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June 1, 2018

Hon. Stephen Taylor
Commissioner
Department of Insurance, Securities and Banking
810 First Street NE, Suite 701
Washington, D 20002

Dear Commissioner Taylor:

On December 12, 2017, I wrote to inform you that (a) Group Hospitalization and Medical Services, Inc. ("GHMSI") had obtained a new full actuarial surplus analysis from Milliman, which concluded that GHMSI should maintain an optimal surplus range of 900% to 1200% percent risk-based capital - authorized control level ("RBC"), and (b) on December 4, 2017, the GHMSI Board approved the recommended target surplus target range of 900% to 1200% RBC for the period of 2018 through 2020. My December 12, 2017 letter included a copy of the 2017 Milliman Report for GHMSI and a chart showing the 18 reviews of GHMSI's surplus that have been conducted on behalf of GHMSI or a regulator since 2015. That letter and its attachments are incorporated here.

I write today to report on GHMSI's surplus at Year-End 2017, pursuant to 26A DCMR 4601.1. GHMSI's overall surplus at Year-End 2017 was $1,161M or 1011 RBC, which is within the board-approved range.

Please do not hesitate to contact me if you have questions.

Sincerely,

Chet Burrell
President and CEO

Attachments

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December 12, 2017

Hon. Stephen Taylor
Commissioner
Department of Insurance, Securities and Banking
810 First Street NE, Suite 701
Washington, D 20002

Dear Commissioner Taylor:

I write on behalf of Group Hospitalization and Medical Services, Inc. ("GHMSI" or "Company") to inform you of the results of a recent review by Milliman of GHMSI's surplus which I have enclosed.

As you know, GHMSI obtained an actuarial surplus analysis from Milliman in 2014, and Milliman provided annual updates to that analysis in 2015 and 2016. Each of these analyses and updates have been filed with the DISB. Based on these analyses, the GHMSI Board in December 2016 approved a target surplus range of 1,050 to 1,350 percent risk-based capital – authorized control level ("RBC") as part of its three-year plan for 2017, 2018, and 2019. As of year-end 2016, GHMSI's surplus was $963 million or 851% RBC, well below this range.

As explained in detail in the attached report, Milliman concludes in its 2017 analysis that GHMSI should maintain an optimal surplus range of 900% to 1200% RBC. This optimal range is lower than Milliman's 2014 recommendation by 150% RBC. The reduction resulted primarily from an assumption that GHMSI's overall annual premium growth rate going forward will be lower than was the case in 2014, along with other changes to reflect current conditions.

The GHMSI Board has reviewed this analysis. On December 4, 2014, the GHMSI Board approved and adopted the recommended surplus target range of 900% to 1200% RBC for the period of 2018 through 2020.

As shown on the attached chart, Milliman's 2017 analysis is the 18th review of GHMSI's surplus by an actuarial firm hired by CareFirst or a regulator since 2005. GHMSI's 2016 year-end surplus of 851% RBC was below the new recommended range, and GHMSI expects that its 2017 year-end surplus will also be below this range.

Please do not hesitate to contact me if you have questions.

Sincerely,

Chet Burrell
President and CEO

Milliman

CareFirst, Inc.
Group Hospitalization and Medical Services, Inc.

Development of Appropriate Surplus Target and Optimal Surplus Target Range

December 1, 2017

Prepared by:

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A. BACKGROUND AND SUMMARY OF RESULTS

At the request of CareFirst, Inc. (CareFirst) generally and its Group Hospitalization and Medical Services, Inc. (GHMSI or the company) affiliate specifically, Milliman has carried out an analysis of surplus requirements for GHMSI. The purpose of this analysis is to address the need for statutory surplus for GHMSI, including its ownership share of CareFirst Holdings, LLC and to quantify an appropriate surplus target and 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 CareFirst in 2014. We issued a June 27, 2014 report titled "***Group Hospitalization and Medical Services, Inc.; Development of Appropriate Surplus Target and 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.

GHMSI does business as CareFirst BlueCross BlueShield in the District of Columbia and certain counties in Virginia and Maryland. The company is affiliated with CareFirst, Inc., a not-for-profit company also affiliated with CareFirst of Maryland, Inc. (CFMI). In addition, GHMSI owns 50% of CareFirst Holdings, LLC (CFH). CFH, in turn, owns CareFirst BlueChoice, Inc. (CFBC), an HMO operating in the District of Columbia, Maryland and certain counties in Virginia, as well as other smaller subsidiaries.

For the purpose of this report, GHMSI is understood to mean the combination of 100% of the business of GHMSI 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 CareFirst BlueChoice or CFBC rather than CareFirst Holdings or CFH when discussing the GHMSI ownership share of those companies. The business of CFMI is not reflected in this report.

Summary of Results

Based on the analysis described in this report, we conclude that an appropriate target for GHMSI's surplus is **1050% of RBC-ACL,** and that an optimal surplus target range is **900% to 1200% of RBC-ACL**[1], Our approach to the development of these results is discussed in a later section of this report, along with a discussion of the underlying assumptions.

This surplus target of 1050% of RBC-ACL reflects a decline from the target produced in our 2014 study, which was 1200%. A major factor in this reduction was a decrease in the assumed annual premium

[1] 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. Multiples of the RBC-ACL (e.g., 1000% of RBC-ACL) are used to establish surplus thresholds, with higher multiples producing an increased likelihood of security against insolvency.

growth rate, from 9% in our 2014 analysis to a 5% assumption currently. The reduced growth rate was selected based on recent company premium growth rates as well as company forecast values.

In developing the current surplus target and optimal target range we considered, among other factors, the recent and potential future changes in the health care marketplace resulting from federal health care reform legislation. Our analysis recognizes the considerable uncertainty that health plans continue to face due to ongoing legislative activity and the prominent role that health care currently plays in political discussions. We also recognize that instability in the marketplace may produce increased potential for adverse financial outcomes for a health plan such as GHMSI. Such instability is evidenced by ongoing changes in market conditions, legislative uncertainty, and the shifting competitive landscape as carriers enter and exit the market.

The Company

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 GHMSI'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 GHMSI'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 GHMSI. ASC business, by its nature, does not present an underwriting risk, but involves other risks which we have taken into consideration.

Chart 1

GHMSI Distribution of Business
2016 Premium and Premium Equivalents (GAAP Basis)
(millions)

	Non-FEP Insured	FEP[1]	ASC	Total
GHMSI	$1,410.8	$2,120.3	$933.9	$4,465.1
BlueChoice	$3,097.3	--	--	$3,097.3
GHMSI + 50% of BlueChoice	$2,959.5	$2,120.3	$933.9	$6,013.7

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

Adequate surplus is central to the viability and sound operation of any insuring organization. It is needed to enable a company like GHMSI 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.

GHMSI, as an affiliate of CareFirst, Inc, has committed itself to the following corporate mission:

> *In accordance with the Charter of the nonprofit health service plan, the mission of CareFirst BlueCross BlueShield shall be to:*
>
> - *Provide affordable and accessible health insurance to the plan's insured and those persons insured or issued health benefit plans by affiliates or subsidiaries of the plan.*
> - *Assist and support public and private health care initiatives for individuals without health insurance.*
> - *Promote the integration of a health care system that meets the health care needs of all the residents of the jurisdictions in which the nonprofit health system service plan operates.*

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

In order to fulfill its corporate mission, GHMSI 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, the ability to diminish participation or withdraw from GHMSI's markets as they see fit, and a corporate structure that enables them to allocate and transfer capital among numerous affiliates. The difficulty of fulfilling the commitment made in the CareFirst, Inc. corporate mission should never be underestimated.

Financial strength for GHMSI 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 GHMSI's mission and commitments, and failure to sustain itself as a viable business.

Impact of Health Care Reform

The implementation of federal health care reform legislation (the Affordable Care Act, or ACA) has resulted in significant changes in the health insurance marketplace over the past several years. These changes include the provision of premium subsidies based on income, as well as individual and employer

coverage mandates. Health care exchanges have been established for the purchase of individual and small employer products in each state, with standardized benefit levels and pricing methodologies as prescribed by applicable regulations. A series of market rules were also implemented, requiring guaranteed availability of coverage and restrictions on the manner in which premium rates can vary by age and by geographic area.

The combination of these marketplace changes has, for many health plans, led to increased adverse selection, both in terms of the population choosing to enroll and in the selection of benefit levels. At the same time, health plans are subjected to extended timelines for the filing of new premium rates, as well as increased regulatory scrutiny of such rates. For example, GHMSI must generally file its individual and small group premium rates by May for the following year. This timing limits the company's ability to evaluate the experience of the current year in making assumptions for the subsequent year in its initial rate filings, although there may be some opportunity for revisions prior to approval.

Given the rapidly changing environment, such timing lags add significantly to the risk of inadequate premium rates. Further, health care reform has brought increased regulatory scrutiny of rates which, in combination with the competitive nature of the exchanges, has led to pressure on health plans such as GHMSI to limit rate increases to levels below those that are actuarially required.

The ACA has also established medical loss ratio standards and rebate requirements, which were first implemented in 2011. These provisions require GHMSI to separately report experience by market segment (individual, small group, large group and, beginning in 2018, student health), jurisdiction (D.C., Maryland and Virginia), and company (GHMSI and CareFirst BlueChoice), resulting in 24 different segments for reporting purposes. Rebates must be paid for any such segment that does not meet the minimum medical loss ratio, with no opportunity to offset losses in other segments.

For example, it would not be uncommon to experience loss ratios higher than the minimum standard in some of these 24 segments while others are lower than the standard -- in fact, this would be a typical pattern, due to natural fluctuations among populations, particularly when subdivided into smaller segments. For those segments with loss ratios lower than the standard, the company is required to pay rebates, while any excess costs associated with those segments that exceed the standard must be absorbed. Even if the overall combined experience meets the minimum loss ratio standards, the company may be required to pay rebates due to the fluctuations in experience among the segments. This situation severely limits the ability of the company to increase surplus levels if they should become depleted.

In addition to the changes outlined above, implementation of the ACA has included a series of risk mitigation programs involving cost transfers. These include the transitional reinsurance and temporary risk corridor programs -- both of which expired at the end of 2016 -- and the permanent risk adjustment program. The risk adjustment program involves the transfer of funds from health plans with lower-risk membership (as defined by the program) to health plans with higher-risk membership.

The recent period has been one of change and uncertainty for health plans and for the health care reform program overall. A number of health plans have left the exchanges, citing unacceptable financial losses. The federal government funding for cost sharing reductions which reduce out-of-pocket costs for eligible enrollees was recently terminated, requiring health plans to increase their already-filed premium rates where allowed, with the alternative being the direct absorption of costs.

It is important to recognize that uncertainty will remain, as health care reform itself is likely to continue to evolve due to concerns such as the decreasing number of health plans participating in the exchanges, the high rates of premium increases, current levels of uninsured populations, governmental program costs and fiscal concerns, and political policy considerations. Legislation to repeal the individual mandate is now under consideration. Numerous proposals to repeal the ACA and replace it with something new have been introduced, and the subject is a continuing source of discussion. There are many calls from current and prospective legislators for a single payer health care system.

While it is impossible to predict what developments will emerge in the short term, either as a result of legislation or as a consequence of decisions by health plans or enrolled populations, the future of health care in this country will continue to involve substantial uncertainty.

As described later in this report, our modeling approach involves an assessment of the risks and contingencies faced by GHMSI. The most important of these – which we refer to as the rating adequacy and fluctuation contingency -- relates to the risk that actual claims and expenses incurred by the company will differ from the amounts for which provision is made in premium rates. While this risk, also characterized as the underwriting risk, is a fundamental component of any insurance program, it is heightened in today's health care reform environment.

A surplus target range is by its nature a multi-year target. While it should be updated periodically, it should also be designed to allow for adequate planning and implementation of financial objectives, and to be applicable over a period of time beyond the immediate next year. Given the uncertain nature of today's health care marketplace, developments over the next several years should be monitored closely to evaluate the continued appropriateness of this target.

Pricing Margins

In our modeling, we have assumed an average pricing margin of 2.6% on underwritten business (excluding the Federal Employee Program). This margin, which reflects the average pricing expectation for GHMSI (including its ownership share of CFBC) in the short term, is based on analysis of emerging experience and forward-looking information provided by CareFirst staff.

It should be noted that this pricing margin reflects the overall average margin expected to be included as a component in the development of premium rates. For a number of reasons the expected realized margin – i.e. the margin that flows through the income statement – is expected to be lower. Specifically, in our modeling we estimate that the potential for regulatory rate reductions, as well as the anticipated impact of medical loss ratio and rebate requirements, would result in an expected average realized margin of approximately 1.5%. This compares to an average reported (i.e. realized) margin of approximately 0% over the period 2014 to 2016 for GHMSI's non-FEP insured premium.

We estimate that a realized margin of this level (approximately 1.5%) would be required in order to maintain the company's surplus at the 1050% of RBC-ACL target level, after having achieved the target level, assuming that premium were to grow at an annual rate of 5% and that experience were to develop as anticipated in pricing. In the absence of financial experience more favorable than that reported by GHMSI in recent years, there is significant potential for the company's surplus levels to remain below the

target or even to further erode from current levels. It is important to recognize that the recovery of surplus after levels have eroded is particularly challenging for health plans in today's environment, due to the impact of health care reform provisions as discussed further below.

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 GHMSI 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 multi-year adverse underwriting and other 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.

Access to Capital – GHMSI is a not-for-profit health plan 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 states that it shall "*provide affordable and accessible health insurance to the plan's insured and those persons insured or issued health benefit plans by affiliates or subsidiaries of the plan*". To fulfill this mission, GHMSI must compete successfully in the market against all competitors who elect to enter. 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. GHMSI faces the same insuring and business needs for equity capital as its major competitors, whether 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 GHMSI – 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 that these for-profit companies hold in access to equity capital.

Risk-Taking Capital Needs – The surplus for a health plan like GHMSI 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 need to periodically provide for extraordinary health care development costs or investments in support of the company's operations, and (iii) the importance of maintaining the financial capacity 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 GHMSI'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.

Some of the adverse results and unexpected occurrences that a health plan may face 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 GHMSI must be prepared to withstand.

Broadly speaking, these risks represent the contingencies or unexpected occurrences faced by a health plan in the day-to-day conduct of its business, including the potential for multi-year adverse financial results. 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 plan in order to ensure that provision is made for all of these risks assumed by the company.

The 2008 financial crisis highlighted the potential for severe adverse financial circumstances to arise without adequate opportunity to make explicit compensatory financial provision. Many health plans experienced significant reductions to their asset portfolios, and some of those with defined benefit pension plans faced material additional funding requirements. The implementation of health care reform and the uncertainties that remain with respect to its further evolution over the next several years represent an ongoing financial challenge that may put significant strain on the surplus of health plans. It is essential that a company such as GHMSI 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 appropriate surplus target and an optimal surplus target range is an important undertaking as a matter of prudent business practice and planning. The company should strive to achieve the target and to operate within the target range under normal circumstances, in order to be able to withstand adverse circumstances. At the same time, the company should take steps to avoid exceeding the target range, consistent with its mission to *"provide affordable and accessible health insurance. . . "*.

The target and 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 GHMSI's surplus is 1050% of RBC-ACL, and that an optimal surplus target range is 900% to 1200% of RBC-ACL. A reasonable goal for GHMSI with regard to achieving this, we believe, is to establish 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 maintain this 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.

By positioning the company's surplus well 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, GHMSI 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, GHMSI can better ensure an appropriate degree of security. Likewise, by taking actions to ease surplus growth as it nears the upper end of the target range, GHMSI can reduce the likelihood of accumulating surplus amounts that do not further the well-being of the company, without jeopardizing its security.

Difficulty of 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.

Insurance regulators use a value called Risk Based Capital – Authorized Control Level (RBC-ACL) to assess a health plan's solvency. The calculation of the RBC-ACL in the NAIC annual statement filing is directly dependent on a company's incurred claims volume and operating expense levels. Hence, RBC-ACL 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 discussion of premium margins 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 current health care reform provisions, described earlier, the medical 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 GHMSI 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 appropriate surplus target and an optimal surplus target range for GHMSI involves the evaluation of the minimum level of surplus that will allow the company, with a sufficient degree of confidence or 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. Following is a description of the general steps involved in this approach.

Establishment of Goals for Determining an Appropriate Surplus Target

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 plans, and most States (including the District of Columbia, Maryland and Virginia) have adopted NAIC 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. The magnitudes of such multiples, which are needed to provide a high level of confidence that a health plan will remain viable, will vary among companies depending on their characteristics and circumstances.

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 GHMSI are described below[2]. Also indicated are the actions associated with these key RBC-based levels.

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

Consistent with an overall operation perspective, we have analyzed the historical financial results, operating characteristics, and surplus requirements of GHMSI and its ownership share of BlueChoice as an overall, combined entity. This is not unlike viewing the respective segments of insurance business within GHMSI 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 BCBS Plan will lose the use of the BlueCross BlueShield trademark.

District of Columbia Minimum RBC Requirements – The District of Columbia has adopted statutory minimum requirements for the surplus levels of commercial health insurance companies, non-profit hospital service corporations, and HMOs domiciled in the District. 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, or Company Action Level threshold, a domestic insurer must formally notify the District Insurance Commissioner of the corrective actions it plans to take. This threshold also will be triggered if a domestic health insurer drops below 300% of RBC-ACL and triggers the trend test calculation[3] included in the health RBC instructions. Direct regulatory interventions are triggered if surplus drops to even lower percentage levels.

We considered the potential impact of the higher (up to 300%) threshold resulting from the trend test calculation. Given the results of our testing, we determined that use of the 200% threshold was sufficient

[3] The trend test provides that if the RBC percentage is between 200% and 300% and the combined ratio (claims plus expenses relative to premium) is greater than 105%, a company action level event will be triggered.

and appropriate for purposes of recognizing the impact of the Company Action Level provisions in our surplus target evaluation.

Implications of RBC Minimum Requirements – As noted, the 200% of RBC-ACL level represents both the threshold for a corrective action plan and 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 2½ weeks' worth of insured (including FEP) member claims and expenses for GHMSI and its ownership 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 District of Columbia, Virginia and 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 GHMSI'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 the District of Columbia.

The Early Warning Monitoring threshold is characterized as a warning level. As noted above, a BCBS 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 BCBS 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 Appropriate Surplus Target – As mentioned previously, the establishment of an appropriate surplus target is one of the more important financial policy issues that GHMSI management must address. It has fiduciary, business management, and strategic implications. We recommend that the objectives for GHMSI in determining an appropriate surplus target be established to achieve the following goals:

(a) ***Early Warning Monitoring Threshold Avoidance*** – Provide a ***high likelihood*** that the overall surplus level for GHMSI, 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, 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 GHMSI operation is based, as indicated previously, on the perspective of GHMSI as a combined operation, including its subsidiaries. The statutory surplus reported by GHMSI, as parent, is the surplus for the entire operation. For this analysis, we have assumed that the assets of GHMSI and its subsidiaries are fungible.

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 management that no such movement of funds has occurred to date.

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 GHMSI of the loss of the BlueCross BlueShield trademark, as discussed above. Some might argue that 2% is too high a risk for this scenario, and that the 99th percentile is more appropriate for "virtual certainty".

To represent the goal of maintaining a surplus level that provides a "high likelihood" that GHMSI surplus will remain above the BCBSA Early Warning Monitoring threshold, we have selected a confidence level at the 90th percentile of the simulated gain/(loss) distributions (see discussion below). This would correspond to a 10% likelihood that surplus would fall below the BCBSA Early Warning threshold of 375% of RBC-ACL. Given the high level of significance of the need to avoid falling below the 375% threshold, as discussed above, we believe that a confidence level of at least this magnitude is warranted.

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" ratings[4].

[4] *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); paragraph 11
https://www.standardandpoors.com/en_US/web/guest/article/-/view/type/HTML/id/1869266

Assessment of Risks and Contingencies

We took an actuarial approach to quantifying the risks and contingencies faced by GHMSI. This approach involves the identification of major categories of risk and funding contingencies in GHMSI's operations for which surplus is required. These categories are outlined below and are discussed in greater detail in the attached Appendix.

(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.

(b) ***Accruals for risk adjustment and unpaid claims*** considers the risk that the reported accruals, which are estimates subject to uncertainty, overstate receivables (assets) or understate payables (liabilities).

(c) ***Interest rate and portfolio asset value fluctuation*** involves risks associated with the investment portfolio and the implications for reported surplus levels. In addition to the corporate portfolio, our analysis incorporates assumptions related to the risks associated with the value of assets associated with pension plan funding as well as the valuation of pension plan liabilities.

(d) ***Overhead expense recovery risk*** reflects the implications of an increase or 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 GHMSI to pay claims with no premium collections from the group.

(f) ***Catastrophic events*** reflect the financial and business risks associated with potential adverse and financially significant events such as epidemics and pandemics, cybersecurity breaches, natural or public health disasters, significant litigation, business disruption occurrences, 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 product lines in response to marketplace evolution, or developments in response to legislation.

Associated with each risk and contingency category is a range of possible impacts on GHMSI'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. Our analysis involves quantifying the amounts of potential cumulative multi-year losses against which the company's target surplus is intended to provide protection. For this purpose we have developed what we believe is a reasonable range of possible values, or outcomes, for each risk and contingency category. These possible outcomes for each category are grouped 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 such information in light of the current and anticipated future operating environment of GHMSI, 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.

Provision for Loss Amounts

The goals for an appropriate target for GHMSI's surplus, as discussed above, involve surplus levels remaining above certain minimum thresholds regardless of the operating results that the company experiences. The surplus target should reflect the objective of meeting these goals, while also recognizing the possibility of a particularly adverse multi-year period of cumulative operating losses. In establishing the potential magnitude of such a cumulative loss, we are not predicting that it will occur, nor are we suggesting in any way that GHMSI should accept the inevitability of such losses occurring in the near term. Rather, we are attempting to establish a magnitude of adversity against which the company should protect itself, as well as its members, providers, and vendors.

By reflecting a multi-year period, we are recognizing that the nature of health insurance does not allow for immediate recognition and reversal of adverse developments. The ultimate cost of health care services utilized under a policy is not known at the time of sale; actual costs cannot be fully determined until a period after the coverage has expired, when all claims have been submitted and processed. Because of the delays in measuring actual claims experience and because premium rates must be determined many months in advance of their applicable rating periods, claims must often be projected for periods of 21 to 24 months, and even then using incomplete and therefore imperfect historical claims data. As a consequence of this inherent nature of health insurance operations, multi-year periods of unexpected or unplanned gains or losses commonly arise. In our modeling we have utilized a three-year time horizon to reflect such multi-year periods.

To evaluate the financial implications of the possible outcomes produced by our loss assessment we quantified the distributions of amounts of potential loss due to major risk and contingency categories and their respective likelihoods as described above. We then employed a simulation methodology – i.e., Monte Carlo – that is commonly applied in financial modeling to simulate the tens of millions of possible gain/(loss) combinations produced by our distributions.

The composite distribution of all of these gain/(loss) combinations allows us to quantify the resulting probability that cumulative operating loss amounts will not exceed a given percentage of annual insured premium. From this distribution a multi-year loss amount can be determined, reflecting the combined risks which have been evaluated and corresponding to a specified probability or likelihood (e.g., greater than 98%) that such a loss level will not be exceeded.

Using this process we developed a range of cumulative multi-year loss amounts for which there is a high likelihood (i.e., exceeding levels of 90% and 98%) that such a loss level will not be exceeded, even under significant or severe unforeseen adverse circumstances. The results are summarized in Charts 2 and 3.

Chart 2 displays the resulting cumulative loss amounts, expressed as percentages of non-FEP insured premium. As mentioned previously, the rate stabilization reserves that are held on behalf of the FEP program significantly reduce the short-term underwriting risk to GHMSI 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 underwriting losses as a percentage of non-FEP insured premium. The results below are presented at the 90th and 98th percentiles of multi-year gain/(loss) amounts, representing high confidence levels.

Chart 2

Simulated Loss Amounts at 90th and 98th Percentile Levels

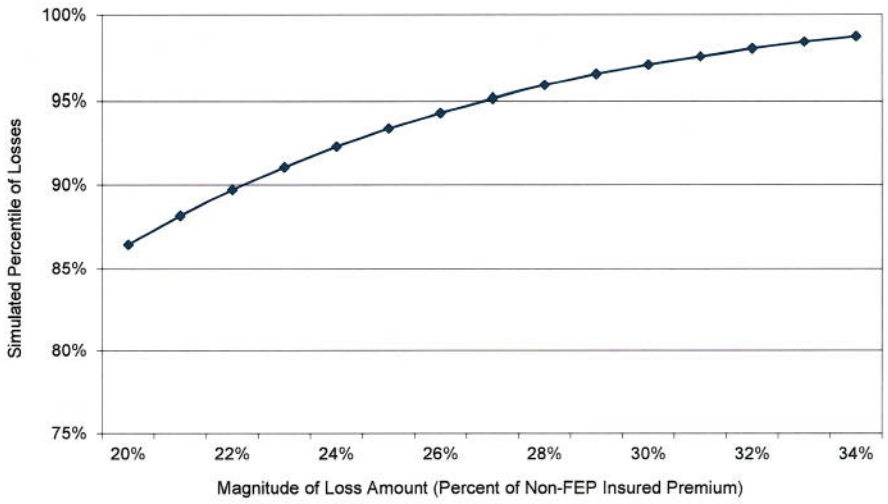
Percentile of Simulated Cumulative Multi-Year Operating Gain/(Loss) Amounts	Cumulative Loss Amount[1]
98th	32%
90th	22%

[1] As percentage of non-FEP insured premium.

Chart 3 shows in graph form the magnitude of the cumulative loss amounts at high percentile levels. We have directed our attention to the 90th through the 98th percentile levels in order to identify the magnitude of particularly or severely adverse outcomes. We have not considered the magnitudes for loss amounts simulated for GHMSI beyond the 98th percentile, because of the remote probabilities for such an occurrence.

Chart 3

Monte Carlo Simulation of Cumulative Multi-Year Gain/(Loss) Amounts (Includes All Risks)



Simulated Percentile of Operating Losses	Cumulative Loss
98th	32%
90th	22%

The simulated operating losses presented in Charts 2 and 3 include the impact of risks due to changes in interest rates and portfolio asset value fluctuations, which are not reflected in reported underwriting results. In order to provide a basis for comparison with historical underwriting results, we have also tabulated the range of simulated losses excluding the impact of these asset fluctuation risks, as shown in Chart 4 below.

Chart 4

Simulated Cumulative Loss Amounts Excluding Asset Fluctuation Risks

Percentile of Simulated Cumulative Gain/(Loss) Amounts	Cumulative Loss Amount[1]	
	Including Asset Fluctuation Risks[2]	Excluding Asset Fluctuation Risks[3]
98th	32%	29%
90th	22%	19%

1 As percentage of non-FEP insured premium.
2 From Chart 2.
3 For comparative purposes, excludes losses from changes in interest rates and portfolio asset value fluctuations.

Provision for BCBSA Early Warning Monitoring Threshold – One of the three surplus goals identified earlier is to provide a high likelihood that the overall surplus level for GHMSI 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, the surplus target must be high enough that a particularly adverse multi-year loss period can be absorbed, without the surplus level dropping below the threshold (375% of RBC-ACL).

To represent a particularly adverse cumulative loss amount based on the simulation of risks and contingencies for GHMSI, we have simulated a multi-year operating loss period creating a cumulative loss of 22% of annual non-FEP insured premium (or 19% excluding the impact of asset valuation risks). Provision to withstand a cumulative loss of this amount would have included 90% of the simulated gain/(loss) amounts. Using these criteria to establish a surplus target level means that GHMSI must be able to absorb these levels of cumulative loss over a 2 to 3 year period without surplus dropping below 375% of RBC-ACL.

Provision for BCBSA Loss of Trademark Threshold – Similar conditions apply to meeting the goal of providing that the overall surplus level for GHMSI will remain above the BCBSA Loss of Trademark threshold. The surplus target must be high enough so that a severely adverse cumulative loss amount can be absorbed, without the surplus level dropping below this threshold (200% of RBC-ACL).

To represent a severely adverse loss period, we have simulated a multi-year cumulative loss in the amount of 32% of annual non-FEP insured premium (29% excluding the impact of asset valuation risks). Provision to withstand a cumulative loss amount of this magnitude would have included 98% of the simulation gain/(loss) amounts. This is consistent with the goal of assuring with virtual certainty that failure does not occur as a result of breaching this threshold.

These adverse loss results form the foundation for our pro forma projection model development of GHMSI surplus target levels.

Pro Forma Modeling of Cumulative Loss Impact

To establish the GHMSI target surplus level that would meet the goals established, we projected the level of GHMSI surplus balances emerging under the identified cumulative loss amounts year-by-year over a three-year period. These loss amounts were combined with investment earnings and other pro forma financial items needed to evaluate changes in surplus, and tested against the minimum surplus thresholds outlined above (375% and 200% of RBC-ACL).

In our approach to the 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 period 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 GHMSI and its ownership share of CareFirst BlueChoice on a consolidated basis, are the following:

(a) ***Annual Growth in Premium*** – We have assumed an annual rate of growth in non-FEP insured premium of 5%. This growth rate assumption reflects changes in average premium rates and changes in membership.

(b) ***Pricing Margins*** – An average pricing margin of 2.6% is assumed for all non-FEP insured business, based on information provided by CareFirst staff. As noted previously, this pricing margin reflects the overall average margin expected to be included in premium rates, and is not equivalent to the expected realized margin, which is approximately 1.5%.

(c) ***Investment Earnings Rate*** – The average annual investment earnings rate is assumed to be 3.5%, based on information provided by CareFirst staff.

(d) ***Tax Rate*** – We reflected federal income tax rates of 20% applicable to GHMSI and 35% applicable to CFBC. With respect to the projected loss scenarios, we assumed that a tax loss carry back was available at the onset of the loss period 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 requirements, we believe that under such circumstances there would be no reportable tax benefit to GHMSI in its statutory financial statements.

Failure Testing Against Early Warning Monitoring and Loss of Trademark Thresholds – Chart 5 presents the resulting RBC ratios required at the onset of the indicated operating loss periods, in order for the company's RBC ratio to remain above the BCBSA Early Warning Monitoring and Loss of Trademark thresholds of 375% and 200% of RBC-ACL, respectively.

These pro forma results indicate that a starting or target surplus level of 950% of RBC-ACL is needed for GHMSI in order for the company to avoid special monitoring by BCBSA while withstanding a particularly adverse multi-year loss. Under the pro forma projections, GHMSI could withstand such a loss period and remain above the 375% BCBSA Early Warning Monitoring threshold.

Similarly, Chart 5 indicates that a starting or target surplus level of 1050% of RBC-ACL is needed in order to avoid the loss of trademark as a result of a severely adverse multi-year loss period. Under the pro forma projections, GHMSI could withstand such a loss period and remain above the 200% BCBSA Loss of Trademark threshold.

Appropriate Surplus Target for GHMSI – Based on this analysis, we have concluded that a surplus target of 1050% is an appropriate level, since it would allow GHMSI to meet both of these tests – i.e., to (i) withstand a particularly adverse multi-year loss period and remain above the 375% BCBSA Early Warning Monitoring threshold, and to (ii) withstand a severely adverse multi-year loss period and remain above the 200% BCBSA Loss of Trademark threshold.

Chart 5

RBC Ratio Needed to Remain Above Minimum Surplus Levels
Simulated Results under Range of Multi-Year Cumulative Loss Amounts

Threshold	Loss Scenario (Percentage of Non-FEP Insured Premium)		Required RBC Ratio
	All Risks[1]	Excluding Asset Fluctuation Risks[2]	
Early Warning Monitoring (375% of RBC-ACL)	22%	19%	950%
Loss of Trademark (200% of RBC-ACL)	32%	29%	1050%
Overall Surplus Target			1050%

[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.

Optimal Surplus Target Range – Our development of an optimal target range about this 1050% of RBC-ACL surplus target was based on an evaluation of the historical year-to-year changes in GHMSI reported surplus percentages. We believe it is appropriate to establish a range that will avoid a high likelihood that surplus values will routinely fall outside of the range over a two- or three-year period. For this purpose we considered the historical pattern of changes in GHMSI surplus values over consecutive two-year or three-year periods.

We tabulated the one-year and the cumulative two- and three-year changes in reported surplus percentages (i.e., percentage of RBC-ACL) for the period from 2000 through 2016. The current form of the Risk Based Capital formula was first applicable in 2000, meaning that earlier reported values were not developed on a comparable basis.

We found that the standard deviation of the two-year changes exceeded that based on one-year changes. This is consistent with the type of year-to-year correlation that would be expected – i.e., a favorable or unfavorable deviation in financial experience in a given year is frequently followed by a deviation in the same direction (although a different magnitude) in the subsequent year. This reflects the nature of health insurance, including the lead times required to recognize and respond to unanticipated changes in claims experience. We also tested the three-year changes and found the standard deviation to be similar to that of the two-year changes.

We found that, for both the two-year and three-year cumulative changes, the standard deviation was approximately 150 percentage points. Based on this observation, we selected a target surplus range equal to the 1050% surplus target, plus or minus 150 points. This produced our recommended optimal surplus target range of 900% to 1200% of RBC-ACL.

Based on this analysis, we would expect a range of this magnitude to encompass a reasonable range of variation in surplus levels resulting from routine fluctuations in membership levels, trend rates, economic conditions, and other factors, thereby reducing the likelihood that the company's surplus will routinely fall outside the range.

C. LIMITATIONS AND CAVEATS

Milliman has prepared this report for the specific purpose of providing results and assumptions for our optimal surplus target 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 GHMSI may wish to share this report with regulators and their professional advisors in the District of Columbia, Maryland and Virginia, 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.

APPENDIX: RISKS AND CONTINGENCIES

As discussed in the accompanying report, we have taken an actuarial approach to quantifying the risks and contingencies faced by GHMSI. This approach involves developing a range of possible values and associated probabilities for each of several major categories of risk and contingencies in GHMSI's operations, for which surplus requirements need to be recognized. Following is an outline of the major risk and contingency categories, and a brief discussion of the considerations involved in assessing the potential impact of each in terms of GHMSI's surplus target requirements.

The categories of risks and contingencies for which surplus is required, as identified for this study, can be summarized as follows:

Major Risk and Contingency Categories	
(1)	Rating adequacy and fluctuation
(2)	Accruals for risk adjustment and unpaid claims
(3)	Interest rate and portfolio asset value fluctuations
(4)	Overhead expense recovery risk
(5)	Other business risks
(6)	Catastrophic events
(7)	Provision for unidentified development and growth

These categories generally follow the types of risk categories recognized in the RBC formula for health plans, but they further reflect components associated with ongoing viability (beyond solvency alone).

Rating Adequacy and Fluctuation – GHMSI's development of premium rate increases is intended to make provision for expected trends in claims costs and rates of utilization, as well as changes in required expense allowances and other rating elements. Unfavorable variances for any of these factors require drawing on surplus.

In developing its premium rates, GHMSI must establish reliable base period claims experience and determine recent trends in claims costs. This process may involve a material degree of uncertainty, particularly for its individual and small group customers.

Projecting such data into the future for the purpose of rate development then requires the use of suitable trend assumptions. Underlying drivers affecting trends in claims costs include changes in secular cost and utilization levels and medical care delivery patterns. Influencing and altering the impact of such secular forces and their projection are a wide array of health plan-specific factors – provider contracting methods and network performance, management of care activities, member usage of out-of-area

providers for services, the company's ability to model and predict trends, and shifts in the exposure characteristics of the rating pools involved (including the prospect of adverse selection). In addition, health plan size and mix of business segments affect its trends, although even sizeable rating pools are subject to random fluctuations in experience. These secular and health plan-specific contributors to risk are magnified in a number of ways under the current regulatory and competitive environment of federal health care reform.

In general, a substantial lag exists for all health plans between a change in underlying cost trends or other factors and the recognition of such changes. For example, an inherent delay is present in the evaluation of claims incurred during an experience period due to lags in reporting claims. Even after claims have sufficiently developed, the initial manifestations of a trend change are generally so slight as to be obscured by other phenomena, such as seasonal fluctuations. Finally, when the effects become clearly perceptible, the actuary and company management are faced with the question as to whether they represent a change in the underlying trend or a temporary random fluctuation. Because evidence of trend change is generally not obvious before a substantial period of time has elapsed, an unrecognized trend change can deplete surplus for several years.

In order to provide as much of a factual, experience-based foundation as possible, the usual practice in establishing trend assumptions for premium rates is to rely heavily on the trends observed over at least the most recent twelve-month period. Use of a twelve-month or longer period results in more gradual changes in rates than would occur if short-term fluctuations were given full credibility. These data-based approaches are essential for evaluating past and current claims cost levels and trends; however, future outcomes are almost certain to involve additional and differing influences. Regardless of how trend assumptions may be developed, the result is an understatement of premium income if trends worsen and an overstatement if trends improve.

Since premium rates for a large portion of GHMSI's business are guaranteed for a twelve-month period, following a significant period of advance notice of premium rates to customers, immediate implementation of trend or other changes cannot be made. Thus, provision must be made in surplus for withstanding delays in implementing trend or other rating parameter changes. In addition, any regulatory requirements for approval of rates or rating factors may entail delays in implementation. Further, GHMSI has experienced reductions in requested premium rate levels (and/or encouragement to revise premium requests) for the individual and small group market segments by insurance regulators. Again, surplus is essential to withstand these adversities.

While the risk factors outlined above have always existed, many of them have been exacerbated by the provisions of federal health care reform and the continuing uncertainties related to such reform. The potential for continued significant membership turnover in the individual market means that the morbidity characteristics of the covered population may be changing materially, beyond the degree that is recognized by the allowable premium rating adjustments. Such membership changes may affect other membership segments as well. In our assessment of the risks related to rating adequacy and fluctuation, we have recognized the continuing increased level of potential variability in health care costs due to these circumstances, including the potential for increased adverse selection in the individual market segment and, to a lesser degree, in the small group segment.

In addition, in our analysis we have simulated the effects of the medical loss ratio standards and rebate requirements that became effective as a result of health care reform[5], as well as the implications of increased regulatory review of premium rate requirements and potential restrictions on premium increases that has resulted from the rate increase review processes. The rebate requirements restrict the ability of the company to increase surplus levels if they should become depleted. The premium rate approval process, combined with marketplace competition, presents uncertainty regarding GHMSI's ongoing ability to charge sufficient premiums to allow for maintenance of adequate surplus, particularly if required premium levels grow significantly as a result of adverse selection.

In addition to the risks associated with the claims component of premium rates, variations between actual and budgeted operating expenses also occur during the normal course of business. GHMSI may be faced with an unbudgeted and yet necessary expenditure as a result of some unexpected event or an unanticipated reduction in revenue to pay for operating expenses. Other rating factors and formula elements are involved as well in setting premium rates, all of which are subject to periodic misestimation or imbalance.

Accruals for Risk Adjustment and Unpaid Claims – Since a health plan's surplus is defined as the excess of assets over liabilities, any misstatement or risk of fluctuation in either of them has a corresponding impact on reported surplus. The potential for misstatement applies, in particular, to those actuarial or other items contained in the company's statutory insurance blank which require estimation.

The two most significant of GHMSI's actuarial accrual items, in terms of materiality and the degree of estimation required, are the risk adjustment accruals and the unpaid claim liabilities. To the extent that actual risk adjustment payments differ from the amount accrued, or the paid claim runoff differs from the liability estimate for unpaid claims, surplus will be correspondingly increased or decreased. Surplus must be sufficient to provide protection against such potential outcomes.

Other actuarial items contained in GHMSI's balance sheet also require estimates and therefore entail uncertainty, including unpaid claims adjustment expense liability and medical loss ratio (MLR) rebates.

Interest Rate and Portfolio Asset Value Fluctuations – Admitted assets related to non-affiliated companies and other investment instruments carried by GHMSI on its statutory balance sheets are reported on several bases. Fixed income securities not backed by mortgages are carried at amortized cost, except for a small number of bonds where NAIC designation requires them to be carried at the lower of cost or market value. Mortgages and mortgage-backed securities are carried at amortized cost, using an interest method that includes anticipated prepayments. Equity holdings in non-affiliated companies are carried at market value.

The corporate asset portfolio of GHMSI is dominated by investment in interest-bearing instruments of various durations, spread among government, government agencies, mortgages and both public and private corporate placements. Overall, 87% of the investment portfolio (excluding equity interest in

[5] Due to the complexities that would be involved in modeling the 18 distinct segments for which GHMSI must separately report experience under the medical loss ratio standards, we have reflected a simplified approach involving 6 such segments. While the use of this simplified approach will tend to understate the financial risk somewhat, under the conditions of the adverse multi-year loss periods that we have modeled the effect of this understatement is negligible.

subsidiaries and affiliates) was invested in interest bearing instruments at the end of 2016. The remainder was invested in dividend-paying equities.

Since long-term assets-to-liability matching is not a significant investment management issue for a company with mostly short-term obligations like GHMSI, the primary matter of concern regarding corporate assets and development of a surplus target is the potential fluctuation in market values of the asset portfolio. Beyond the possibility of default or impairment, a major risk of adverse fluctuation in interest-bearing securities is an unexpected rise in interest rates generally in the market along with the prospect of having to liquidate assets at that time. For equities, risk is present with regard to market conditions generally and the performance of individual securities and instruments specifically.

In addition, the company holds assets dedicated to the funding of its corporate pension plan. These assets are carried at market value (or a proxy to market value), and are subject to the same market risks as the corporate portfolio. Offsetting the risk of an unexpected rise in interest rates is the favorable variance in projected obligations for post-retirement benefits resulting from a comparable increase in the discount rate used to value the obligations. Conversely, an unexpected decrease in discount rates would produce an increase in those projected obligations.

Overhead Expense Recovery Risk – We have reflected provision for the contingency of an unanticipated fluctuation in the level of administrative expense recoveries. Under normal circumstances these recoveries are made through the administrative expense component of premium rates for insured business, fees paid by self-funded groups, and fees or revenue generated from other business activities. An adverse fluctuation may occur, for example, because a large group terminates unexpectedly, with a resulting decrease in retention revenue or self-funded fees. A corresponding decrease in expenses would not occur immediately, and expense ratios would therefore increase.

Other Business Risks – As with any business operation, GHMSI faces a host of business risks during the normal course of business. Most of these can be absorbed within the scale of GHMSI's overall operations.

A particular category of risk, which is perhaps unique to a health plan such as GHMSI, is risk associated with ASC business. Unlike some self-funded business administered by a third party administrator for an employer using employer funds, GHMSI's self-funded business entails a variety of risks for the health plan. These include default in reimbursement by an employer group, refusal to reimburse certain claims, defense of disputed claims, audit or litigation related to payment policies and practices, contractual disputes regarding discounts, etc. Such risks are not insignificant.

Catastrophic Events – GHMSI, like all health plans, faces the risk of occurrence of one or more events that are of potentially severe financial consequence should they occur – we refer to these as catastrophic events for purposes of this analysis. Such events include extraordinary medical costs due to terrorism, epidemics or pandemics, and natural or public health disasters. They also include other events with a potentially extraordinary adverse financial impact – such as major fire or other business interruption disaster, cybersecurity breaches, or excessive damage awards from major class action or other litigation.

In recent years cybersecurity breaches have become an increasing concern for all organizations, particularly those that maintain personal information and, specifically, personal health information. A number of health plans have experienced breaches, at times with extraordinary financial consequences.

While CareFirst maintains insurance to protect against this risk, the potential for a breach of financial consequence in excess of such insurance limits does exist.

A prudent health plan must provide protection against catastrophic risks such as those outlined above, so that the company is not exposed to ruin or incapacity from such an event. This is necessary to remain a viable company. It is also necessary to protect the ability of GHMSI's members, providers, and vendors to safely rely on the company for the financial security that they believe they have contracted for or purchased. Prudence dictates that surplus for GHMSI be sufficient to withstand the risk created by such threats, to the maximum extent possible.

Provision for Unidentified Development and Growth – To maintain competitiveness and ongoing viability, GHMSI must periodically make substantial investments in developmental activities and the acquisition of operational capabilities. These include such far ranging items as new product development, rebuilding of delivery networks, enhancement of care management capabilities, acquisition of new communications or information technology capacities, and adaptation of existing and integration of new administrative processes. Often these capital expenditures do not produce admitted assets, which means that they generally must be absorbed directly and immediately out of surplus.

Likewise, developing and absorbing growth requires equity capital to fund developmental costs, to cover the initial losses resulting from the need to be price-competitive at the outset in order to become established, to absorb any initial losses resulting from setbacks or inexperience in the new market, and to withstand the short-term surplus strain (i.e., growth in enrollment or volume of business in force, without corresponding immediate growth in surplus). Obviously, a prerequisite for financially sound growth is strong surplus.

Surplus Studies: GHMSI
2005 to Present

			GHMSI	
Study Year	Consultant	Engaged by	RBC Range	Actual RBC
2005	Milliman	CareFirst	800-1100	893
	Board Adopted for 2005-2007		**800-1100**	
2008	Milliman	CareFirst	750-1050	
	Lewin	CareFirst	750-1000	845
	Board Adopted for 2008-2010		**750-1050**	
2009	Invotex	MIA	700-950	902
	Rector	DISB	600-850	
2011	Milliman*	CareFirst	1050-1300	
	Lewin	CareFirst	1000-1550	998
	Board Adopted for 2011-2013		**1000-1300**	
	RSM McGladrey	MIA	1000-1300	
2012	Milliman	CareFirst	1000-1300	921
	Lewin	CareFirst	1000-1300	
2013	Milliman	CareFirst	1000-1300	932
2014	Rector	DISB	875-1040	
	Milliman	CareFirst	1050-1350	878
	Board Adopted for 2014-2017		**1050-1350**	
2015	Milliman	CareFirst	1050-1350	
	Lewis & Ellis	MIA	1000-1300	882
	VBOI/Lewis & Ellis	VBOI	798-963	
	Board Adopted for 2015-2018		**1050-1350**	
2016	Milliman	CareFirst	1050-1350	851
2017	Milliman	CareFirst	900-1200	N/A
	Board Adopted for 2018-2020		**900-1200**	

* Ranges from 2011 forward include impacts from the Affordable Care Act.