chart 2 summarizes the cumulative underwriting losses for each of these four cycles. As mentioned previously, the rate stabilization reserves that are held on behalf of the FEP program significantly reduce the short-term underwriting risk to CFMI for this business. For this reason, we have expressed the underwriting losses as a percentage of non-FEP insured premium – i.e., as a percentage of the portion of the premium that carries what can be characterized as a typical health insurance underwriting risk. Unless stated otherwise, in the balance of this report we will express CFMI underwriting losses as a percentage of non-FEP insured premium.

⁵ *Refined Methodology And Assumptions For Analyzing Insurer Capital Adequacy Using The Risk-Based Insurance Capital Model*, June 7, 2010; Standard & Poor’s Financial Services LLC (S&P); page 4

Chart 2
CFMI Underwriting Loss Cycles¹

Entity	Cumulative Underwriting Loss for Entire Cycle ²			
	1980-82	1986-88	2000-01	2008-09 ³
CFMI only	(8.6)%	(28.7)%	--	(8.0)%
Combined CFMI operation	(8.7)	(25.2)	(1.7)%	(1.9)

¹ Gain/(loss) expressed as a percentage of estimated non-FEP insured annual premium. Denominator excludes FEP and ASC premium equivalents for all years.

² Underwriting gain/(loss) is the excess of premium over claims and expenses, prior to investment income or income taxes. Cumulative percentages are the sum of annual loss percentages, over the loss cycle indicated.

³ For "CFMI only" loss cycle, the applicable time period is 2008-2010.

Underwriting gain/(loss) reflects the excess of premium over claims and expenses, prior to such items as investment income and Federal income taxes; it provides a direct measure of business performance, in terms of the adequacy of premium rates (relative to claims and administrative expenses). Underwriting losses are shown for CFMI as a separate operating company and for the combined operation (i.e., CFMI plus its proportionate share of BlueChoice).

Each adverse or down cycle shown in Chart 2 was a distinct multi-year period of underwriting losses: 1980-82, 1986-88, 2000-01, and 2008-09. Separating these adverse underwriting loss cycles have been multi-year periods of gains, or upward business cycles. The four adverse cycles for the combined CFMI operation produced cumulative underwriting losses that ranged from 2% to 25% of a year's non-FEP insured premium.

Adverse Loss Cycles for a Comparison Set of BCBS Plans – In order to take a closer look at adverse cycles experienced by individual companies within the health insurance industry, we compiled underwriting results as a percent of premium for the roughly one-half of all reporting BCBS Plans in the country (excluding GHMSI) that are closest in size to CFMI, starting with 1980. Among the 19 BCBS Plans in the Comparison Set, there were a total of 68 adverse cycles during the period 1980 – 2010. Most of these Plans had three adverse cycles during this period. Chart 3 summarizes the total cumulative loss percentages corresponding to the 90th, 85th, 80th and 75th percentiles of all 68 adverse cycles experienced by this set of BCBS Plans.

Chart 3
Comparison Set of BCBS Plans

Adverse Cycle Results for Comparison Set of BCBS Plans	
Percentile of Adverse Cycles*	Cumulative Underwriting Gain/(Loss) Percentage
90 th	(21)%
85 th	(19)%
80 th	(18)%
75 th	(15)%
* Percentile of all adverse cycles for the period 1980-2010, among the set of 68 adverse cycles for the BCBS Plans observed.	

This chart indicates, for example, that a loss cycle of 21% would equal or exceed 90 percent of the 68 adverse cycles experienced by the Comparison Plans. Similarly, a loss cycle of 15% would equal or exceed 75% of the adverse cycles experienced by this group of Plans.

We have focused on these selected percentiles of the historical loss cycles for the Comparison Set of BCBS Plans in order to be able to quantify the magnitude of particularly or severely adverse cycles (discussed later in this report). We have not considered the magnitude for loss cycles beyond the 90th percentile for the Comparison Set, in order to exclude those individual cycles for their respective companies across the industry that may have been truly outliers or materially anomalous for some reason.

Assessment of Risks and Contingencies

We took an actuarial approach to quantifying the risks and contingencies faced by CFMI. This approach involves the identification of major categories of risk and funding contingencies in CFMI's operations for which surplus is required. These categories are outlined below and are discussed in detail in our December 2008 report. The following outline highlights issues that involve changes in our current analysis compared to that of our prior study.

- (a) **Rating adequacy and fluctuation** reflects the risk that actual claims and expenses differ from the amounts for which provision is made in premium rates. In addition to the rating fluctuation and other contingencies reflected in our prior analysis, we have incorporated assumptions regarding: (i) the impact of the new minimum loss ratio standards and rebate requirements, and (ii) the implications of increased regulatory review of premium rate requirements and potential

restrictions on premium increases resulting from health care reform. The impact of the new benefit coverage requirements that became effective in 2010 has also been reflected.

- (b) **Unpaid claim liabilities and other estimates** considers the risk that the reported liabilities, which are estimates subject to uncertainty, do not make adequate provision for unpaid claims and other items.
- (c) **Interest rate and portfolio asset value fluctuation** involves risks associated with the investment portfolio and the implications for reported surplus levels. In our current analysis we have incorporated assumptions related to the risks associated with the valuation of pension plan liabilities as well as the value of assets associated with pension plan funding.
- (d) **Overhead expense recovery risk** reflects the implications of a decrease in business and the inability to cover overhead in the short term before adequate adjustments to operations can be implemented.
- (e) **Other business risks** addresses risks such as the potential for default among large administrative services contract (ASC) groups, leaving CFMI to pay claims with no premium collections from the group.
- (f) **Catastrophic events** incorporates events such as epidemics and pandemics, natural or public health disasters, or terrorist attacks.
- (g) **Provision for unidentified development and growth** reflects the possibility of unanticipated investment needs, such as new systems or administrative processes, development of new products, or response to legislation.

Associated with each of these risk and contingency categories is a range of possible impacts on CFMI's operating results. We use the term "operating results" here as opposed to "underwriting results", since investment results are included in some parts of the analysis. For purposes of our analysis, which involves quantifying the potential multi-year losses against which the company's surplus needs to provide protection, we have developed what we believe is a reasonable range of possible values for each risk and contingency category. Possible outcomes for each category are divided into a discrete number of representative outcome values, to each of which we have assigned a probability or likelihood.

These values and probabilities are based on analysis of historical data, our observation of similar results in connection with our work at various BlueCross and BlueShield Plans, interpretation of that data in light of the current and anticipated future operating environment of the Plan, and professional judgment. For those categories of risk involving fluctuations (e.g., rating parameters, unpaid claims liabilities, and interest rates and portfolio asset values), the range includes representative outcomes in which operating results would produce gains, as well as those in which overall cumulative losses would occur.

Assignment of probabilities to be associated with each of these outcomes is based on the same considerations used in developing the ranges of values and representative outcomes. We considered each of the risk and contingency categories to be independent, with one exception: risks from unpaid claims liability fluctuation were considered to be partially dependent on the rating fluctuation contingency.

To evaluate the financial implications of these possible outcomes, we used an automated process to simulate the tens of millions of possible combinations produced by our distributions, employing a simulation methodology that is commonly applied in financial modeling.

This composite distribution shows the resulting probability that cumulative operating losses in total will not exceed given percentages of annual insured premium. From each such distribution, a range of multi-year loss cycle amounts can be determined, reflecting the combined risks which have been evaluated and a high probability or likelihood (e.g., greater than 95%) that such a loss level will not be exceeded, even under significant or severe unforeseen adverse circumstances.

We carried out Monte Carlo simulations of loss cycle magnitudes based on the values and probability distributions described above, including incorporation of a higher and lower range in the assumptions with respect to the impact of fluctuation in rating parameter adequacy. The results of these simulations are summarized in Chart 4 below and in Chart 5 at the end of this section. Chart 5 shows in graph form the magnitude of cumulative loss cycles, expressed as percentages of non-FEP insured premium, at various simulated percentiles of loss cycles.

Chart 4 displays the range of cumulative loss cycle amounts produced for high confidence levels – defined as the 90th, 95th, and 98th percentile levels for this purpose.

Chart 4

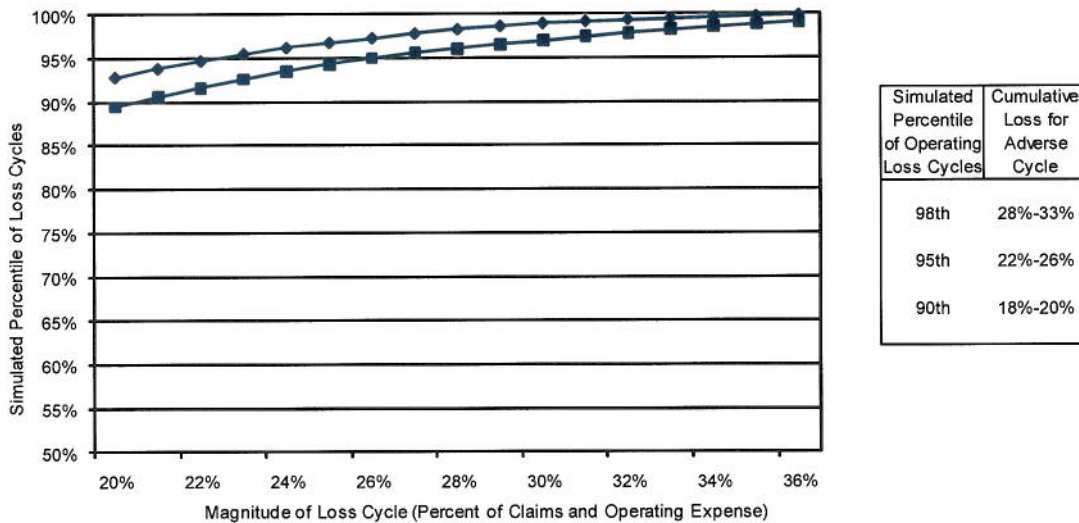
Simulated Loss Cycles at 90th, 95th, and 98th Percentile Levels

Percentile of Simulated Operating Loss Cycles	Cumulative Loss for Adverse Cycle ¹
98 th	28% - 33%
95 th	22% - 26%
90 th	18% - 20%
¹ As percentage of non-FEP insured premium.	

We have directed our attention to the 90th through the 98th percentiles of simulated loss cycles in order to identify the magnitude of particularly or severely adverse outcomes. Since the risks and contingencies reflected in the simulations reflect a forward-looking assessment of the CFMI operation itself, we have selected a relatively high range of percentiles to satisfy these conditions. We have not considered the magnitudes for loss cycles simulated for CFMI beyond the 98th percentile, because of the remote probabilities for such an occurrence.

From this process we developed a range of multi-year loss cycle amounts for which there is a high likelihood (i.e. exceeding levels of 90% to 98%) that such a loss level will not be exceeded, even under significant or severe unforeseen adverse circumstances, as summarized in Charts 4 and 5.

**Chart 5
Monte Carlo Simulation of Loss Cycles
(Includes All Risks)**



Provision for Loss Cycles

The goals for an optimal operating range for CFMI's surplus, as discussed above, involve surplus levels remaining above certain minimum thresholds regardless of the operating results that CFMI experiences. In particular, we recommend that these goals be established to meet the following criteria:

- (a) **Early Warning Monitoring Threshold Avoidance** – Provide a *high likelihood* that the overall surplus level for CFMI, as a combined operation, will remain above the BCBSA Early Warning Monitoring threshold level.
- (b) **Loss of Trademark Avoidance** – Assure with *virtual certainty* that surplus will remain above the BCBSA Loss of Trademark threshold level for the operation.

The surplus target range should reflect the need to achieve these goals while also recognizing the possibility of a particularly adverse multi-year period of operating losses. In establishing the potential magnitude of such a loss cycle, we are not predicting it to occur, nor are we suggesting in any way that CFMI should accept the inevitability of such an adverse cycle occurring during the near term. Instead, we are attempting to establish a magnitude of adversity against which the company should protect itself, its members, and its providers and vendors.

In approaching this analysis, we have used a Monte Carlo simulation approach to quantify an appropriate magnitude for the loss cycles to be considered for purposes of making provision in surplus. In using this approach, we quantified the distributions of amounts of potential loss due to major risk and contingency categories, and then combined such amounts based on provision for their respective likelihoods.

We then compared these resulting loss cycles to the multi-year loss cycles that have been experienced by the CFMI operation, and to the multi-year adverse cycles that occurred since 1980 within the industry for generally similar BCBS Plans, as presented in preceding sections of this report.

The simulated results presented in Chart 4 above include the impact of risks due to changes in interest rates and portfolio asset values, which are not reflected in the historical underwriting results reported by CFMI and the Comparison Set of BCBS Plans. Chart 6 displays the range of simulated operating losses excluding the impact of these asset fluctuation risks. Values in the column labeled "With Impact of Health Care Reform" correspond to those in Chart 4, except for the exclusion of the asset fluctuation risks. Also shown are values prior to the impact of health care reform, in order to compare with the historical underwriting results of CFMI and the Comparison Set of BCBS Plans.

Chart 6

Simulated Loss Cycles Excluding Asset Fluctuation Risks

Percentile of Simulated Operating Loss Cycles	Cumulative Loss for Adverse Cycle, Excluding Asset Fluctuation Risks ¹	
	With Impact of Health Care Reform	Prior to Impact of Health Care Reform
98 th	25% - 30%	16% - 19%
95 th	20% - 24%	12% - 15%
90 th	15% - 18%	9% - 10%

¹ As percentage of non-FEP insured premium. For comparative purposes, excludes losses from the interest rate and portfolio asset value risks.

A comparison of these prior to health care reform loss cycles to the multi-year loss cycles that have been experienced by the CFMI operation, and to the multi-year adverse cycles that occurred since 1980 within the industry for generally similar BCBS Plans, as presented earlier in this report, can be summarized as follows:

Chart 7
Comparison of Cumulative Cycle Loss Amounts

Source/Basis	Cumulative Cycle Loss	
	Percent of Premium ¹	Basis
Monte Carlo Simulation of Risks and Contingencies, Prior to Impact of Health Care Reform	9 – 19% ²	90 th – 98 th Percentile
CFMI Experience	2 - 25% ³	Actual Loss Cycles
Comparison Set of BCBS Plans	15 - 21% ⁴	75 th – 90 th Percentile
¹ Cumulative losses, expressed as a percentage of annual non-FEP insured premium. ² For comparison purposes, excludes losses from the interest rate and portfolio asset value risks. ³ Cumulative underwriting losses, as a percentage of annual non-FEP insured premium. ⁴ Cumulative underwriting losses as reported by BCBSA.		

These three sets of measurements produce similar measures of loss cycle magnitudes, with the exception of the very small loss cycles experienced by CFMI during 2000-01 and 2008-09; the remaining historical loss cycles for the CFMI operation are 9% and 25%. The Monte Carlo results and these CFMI experience results are substantively consistent with the Comparison Plan results.

Provision for Early Warning Monitoring Threshold – One of the three surplus goals identified earlier in this section of our report is to provide a high likelihood that the overall surplus level for CFMI will remain above the BCBSA Early Warning Monitoring threshold, even after a particularly adverse period of multi-year operating losses. In order to meet this goal of avoiding the Early Warning Monitoring threshold, the surplus target must be high enough so that (i) a particularly adverse loss cycle can be absorbed, without (ii) the surplus level dropping below the Early Warning Monitoring threshold (375% of RBC-ACL).

To represent a particularly adverse loss cycle based on the simulation of risks and contingencies for CFMI, we have assumed a multi-year operating loss period creating a cumulative loss falling in the range of 18% - 26% of annual non-FEP insured premium (or 15% - 24% excluding the impact of asset

valuation risks). Provision to withstand a loss cycle falling in this range would have included 95% of the simulation loss periods. Using these criteria to establish a surplus target level means that CFMI must be able to absorb these levels of cumulative loss over a 3 year period without surplus dropping below 375% of RBC-ACL.

Provision for Loss of Trademark Threshold – Similar conditions apply to meeting the goal of avoiding the Loss of Trademark threshold. The surplus target must be high enough so that (i) a severely adverse loss cycle can be absorbed, without (ii) the surplus level dropping below the Loss of Trademark threshold (200% of RBC-ACL).

To represent a severely adverse loss cycle, we have assumed multi-year cumulative losses falling in the range of 28% - 33% of annual non-FEP insured premium (or 25% - 30% excluding the impact of asset valuation risks). Provision to withstand a loss cycle falling in this range would have included 98% of the simulation loss periods. This is consistent with the Loss of Trademark goal of assuring with virtual certainty that failure does not occur as a result of breaching this threshold.

These adverse cycle loss results form the foundation for our pro forma projection model development of CFMI surplus target levels. To develop such targets, provision for a multi-year loss cycle of the magnitudes indicated in the tables above is combined with minimum floor levels for CFMI's surplus, based on the BCBSA thresholds, and with investment earnings and other pro forma financial items needed to evaluate changes in surplus.

Pro Forma Modeling of Loss Cycle Impact

To establish the CFMI surplus operating range that would meet the goals established, we projected the level of CFMI surplus balances emerging year-by-year under the range of identified adverse loss cycles.

In our approach to this testing of loss scenarios, we have used actuarial projection techniques incorporating "pro forma projections", which show the financial results that could be expected if actual operations were to occur exactly as stated and assumed, with no deviations. These pro forma projections are intended to serve as demonstrations of the impact of the stated assumptions within a scenario, relative to alternative assumptions and scenarios, so as to enable an understanding of the actuarial implications of the scenario assumptions.

In each loss cycle scenario, we selected an initial potential surplus target level, and then tested by projecting the impact of the specific operating loss scenario to determine whether the resulting surplus balances, projected over time, remained above the threshold within the goal.

Among the assumptions underlying our pro forma projection model, which reflects the combined operations of CFMI and its ownership share of CareFirst BlueChoice on a consolidated basis, are the following:

- (a) **Annual Growth in Premium** – We have assumed annual rates of growth in non-FEP insured premium of 7% and 11%. These growth rates, which compare to assumptions of 12% to 14% in our 2008 study, reflect changes in average premium rates and changes in membership.

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- (b) **Pricing Margins** – An average pricing margin of 4.0% is assumed for all non-FEP insured business. Note that this is higher than the company's current pricing margins.
- (c) **Investment Earnings Rate** – The average annual investment earnings rate is assumed to be 3.75%.
- (d) **Tax Rate** – We assumed an average tax rate of 30.6%, reflecting a weighted average of the 20% rate applicable to CFMI (FIT) and a rate of 36.5% applicable to CFBC (FIT and state). With respect to the projected loss scenarios, we assumed that a tax loss carry back was available at the onset of the loss cycle in an amount equal to one year's expected pre-tax net gain under our pro forma projection assumptions. We did not assume that any tax loss carry forwards would apply under the conditions of our loss scenarios – i.e., periods of multi-year losses that will lead to financial impairment of the type defined by our loss thresholds (the 375% and 200% RBC thresholds). Based on our discussions with CareFirst staff regarding the company's financial reporting practices, we believe that under such circumstances there would be no reportable tax benefit to CFMI in its statutory financial statements.

Viability Testing Against Early Warning Monitoring Threshold – The upper portion of Chart 8 shows the range of RBC ratios needed at the onset of the indicated operating loss cycles for the company's RBC ratio to remain above the BCBSA Early Warning Monitoring threshold of 375% of RBC-ACL. Results are shown under both 7% and 11% assumptions as to annual growth in CFMI aggregate premium (premium rates and volume of business combined). These growth rate assumptions are intended to reflect modest to moderate sustainable growth rates in enrollment, plus mid-range premium rate increases (middle to high single digit medical cost trends).

These pro forma results indicate that a starting or target surplus level of 950% to 1300% of RBC-ACL for CFMI is needed in order for the company to remain viable while withstanding a particularly adverse operating loss cycle. Under the pro forma projections, CFMI could withstand such a loss period and remain above the BCBSA Early Warning Monitoring threshold.

Failure Testing Against Loss of Trademark Threshold – The lower portion of Chart 8 contains the corresponding range of RBC ratios needed at the onset of the indicated operating loss cycles to remain above the BCBSA Loss of Trademark threshold of 200% of RBC-ACL. Alternate annual premium growth rates of 7% to 11% are reflected.

These pro forma results indicate that a starting or target surplus level of 1050% to 1250% of RBC-ACL is needed by CFMI in order for the company to avoid the loss of trademark as a result of a severely adverse loss cycle. Under the pro forma projections, CFMI could withstand such a loss period and remain above the BCBSA Loss of Trademark threshold.

Surplus Target Range for CFMI – Based on this analysis, we have concluded that a reasonable target for CFMI's surplus is 1050% to 1300% of RBC-ACL under normal operating circumstances. This range satisfies the stated goals of: (a) providing a high likelihood that the overall surplus level for CFMI, as a combined operation, will remain above the BCBSA Early Warning Monitoring threshold level, as determined by testing against the 90th to 95th percentiles of simulated loss amounts; and (b) providing virtual certainty that surplus will remain above the BCBSA Loss of Trademark threshold level for the operation, by testing against the 98th percentile of loss amounts.

Chart 8

**RBC Ratio Needed to Remain Above Minimum Surplus Floor Levels
Simulated Results under Range of Operating Loss Cycles**

All Risks ¹	Excluding Asset Fluctuation Risks ²	Early Warning Monitoring Floor (375% of RBC-ACL)	
		7% Premium Growth ³	11% Premium Growth ³
18%	15%	950%	1050%
26%	24%	1200%	1300%

All Risks ¹	Excluding Asset Fluctuation Risks ²	Loss of Trademark Floor (200% of RBC-ACL)	
		7% Premium Growth ³	11% Premium Growth ³
28%	25%	1050%	1100%
33%	30%	1200%	1250%

- ¹ Incorporates all losses, including those from interest rate and portfolio asset value risks.
- ² For comparative purposes, excludes losses from the interest rate and portfolio asset value risks.
- ³ Aggregate growth in premium revenue, including changes in both premium rates and enrollment.

Impact of Health Care Reform on Surplus Target Range

Our conclusion, based on the results of the pro forma loss cycle modeling, that an appropriate target for CFMI's surplus falls in the range of **1050% to 1300% of RBC-ACL** takes into account the impact of federal health care reform provisions currently in effect.

In our modeling of the risks associated with rating adequacy and fluctuation, we reflected the impact of the increased regulatory review of premium rate requirements mandated by the recent health care reform regulations. Associated with these new requirements is an increased probability that premium

rates will be restricted for some period of time to levels that are insufficient to cover expected claims and administrative costs, particularly during periods of recovery from premium shortfalls.

We also modeled the effects of the new minimum loss ratio and rebate requirements under a range of claims experience outcomes, and have reflected their potential impact on CFMI's surplus requirements. In our modeling we simulated the effect of the MLR standards and rebate requirements under a range of assumptions regarding the relationship of actual claims experience to pricing assumptions (consistent with our rating adequacy and fluctuation risk distribution described above), based on administrative expense assumptions by product segment as provided by CareFirst staff. While we believe the modeling approach to be reasonable, we wish to point out that it tends to understate the frequency of rebate payments, because we have not attempted to reflect the fact that the rebates are calculated separately for each jurisdiction within which the company operates.

Obviously, there is a wide range of potential outcomes under these new provisions, and much is still unknown regarding their impact and the manner in which they will be enforced. With respect to the additional health care reform provisions that are not yet in effect, we have not directly incorporated their potential impact in our analysis. We have, however, separately considered the impact on the surplus target range of potential increases in adverse selection in the individual and small group markets that would not be offset by the risk mitigation programs.

These estimates are subject to significantly greater uncertainty, due to a lack of current knowledge as to how the exchanges will operate, including the risk mitigation programs, and how health plans, plan sponsors, and consumers will respond. **We estimate that the surplus target range could increase by 50% to 100% of RBC-ACL**, if the potential for such adverse selection were taken into account. We would characterize this as an indication of the directional nature of the impact of the health care exchanges, rather than a precise quantification of their potential financial consequences.

C. LIMITATIONS AND CAVEATS

Milliman has prepared this report for the specific purpose of providing results and assumptions for our optimal surplus analysis. This report should not be used for any other purpose. This report has been prepared solely for the internal business use of and is only to be relied upon by the management of CareFirst. We understand that CFMI may wish to share this report with regulators and their professional advisors in Maryland or other appropriate regulators. We hereby grant permission, so long as the entire report is provided. We recommend that any party receiving this report have its own actuary or other qualified professional review this report to ensure that the party understands the assumptions and uncertainties inherent in our estimates. Judgments as to the conclusions contained in our report should be made only after studying the report in its entirety. Furthermore, conclusions reached by review of a section or sections on an isolated basis may be incorrect. Milliman does not intend to benefit any third party either through this analysis or by granting permission for this report to be shared with other parties.

In order to provide the information requested by CareFirst, we have constructed several projection models. Differences between our projections and actual amounts depend on the extent to which future experience conforms to the assumptions made for this analysis. It is certain that actual experience will not conform exactly to the assumptions used in this analysis. Actual amounts will differ from projected amounts to the extent that actual experience deviates from expected experience.

In performing this analysis, we relied on data and other information provided by CareFirst. We have not audited or verified this data and other information. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete. We performed a limited review of the data used directly in our analysis for reasonableness and consistency and have not found material defects in the data. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

The authors of this report are Consulting Actuaries for Milliman, are members of the American Academy of Actuaries, and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.