Government of the District of Columbia
Vincent C. Gray, Mayor
Department of Insurance, Securities and Banking

Chester A. McPherson
Interim Commissioner

April 18, 2014

VIA EMAIL

Walter Smith
Executive Director
DC Appleseed Center
111 Fourteenth Street, NW, Suite 510
Washington, DC 20005

Re: Surplus Review of Group Hospitalization and Medical Services, Inc. (GHMSI)

Dear Mr. Smith:

I write in response to the following requests for information in advance of the surplus review hearing: your letter dated March 14, 2014; email correspondence from Mark Shaw dated March 20, 2014; and your email correspondence dated April 4, 2014. This letter supplements our prior responses to DC Appleseed Center ("Appleseed"), including but not limited to my March 14, 2014 letter to you. Any additional requests for information concerning Rector & Associates' Report to DISB dated December 9, 2013 (the "R&A 2013 Report") must be submitted on or before Friday, April 25, 2014. Any additional requests must be made in a single, consolidated submission, and DISB will not respond to any requests that are unreasonable in number or scope.

Before providing information relative to your specific requests, it is important to point out that the Milliman model, and the adjustments Rector & Associates, Inc. ("R&A") made to it and to the assumptions incorporated into it, employ actuarial judgment. Because of the inherent complexity of the health insurance industry, the model and the work relative to it apply a complex actuarial framework with interlocking factors that must be considered as a whole.

With these introductory comments in mind, the following summarizes the response to each specific item of requested information. The item numbers correspond to the numbers in your March 14, 2014 correspondence ("Appleseed Correspondence").

ITEM 1

Appleseed Request:

Please confirm that the column headings "RBC % Change" in the charts at pp. 2 and 3 of the March 6, 2014, Rector/FTI Response ("Rector/FTI Response") refer to changes in the number of percentage points in the RBC ratio.

Response:

Yes, the column headings "RBC % Change" in the charts at pages 2 and 3 of the March 6, 2014 memorandum from FTI Consulting to R&A ("R&A Response") refer to changes in the number of percentage points in the RBC ratio.

ITEM 2

Appleseed Request:

The Rector/FTI Response, at p. 3, suggests that material changes to Rector's assumptions since 2009 included changes reflecting "Other Business Risks." The Chart below this statement includes fourteen enumerated factors that led to changes in the RBC percentage. Which of these fourteen factors correspond to changes in "Other Business Risks"?

Response:

The only material change to R&A's assumptions since 2009 that correspond to "Other Business Risks," as indicated at the top of page 3 of the R&A Response, are to assumption/modeling change #11 – ASC Default, as listed in the chart on page 3 of the R&A Response.

ITEM 3

Appleseed Request:

Appleseed asked that Rector explain why its target surplus ratio increased from 600% (2009 Report) to 958% RBC (R&A 2013 Report). *See* Data Request # 8. [footnote omitted] In response, Rector provided two charts: the first chart shows the impact of changes Milliman made to its assumptions between 2008 and 2011; the second shows the impact of changes that Rector made between 2009 and 2013. *See* Rector/FTI Response, at 2–3. However, Rector's target surplus increased 358 percentage points between 2009 and 2013, while the Rector chart suggests a difference of only 250 percentage points. *Id.* at 3. Moreover, the 2009 Rector surplus determination was for a 99% certainty threshold and the 2013 Rector surplus determination was for a 98% certainty threshold. We estimate based on normal

distributions that a 98% certainty would lower the 600% calculated in the 2009 Report to 553%. We request:

a) A detailed explanation of whether and how these charts reconcile this 405 percentage point difference in light of the change in confidence level, and of any other factors that reconcile the difference.

b) If Rector cannot explain the additional 155 percentage points – the difference between 250% and 405% – please so state.

c) If Rector estimates that a change from the 99% confidence level to the 98% confidence level would, based on normal distributions, lower the 600% to a number that is different from 553%, a detailed explanation of whether and how these charts reconcile the percentage-point difference between 600% and Rector's different number, and of any other factors that reconcile the difference.

d) A statement whether Rector did or did not account for the difference in confidence levels between its 2009 and 2013 reports when it prepared the above-referenced chart identifying a difference of 250 percentage-points.

e) Whether or not Rector accounted for the difference in confidence levels between its 2009 and 2013 reports, a detailed explanation of the reasons for the additional 108 percentage-points – the difference between 358 percentage points and 250 percentage points.

Response:

Before responding to your specific questions, it is important to point out that although a number of individual components of R&A's analysis changed by larger amounts, the "bottom line" of R&A's analysis—the amount of surplus needed to satisfy both a 200% and 375% RBC threshold—increased by only approximately 110 basis points between 2009 and 2013[1] even though none of the effects of federal health care reform were

[1] In the 2009 analysis, the findings were that GHMSI needed an *850% RBC* level to maintain both the 200% RBC level and the 375% RBC level at the selected confidence levels (600% RBC to maintain a 200% RBC level with a 99% confidence level, assuming a 2-1/2 year trend miss; and 850% RBC to maintain a 375% RBC level with a 95% confidence level, assuming a 2-1/2 year trend miss).

In the 2013 analysis, the findings were that GHMSI needed a *958% RBC* level to maintain both the 200% RBC level and the 375% RBC level at the selected confidence levels (958% RBC to maintain a 200% RBC level with a 98% confidence level; and 746% RBC to maintain a 375% RBC level with an 85% confidence level).

Accordingly, the difference between the necessary surplus, as determined in 2009 and 2013, equates to *approximately 110 basis points* (850% in 2009 and 958% in 2013).

included in the 2009 analysis, whereas R&A's findings in 2013 included the effects of health care reform.

Differences in 2009 and 2013 Analysis Affecting RBC Findings

You have asked a series of questions relating to the reasons behind two different RBC level findings:

- **In 2009, a finding that GHMSI needed 600% RBC to maintain a 200% RBC level with a 99% confidence level; and**

- **In 2013, a finding that GHMSI needed 958% RBC to maintain a 200% RBC level with a 98% confidence level.**

Before describing these differences, it is important to point out that the Milliman modeling methodology is a complex actuarial model that attempts to capture all key aspects of a health insurer's financial and business operations. Because of the inherent complexity of the model, the exact numerical effect of changing one particular model variable or a particular confidence level is not exactly quantifiable. Changing one assumption in the model can impact other model variables, which then affect the model's results. In other words, it is not possible to quantify specific RBC basis points to a change in any particular model variable since changing that variable will affect other variables in the model. Further, if the selected confidence level used to calculate the model's results changes, the effect of that change makes it difficult to isolate the change caused by a simultaneous change in a model variable. When both the selected confidence level and a model variable changed, as happened between the 2009 and 2013 analyses, it makes it even more difficult to attempt to quantify specific RBC basis points attributable to changes in a model variable.

Notwithstanding the above caveats, the following describes what R&A believes are the key differences between the 2009 and 2013 analyses that contributed to the different findings.

***Confidence Levels*. The confidence levels that are selected to maintain specific RBC levels can have a significant impact on the amount of surplus necessary to maintain those levels. As an example, in R&A's 2013 analysis, at an 85% confidence level, GHMSI's surplus needs to not fall below a 746% RBC level to maintain a 375% RBC level. Alternatively, at a 95% confidence level, GHMSI's surplus needs to not fall below a 1007% RBC level to maintain a 375% RBC level.**

R&A anticipates that the change in confidence levels from 95% in 2009 to 85% in 2013 to maintain a 375% RBC level would have a similarly significant impact on the amount of surplus necessary to maintain those levels.

With respect to a change in confidence levels from 99% to 98% to maintain a 200% RBC level, you indicated in your March 14, 2014 correspondence that you anticipate that based on normal distributions, changing the confidence level from 99% to 98% would lower the required RBC level to maintain a 200% RBC level from 600% RBC, as indicated in the 2009 Report, to 553% RBC. During R&A's 2009 and 2013 analyses , R&A did not ask Milliman to determine the amount of surplus necessary to maintain a 200% RBC level at both 98% and 99% levels. Accordingly, R&A does not have a specific estimation of how much the change from a 99% confidence level in 2009 to a 98% confidence level in 2013 had on the results. However, R&A indicated that the amount you have suggested (a drop of 47 basis points) appears to be a reasonable estimate of the change in necessary surplus.

***Health Care Reform*. In R&A's 2009 analysis, R&A did not take into account any of the effects of federal health care reform on GHMSI's future operations. However, in R&A's 2013 analysis, R&A took into account the effects of all aspects of health care reform on GHMSI's operations.**

It is important to note that in Milliman's analysis of GHMSI's surplus needs as of December 31, 2011, Milliman only took into account in its stochastic modeling process those health care reform requirements that were in effect prior to January 1, 2014. For those health care reform requirements that were effective on or after January 1, 2014, Milliman estimated that the impact of those health care reforms could increase GHMSI's surplus target range by100% to 150% of RBC in addition to the amount estimated in connection with its stochastic testing. To account for the effect of health care reform requirements effective on or after January 1, 2014, R&A instead: i) revised Milliman's rating adequacy and fluctuation factor; and ii) took the effect of health care reform into account in the selected probabilities of premium growth levels R&A asked Milliman to incorporate in the model.

***Management Intervention*. In R&A's 2009 analysis, R&A took a different approach than it took in its 2013 analysis with respect to certain assumption adjustments relating to the effect that management intervention might have on GHMSI's operations. In its 2009 analysis, R&A made adjustments to the loss curve that resulted from Milliman's stochastic modeling approach to take into account potential management intervention actions. As set forth in the R&A 2009 Report,[2]**

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[2] The 2009 Rector Report states the following:

> Reserve Margins. … It is reasonable to expect that if management were concerned about crossing a particular RBC threshold, management would react by reducing reserve margins and releasing redundant reserves into surplus. Accordingly we made downward adjustments to the loss curve of between 0.5% and 1.5%....

(continued on next page)

the adjustments were made to incorporate the impact that future management interventions would have on adverse scenarios that would reduce the total capital and surplus needed.

In R&A's 2009 analysis, the effect of making loss curve adjustments to take into account potential management intervention actions affected the amount of surplus needed to maintain 200% RBC at a 99% confidence level by reducing the required surplus by 190 basis points. Similarly, in 2009 these adjustments affected the amount of surplus needed to maintain 375% RBC at a 95% confidence level by reducing the required surplus by 90 basis points. In its 2013 analysis, R&A did not make adjustments to the loss curve that resulted from the Milliman stochastic modeling approach. Rather, R&A performed a detailed analysis of each of the 12 factors that are used in Milliman's stochastic modeling process.

During its 2013 analysis, it is important to note that R&A did not take into account the potential management action of reducing GHMSI's reserve margins and releasing potentially redundant reserves into surplus. Because we told R&A that it is not appropriate for GHMSI to alter reserves as a method of improving GHMSI's financial position, R&A did not take this type of management intervention action into account in its analysis.

***Rating Adequacy and Fluctuation Assumptions*. In Milliman's stochastic modeling approach, Milliman significantly changed the model's rating adequacy and fluctuation variable, including assumptions relating to this variable, between its 2008 and 2011 modeling approach. R&A estimates that Milliman's change resulted in an increase of approximately 300 basis points in Milliman's results.[3] *In addition* to this increase of 300 basis points, Milliman also estimated as part of its 2011**

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Pricing Margins and Underwriting Standards. The Milliman model assumes a pricing margin on its non-FEP insured business. It is reasonable to expect that if management were concerned about crossing a particular RBC threshold, management would react by increasing pricing margins and/or implementing more stringent underwriting standards.... Accordingly, we made downward adjustments to the loss curve of 1.50%....

Infrastructure Investments. ... It is reasonable to expect that if management were concerned about crossing a particular RBC threshold, management would react by delaying or cancelling at least some infrastructure investments. Accordingly, we made downward adjustments to the loss curve of between 0.0% and 1.0%....

[3] We previously provided this in the March 14, 2014 response to your requests for information (see R&A's March 7, 2014 memorandum relating to its quantification analysis).

analysis that the impact of health care reforms could increase GHMSI's surplus target range by an additional 100 to 150 basis points.

R&A did not accept all of Milliman's increase in basis points. Instead of Milliman's "300 basis points + 100-150 basis points" increase between 2009 and 2013, R&A estimated the increase in necessary surplus related to this assumption to be approximately 150 basis points to maintain 200% RBC at a 98% confidence level and approximately 170 basis points to maintain 375% RBC at a 95% confidence level. Again, it is important to note that R&A's 2013 analysis took into account the effect of health care reform requirements effective on or after January 1, 2014 (as well as reforms effective prior to January 1, 2014), as opposed to Milliman's approach to reforms effective January 1, 2014 and later (adding 100 to 150 basis points to its stochastic modeling results).

ITEM 4

Appleseed Request:

The Rector charts showing the changes in Milliman and Rector assumptions between 2008 and 2013 also show changes in assumptions about equity portfolio asset values (including the impact of pensions). These changes led to an increase of 70 percentage points in the target surplus RBC ratio. Neither the Rector nor the Milliman reports previously discussed any details of the impact of GHMSI's equity portfolio on the required surplus. We therefore request that Rector or Milliman provide detailed explanation regarding the reasons for this impact on the target surplus, including but not limited to:

a) The assumed changes in the GHMSI equity portfolio asset values that generated a surplus increase of 70 percentage-points, including the magnitude and probability of each assumed change;

b) Any data relied on by Milliman in support these assumed changes;

c) Any data provided by Milliman to Rector in support of these assumed changes; and

d) Any data relied on by Rector in determining whether to accept or adjust these assumed changes.

Response:

During recent discussions between Milliman and R&A regarding its modeling process, Milliman indicated that changes were made between 2008 and 2011 to the construction

of the equity portfolio asset value factor assumptions.[4] The most significant change was incorporating GHMSI pension plan's equity portfolio into the factors.

In your January 29, 2014 request for information, you asked for a description of the reasons for that change. In the Response, R&A first quantified the assumption changes that Milliman made in its modeling between its 2008 and 2011 surplus analysis. R&A determined that the changes Milliman made to incorporate the effect of equity asset value changes with respect to the GHMSI pension plan's equity portfolio into its equity portfolio asset value factor accounted for a change of 70 basis points between Milliman's 2008 and 2011 surplus level findings.[5] R&A next quantified the material assumption changes that affected R&A's 2009 and 2013 analysis of the Milliman model. Accordingly, R&A captured this same 70 basis points change to recognize the modeling change Milliman made in the equity portfolio asset value factor.[6] R&A did not make any revisions in the Milliman's equity portfolio asset value factor, as employed in Milliman's 2011 modeling.

ITEM 5

Appleseed Request:

Appleseed has sought information regarding rank-ordered gain or loss outcomes from the stochastic modeling by Milliman that the Rector Report indicates exists. *See* Data Request # 2. Specifically, even if Rector was not provided with all of the gain or loss outcomes, we requested all those outcomes provided to Rector. We also requested, for all gain/loss outcomes that were put through the financial projection component of the model, the resulting projected impacts on GHMSI's surplus after the loss outcomes were applied to the pro forma financial projections. Because we have not yet received a response to this request, we again request:

a) A spreadsheet in electronic format that ranks by percentile the gain/loss outcomes from the first stage of Milliman's stochastic modeling;

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[4] The probabilities and severities for the equity portfolio assets values used by Milliman in its 2011 modeling are set forth in Chart 5 of Attachment A to Milliman's February 27, 2014 Correspondence to GHMSI.

[5] See #6 of the Chart on page 2 of the R&A Response.

[6] See #6 of the Chart on page 3 of the R&A Response.

Response:

a) R&A never sought nor was provided with a spreadsheet in electronic format that ranks all of the gain/loss outcomes from the first stage of Milliman's stochastic modeling. (This issue was discussed during the February 21 telephone conference among DISB staff, R&A consultants, and Appleseed representatives regarding your January 29, 2014 requests for information.)

Appleseed Request:

b) The gain/loss outcomes from the first stage of the stochastic modeling that Milliman put through the pro forma financial projections to determine the impact of those gain/loss outcomes on surplus;

Response:

b) R&A only asked Milliman to include four loss outcomes in the pro forma financial model. Milliman has indicated that it did not input any other gain/loss outcomes that included R&A's stochastic modeling changes in the pro forma financial model.

The four loss outcomes that R&A asked Milliman to input into the pro forma financial statements and the confidence levels on which those loss outcomes were based are:

- **a 98% confidence level – loss outcome of 23.3% (expressed as the effect on surplus as a percentage of non-FEP premium);**
- **a 75% confidence level – loss outcome of 4.3% (expressed as the effect on surplus as a percentage of non-FEP premium);**
- **an 85% confidence level – loss outcome of 9.3% (expressed as the effect on surplus as a percentage of non-FEP premium); and**
- **a 95% confidence level – loss outcome of 17.8% (expressed as the effect on surplus as a percentage of non-FEP premium).**

Appleseed Follow-Up Request:

After reviewing a preliminary response from DISB, in an April 4, 2014 email Appleseed requested clarification of the responses to Items 5(a) and 5(b):

the Item 5(a) response indicates that 'R&A never sought nor was provided with a spreadsheet in electronic format that ranks ***all*** of the gain/loss outcomes from the first stage of Milliman's stochastic modeling.' Item 5(b) indicates that R&A neither sought nor was provided 'each of the selected gain/loss outcomes that Milliman chose to put through the

financial projections.' We are not certain, but from these two statements, it appears possible that R&A may have received some, but not all, of the stochastic model gain/loss outcomes that were input into the Pro Forma model. **Please state whether this is true.**

Follow-Up Response:

R&A only asked Milliman to include four loss outcomes in the pro forma financial model. R&A did not receive information regarding any other loss outcomes.

The four loss outcomes that R&A asked Milliman to input into the pro forma financial statements and the confidence levels on which those loss outcomes were based are shown in the response to Item 5(b).

Appleseed Request:

c) The gain/loss outcomes from the first stage of the stochastic modeling that were provided by Milliman to Rector;

Response:

c) The four loss outcomes that R&A asked Milliman to input into the pro forma financial statements and the confidence levels on which those loss outcomes were based are as shown in Response b), above.

Appleseed Request:

d) A statement as to whether Rector adjusted any of the pro forma financial projections;

Response:

d) After Milliman input the four loss outcomes into the pro forma financial projections at R&A's selected RBC threshold levels, R&A did not adjust any of the pro forma financial modeling results that Milliman provided to R&A.

As part of its 2013 analysis, R&A reviewed the pro forma financial model and the assumptions underlying the pro forma financial modeling. Based on its analysis, R&A did not believe it was necessary or appropriate to make modifications to the assumptions used in the pro forma financial modeling. It is important to note that the assumptions used in the pro forma model are different than the assumptions used in the stochastic modeling process. The changes to assumptions used in the stochastic modeling process are described in Section IV of the 2013 Rector Report.

Appleseed Request:

e) The gain/loss outcomes that Rector requested Milliman to put through the pro forma financial projections; and

Response:

e) The requested information was provided in the March 14, 2014 correspondence to Appleseed responding to its requests for information. As stated in the response to question 6.a., *the only loss outcomes* as to which R&A asked Milliman to perform calculations by including those loss outcomes in the pro forma financial projections were:

- **a 200% RBC threshold at a 98% confidence level;**
- **a 375% RBC threshold at a 75% confidence level;**
- **a 375% RBC threshold at an 85% confidence level; and**
- **a 375% RBC threshold at a 95% confidence level.**

Appleseed Request:

f) The pro forma financial results for all gain/loss outcomes that were put through the pro forma model by Milliman at Rector's request.

Response:

f) The pro forma financial results for all gain/loss outcomes that were input into the pro forma financial model by Milliman at R&A's request were:

- **a 98% confidence level (loss outcome of 23.3% (expressed as the effect on surplus as a percentage of non-FEP premium)) at a 200% RBC threshold – 958% RBC surplus level;**

- **a 75% confidence level (loss outcome of 4.3% (expressed as the effect on surplus as a percentage of non-FEP premium)) at a 375% RBC threshold -- 604% RBC surplus level;**

- **an 85% confidence level (loss outcome of 9.3% (expressed as the effect on surplus as a percentage of non-FEP premium)) at a 375% RBC threshold – 746% RBC surplus level; and**

- **a 95% confidence level (loss outcome of 17.8% (expressed as the effect on surplus as a percentage of non-FEP premium)) at a 375% RBC threshold – 1007% RBC surplus level.**

As previously indicated, these are *the only financial results* associated with selected loss outcomes that R&A asked Milliman to incorporate into pro forma financial projections to determine what the impact to GHMSI's surplus would be if the selected loss outcomes were in fact to occur.

Appleseed Follow-Up Request:

Item 5(d) says that Rector 'reviewed the pro forma financial model and the assumptions underlying the pro forma financial modeling.' As explained on our conference call, to our knowledge, neither Milliman, Rector, or DISB has disclosed the assumptions that the Pro Forma model uses. Nor to our knowledge has Milliman, Rector, or DISB disclosed the impact on surplus that inputting a gain/loss outcome from the Stochastic model into the Pro Forma model has on that gain/loss outcome -- I.e., whether the gain/loss from the stochastic model increased or decreased as it goes through the Pro Forma model. Without having either the values of the assumptions used or the impact of the model itself, it is not possible to determine the reasonability of the Pro Forma model.

Accordingly, we renew our requests for more information about the impact of the Pro Forma model. Specifically, for each of the gain/loss outcomes that R&A asked Milliman to put through the Pro Forma model, we ask for:

1) The amount of the gain/loss outcome that was input into the Pro Forma model; and

Follow-Up Response:

The four loss outcomes that R&A asked Milliman to input into the pro forma financial statements and the confidence levels on which those loss outcomes were based are shown in the response to item 5(b).

Appleseed Follow-Up Request:

2) Confirmation as to which previously disclosed Pro Forma results were associated with each gain/loss outcome.

Follow-Up Response:

The four loss outcomes that R&A asked Milliman to input into the pro forma financial statements and the confidence levels on which those loss outcomes were based are shown in the response to item 5(b).

The only loss outcomes and RBC thresholds that R&A then asked Milliman to input into the pro forma financial statements and the only surplus findings that R&A received from Milliman are shown in the response to item 5(f).

Appleseed Follow-Up Request:

3) Disclosure of all assumptions that impact surplus that were used in the Pro Forma model including:

    a. Average expected investment yield
    b. Tax carryback assumptions
    c. Other income assumptions
    d. Other tax assumptions
    e. Premium Growth assumptions
    f. Pro Forma projection time period

Follow-Up Response:

The following information was provided by Milliman with respect to the specific assumptions on which information was requested in a -- f:

a. Average expected investment yield -- 3.75%, including realized and unrealized capital gains (note that this information was provided in the Milliman Development of Optimal Surplus Target Range Report dated May 31, 2011);

b. Tax carryback assumptions -- tax loss carryback was assumed to be available at the onset of the loss cycle in the amount of $100 million (equal to one year's expected pre-tax net gain);

c. Other income assumptions -- $1.1 million annually (includes Non-Risk Other, FEP service center (SBP) and other subsidiaries (NCIA, Willse and Associates, and NCAS));

d. Other tax assumptions -- annual tax rate of 28.2% (average of 20% for GHMSI and 36.5% for CFBC); no tax loss carry forwards applicable (non-admitted under the conditions of the loss scenarios); and any existing deferred tax asset is also non-admitted;

e. Premium Growth assumptions are set forth on page 30 of the R&A 2013 Report
f. Pro Forma projection time period: 3 years

In addition to these assumptions, Milliman also indicated assumptions include the following: FEP net gain of .2% of FEP premium; and ASC net gain of (.8%) of claims, plus fee income.

The pro forma financial model includes additional assumptions that Milliman presented in its "Presentation of Technical Materials Related to Milliman Report of

May 31, 2011" dated Feb 13, 2013, as well as assumptions that Milliman discussed with R&A, all of which Milliman states are confidential information.

Appleseed Follow-Up Request:

4) It appears from the R&A report that premium growth assumptions were only utilized during the Pro Forma model.

   a. Please confirm that this is true.

Follow-Up Response:

No, it is not correct that premium growth assumptions were only utilized during the pro forma financial model process. Milliman's model initially only utilized premium growth assumptions in the pro forma financial model process, but R&A used a different approach.

Section IV.A.1 (Inclusion of Trend Miss and Premium Growth Level Factors Into Modeling Process) and Section IV.B.4. (Premium Growth Levels) of the R&A 2013 Report describes the manner in which R&A requested that Milliman incorporate premium growth assumptions into the stochastic modeling process. As set forth in Section IV.B.4 of the R&A 2013 Report:

> **... Milliman did not use probabilities relative to premium growth levels in its stochastic modeling process. Instead, after completing the stochastic modeling process, Milliman applied two different premium growth levels: a 7% premium growth level and an 11% premium growth level. Based on our extensive analysis and discussions with GHMSI and Milliman staff, we instead asked Milliman to include selected probabilities of premium growth levels in [the] model.**

Appleseed Follow-Up Request:

   b. Please state whether each gain/loss outcome input into the Pro Forma model generated more than one Pro Forma outcome (due to premium growth being a probability distribution rather than a single number).

Follow-Up Response:

Each loss outcome that was input into the pro forma financial model only generated one RBC surplus finding (or, as you have described it, pro forma outcome).

Appleseed Follow-Up Request:

c. If each gain/loss outcome input into the Pro Forma model generated more than one Pro Forma outcome, please state how it was determined which outcome was associated with the confidence level being tested.

Follow-Up Response:

Not Applicable. Each loss outcome that was input into pro forma financial model generated only one RBC surplus finding.

Appleseed Follow-Up Request:

d. If each gain/loss outcome input into the Pro Forma model generated only one Pro Forma outcome, please state which premium growth rate from the premium growth probability distribution was used.

Follow-Up Response:

Consistent with the response to question 4 with respect to the availability of the value of each of the 12 factors leading to each loss outcome, the requested premium growth rate information does not exist. The value of the 12 factors and of the premium growth rate assumptions used to generate each of the selected loss outcomes is not retained by the Milliman modeling software and were not provided to R&A.

Appleseed Follow-Up Request:

5) It appears from the information which we have received from Rector that one of the assumptions they directed be used in the Pro Forma model is a distribution of projection periods (2, 2.5 and 3 years).

a. Please confirm that this is true.

Follow-Up Response:

We are not sure what information received from R&A you are referencing to know which assumptions are being questioned. However, it appears that the assumptions you are questioning relate to the use of trend miss in the modeling methodology.

R&A did not ask Milliman to use a trend miss distribution of 2, 2.5 and 3 years. Instead, Section IV.A.1 (Inclusion of Trend Miss and Premium Growth Level Factors Into Modeling Process) and Section IV.B.4. (Premium Growth Levels) of the R&A 2013 Report describes the manner in which R&A requested that Milliman incorporate trend

miss assumptions into the stochastic modeling process. As set forth in Section IV.B.1 of the R&A 2013 Report:

> **In its model, Milliman applied two different trend miss periods (a two-year and three-year trend miss period) as inputs to the stochastic modeling process. We instead incorporated the effects of trend miss into the stochastic modeling process by including the effect of trend miss in the revised provisions for rating and adequacy fluctuation as variables with their own probability distribution.**

As described in Section IV.B.4 of the R&A 2013 Report, the effect of trend miss was one of several reasons behind revisions to the rating and adequacy fluctuation assumptions. The modeling was not performed in a way to isolate the specific impacts of each of these considerations.

Appleseed Follow-Up Request:

b. Please state whether each gain/loss outcome input into the Pro Forma model generated more than one Pro Forma outcome (due to length of projection period being a probability distribution rather that a single number).

Follow-Up Response:

Each loss outcome that was input into the pro forma financial model generated only one RBC surplus finding.

Appleseed Follow-Up Request:

c. If each gain/loss outcome input into the Pro Forma model generated more than one Pro Forma outcome, please state how it was determined which outcome was associated with the confidence level being tested.

Follow-Up Response:

Each loss outcome that was input into the pro forma financial model did not generate more than one RBC surplus finding.

Appleseed Follow-Up Request:

d. If each gain/loss outcome input into the Pro Forma model generated only one Pro Forma outcome, please state which projection period from the projection period probability distribution was used.

Follow-Up Response:

Each loss outcome that was input into the pro forma financial model generated only one RBC surplus finding. As described in Section IV.B.4 of the R&A 2013 Report, the effect of trend miss was one of several reasons behind revisions to the rating and adequacy fluctuation. The modeling was not performed in a way to isolate the specific impacts of each of these considerations.

Appleseed Follow-Up Request:

For each of the gain/loss outcomes that R&A requested be put through the Pro Forma financial projections, we request that the value of each of the 12 factors leading to that gain/loss outcome be provided in a similar format to that of Chart 2 of Attachment B of the February 27, 2014 Milliman letter.

Follow-Up Response:

The values of the 12 factors that led to each of the selected loss outcomes were not retained by the Milliman modeling software and were not provided to R&A. Accordingly, the requested information does not exist.

ITEM 6

Appleseed Request:

Milliman states that the values and probabilities of the expected gain/loss amount are "based on analysis of historical data." *See* March 5, 2014, Milliman Response, at 2 ("Milliman Response"). The Milliman 2008 and 2011 reports discuss historical GHMSI data extending back as far as the mid-1970s. We request:

a) The time span identified by years of the historical data upon which Milliman relied to derive expected gain/loss values and probabilities, including but not limited to the gain/loss values and probabilities with respect to the rating adequacy and fluctuation factor;

Response:

Before addressing the questions, it is important to point out that Milliman's entire statement with respect to this question, as set forth in its March 5, 2014 correspondence to GHMSI, is as follows:

> **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 GHMSI, and professional judgment.**

a) With respect to the time span by years of historical data that Milliman took into account in its analysis of the model's rating adequacy and fluctuation factor assumptions, Milliman reviewed historical healthcare expenditure data from the mid-1970s through 2009 but indicated that it employed time spans occurring during 1986 and 2009 and that it excluded from consideration the inflationary environment occurring during the 1970s and early 1980s.

Appleseed Follow-Up Request:

In an April 4, 2014 email to DISB, after reviewing a preliminary response to Item 6, Appleseed noted:

> In Item 6 of the DISB's email of April 1, 2014, it says Milliman "indicated that it employed time spans occurring during 1986 and 2009."
>
> Clarifying question: Does this mean that Milliman used data from 1986 through 2009, or did they use data just from the years 1986 and 2009, or did they use data from some subset of the data from 1986 through 2009? Please confirm which years of data Milliman used.

Follow-Up Response:

DISB's response is that Milliman reviewed loss data from the mid-1970s through 2009 in connection with its work to estimate the historical standard deviation of industry healthcare cost trends. Milliman used a standard deviation of industry "secular" trends as a basis for its rating adequacy assumptions. While Milliman reviewed loss data from the mid-1970s through 2009, Milliman selected a "secular" trend standard deviation based on the subset of trends during the period from 1986 through 2009. Loss trends prior to 1986 were excluded in this selection. In doing so, Milliman excluded the inflationary environment of the 1970s and early 1980s that were more extreme.

Appleseed Request:

> b) The historical time spans identified by years that Rector relied upon or asked Milliman to rely upon for any of the gain/loss values and probabilities;

Response:

b) R&A analyzed the historical data that Milliman took into account in its selection of values and probabilities for the model's rating adequacy and fluctuation factor assumptions. R&A found that the selected time periods were reasonable. This is not to say, however, that either Milliman or R&A merely used historic averages for future projections. Rather, it is important to point out that the values and probabilities for

the model's risk and contingency categories were determined based on a number of factors that required R&A to exercise actuarial judgment in its review of the values and probabilities chosen by Milliman. Accordingly, selection of appropriate values and probabilities was not simply a process of reviewing specific historical time spans and making selections of values and probabilities solely based on that historical information.

Appleseed Request:

c) Any documents in which Rector discussed the appropriate historical time spans to rely upon for the derivation or validation of gain/loss values and probabilities;

Response:

c) R&A did not discuss in documents, including the R&A 2013 Report, the historical time spans that were taken into account in its selection of values and probabilities for the model's rating adequacy and fluctuation factor assumptions.

Appleseed Request:

d) A statement as to whether Rector was aware, before it submitted its Report, of the historical time spans relied upon by Milliman to derive gain/loss values and probabilities; and

Response:

d) R&A was aware of the historical time spans taken into account by Milliman in its analysis.

Appleseed Request:

e) A description of how Rector became aware of the historical time spans, including any documents provided by Milliman to Rector.

Response:

e) R&A was advised of the historical time spans taken into account by Milliman in its analysis through review of the Milliman Technical Materials and detailed discussions with Milliman staff.

ITEM 7

Appleseed Request:

In our Data Request #4, we noted that the Rector Report, at pp. 28-29, offers some reasons for departing from historical experience concerning premium growth. We requested, but have not received, an explanation of how the cited reasons bear on future premium growth, and why those reasons support departures from historical experience in the magnitudes that Rector assumes. We renew this request.

Response:

Question 4.c. of your January 29, 2014 requests for information states:

> **Pages 28-29 of the Rector Report states that the following considerations were taken into account in determining GHMSI's future premium growth levels: Enrollment Changes Including Health Care Reform Effects, Rising Health Care Costs, Policyholder Cost-Sharing Decisions. Please identify the specific impacts of each of these considerations in establishing GHMSI's future premium growth levels and which lines of business (i.e., individual, small group, large group, Medicare Supplement, Dental, Vision, Other) to which each consideration was applied.**

The response to this question, as set forth in the March 14, 2014 correspondence responding to your requests for information, was:

> **For item 4.c., the modeling was not performed in such a way to isolate the specific impacts of each of these considerations.**

The response to this question remains the same.

Attached for your information is R&A's March 31, 2014 memorandum that describes its analysis of the premium growth assumptions used in the Milliman stochastic modeling process.

ITEM 8

Appleseed Request:

Appleseed requested a description of the multiple extremely adverse events that the model assumes could occur. *See* Data Request # 9. To date, we have not received this information. We request:

a) A description of the extremely adverse events that were assumed to occur;

Response:

The "multiple extremely adverse events" refers to the output of the stochastic modeling process at a high confidence level. For instance, the scenarios that would generate a 98% confidence level worst event were a result of the combined impact of multiple variables (rating adequacy, equity portfolio, interest rates, etc.). A description of the stochastic modeling process already has been provided in the R&A 2013 Report and in the March 14, 2014 response to your request for information. Because this question appears to go to the core of the stochastic modeling process, here again is information regarding that process.

First, as set forth on page 21 of the R&A 2013 Report:

> **... [T]he first step in the Milliman model is to calculate potential gain or loss outcomes by using a stochastic modeling process based on a number of events and the probability of the occurrence and relative severity of those events. The Milliman stochastic model employs 12 different factors, and for each of these factors, Milliman selects the probability of the occurrence and the severity of certain events related to these factors.**

Second, Milliman provided the following information on pages 1-2 of its February 27, 2014 correspondence to GHMSI that was provided to you as part of the March 14, 2014 response to your requests for information:

> **Milliman's 2011 GHMSI surplus analysis incorporates a series of assumptions for various risk and contingency categories. Attachment A to this letter consists of a set of Charts 1 to 12 which summarize the assumed probability distribution for each respective risk and contingency category. Each probability distribution consists of a set of alternative surplus impact values (identified as 'Surplus Change as % of Non-FEP Insured Premium'), as well as an assigned probability of likelihood associated with each alternative value.**
>
> **The surplus impact values are representative values developed to reflect a range of possible outcomes related to each respective risk and contingency category. They reflect Milliman's analysis of a wide range of financial and operational factors and their potential impact on GHMSI surplus levels....**
>
> **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 stochastic modeling approach that is commonly applied in financial modeling.**

Finally, Section IV.B. of the R&A 2013 Report sets out in detail the revisions to the assumptions for various risk and contingency categories that R&A made.

Although the description of the stochastic modeling process and the 12 risk and contingency factors described above appropriately responds to your requests for information, also provided are responses, below, to your questions a-c.

a) A description of the extremely adverse events that were assumed to occur was included in Attachment A to Milliman's February 27, 2014 correspondence to GHMSI that was provided to you as part of the March 14, 2014 response and in Section IV.B. of the R&A 2013 Report, which sets out in detail the revisions to the assumptions for various risk and contingency categories that R&A made. Those "extremely adverse events" were scenarios from the stochastic modeling process that produced a significant surplus impact.

Appleseed Request:

b) A description of the combinations of simultaneously occurring extremely adverse events that were assumed to occur; and

Response:

b) As described in the R&A 2013 Report and in Milliman's February 27, 2014 correspondence to GHMSI, the combinations of simultaneously occurring extremely adverse events that were assumed to occur were determined by employing a stochastic modeling process to simulate possible combinations produced for the 12 risk and contingency factors.

Appleseed Request:

c) Identification of the probabilities and magnitudes of each assumed combination of simultaneously occurring extremely adverse events.

Response:

c) You asked for a description of the combinations of simultaneously occurring extremely adverse events that were assumed to occur. The probability of multiple extreme events occurring in a given scenario is a function of the stochastic modeling process. The probability of events is based upon a simulation process that involves a large set of randomly generated outcomes. The scenarios that require significant starting surplus levels generally derive from cases where multiple input assumptions suffer adverse deviations at the same time.

ITEM 9

Appleseed Request:

With respect to the impact of health care reform on the model, we have several follow-up questions:

a) First, the Milliman Response (pages 15-16) stated that the rating adequacy and fluctuation factor accounted for pre-2014 ACA changes and then added after all calculations were made an additional amount for the estimated impact of 2014 ACA changes (page 24). The Rector Report (page 23) indicates it incorporated in the rating adequacy and fluctuation factor "the anticipated impact of health care reforms, regardless of whether they were in effect at the time of Milliman's analysis." Please explain whether and how Rector ensured that it did not "double count" the impact of the pre-2014 ACA changes already accounted for by Milliman in the Rating Adequacy and Fluctuation factor?

Response:

R&A's March 31, 2014 memorandum that describes its analysis of the premium growth assumptions used in the Milliman stochastic modeling process and of the revisions R&A asked Milliman to make in the stochastic modeling process as a result of ACA reforms. This memorandum describe in detail R&A's analysis with respect to these subjects.

The following responds to your specific questions:

a) R&A did not "double count" the impact of the pre-2014 ACA changes already accounted for by Milliman in the rating adequacy and fluctuation factor. The attached R&A memorandum describes the manner in which ACA reforms were addressed in R&A's analysis of the stochastic modeling process.

Appleseed Request:

b) The Rector Report and the Rector/FTI Response discuss modeling for effects of health care reform as one of the bases for modifying the rating adequacy and fluctuation factor and the premium growth rate. Please explain whether and how Rector quantified the impact of the ACA in revising the rating adequacy and fluctuation factor and the premium growth rate (as described on page 4 of the Rector/FTI Response).

Response:

b) With respect to whether and how R&A quantified the impact of the ACA in revising the rating adequacy and fluctuation factor, Appleseed requested this information in question 4 of its January 29, 2014 request for information. The response to this question was set forth in the R&A March 6, 2014 memorandum to DISB that was

included in the March 14, 2014 correspondence responding to your requests for information. The response to these questions remains the same.

With respect to whether and how R&A quantified the impact of the ACA in revising the premium growth rate assumptions, Appleseed requested this information in question 4(c) of its January 29, 2014 request for information. The response to this question, as set forth in the March 14, 2014 correspondence responding to your requests for information, was:

> **For item 4.c., the modeling was not performed in such a way to isolate the specific impacts of each of these considerations.**

The response to this question remains the same.

Appleseed Request:

c) In making upward adjustments to RBC due to the impact of the ACA, did Rector account for any ACA provisions, other than those identified on pages 22 through 23 of the Rector report, which might have decreased/increased the target RBC ratio? If so, please identify each such additional ACA provision, and explain how Rector quantified the negative or positive impact of each such provision on surplus.

Response:

c) The R&A 2013 Report describes all revisions to the Milliman modeling process that R&A made to take into account the effects of ACA reform. As described in Section IV of the R&A 2013 Report, the impact of health care reforms that were not in effect until 2014 were incorporated directly into appropriate assumptions used in the stochastic modeling process. The assumption changes that were made consisted of changes to the rating adequacy and fluctuation factor (see Section IV.B.1. of the R&A 2013 Report) and the premium growth assumptions (see Section IV.B.2. of the R&A 2013 Report).

ITEM 10

Appleseed Request:

In Chart 1 of Attachment A of the Milliman Response, Milliman provides probabilities of various surplus changes resulting from deviations from baseline trended rates when the deviations are unremediated over both a two- and three-year period. Footnotes to this table state that the "[m]easurement of impact of deviation on surplus" in this chart "is the cumulative amount over a 2-3 year period." The chart states that Milliman estimates, for example, that there is a 3% probability that GHMSI's surplus will increase by 26% of non-FEP premiums over the course of a 2-year period, and by 31.1% over the course of a 3-year period. Rector asked Milliman to incorporate revised modeling for this factor but did not

provide the same level of detail regarding the time frame over which the changes would apply or whether the impact on surplus was measured annually or as a cumulative amount across a given time frame. *See* Rector Report, at 22. We understand from the February 21st call that Rector's revised modeling applies to a 2.5 year period. We request:

a) Confirmation by Rector and Milliman of the relevant time period corresponding to the revised Rating and Adequacy Fluctuation surplus impacts, and

Response:

a) The response to item 6, above, describes the time spans taken into account in determining the rating adequacy and fluctuation factors.

Appleseed Request:

b) A statement as to whether those impacts represent the impact on surplus during a single year or across multiple years.

Response:

b) The impact on surplus was evenly distributed over the three-year financial projection period.

ITEM 11

Appleseed Request:

Appleseed requested current enrollment data, split into Individual, Small Group, and Large Group. *See* Data Request # 4. We have been able to locate this enrollment data for calendar year 2012, but not for any later period. We request the most current enrollment data available.

Response:

Attached for your information is a document providing policy count totals from the supplemental healthcare exhibit filed by CareFirst. The information is broken out by individual, small and large group enrollment at December 13, 2013 and provided separately for Maryland and Virginia, as well as the District of Columbia. The document includes information for both GHMSI and CFBC.

ITEM 12

Appleseed Request:

In Data Request #4 we asked that Rector explain how it used the Society of Actuaries March 2013 research report to calculate impacts on the premium growth levels specific to GHMSI. We have not received a response, and we here renew that request.

Response:

Question 4.a.i of your January 29, 2014 requests for information stated:

> **Please provide: i. The referenced 'available research regarding estimated increases in the individual insured market.'....**

The March 14, 2014 response to this request was:

> **i. The available research regarding estimated increases in the individual market primarily consisted of Society of Actuaries'' ["SOA"] March 2013 research report titled 'Cost of the Future Newly Insured Under the Affordable Care Act.' Other research materials were consulted as general references on this subject.**

Appleseed now is requesting new information, which is how R&A used the SOA Report. Attached for your information is R&A's March 31, 2014 memorandum that describes its analysis of the premium growth assumptions used in the Milliman stochastic modeling process, including how R&A used the SOA Report in its analysis.

ITEM 13

Appleseed Request:

The Rector Report (pages 22-23) lists seven specific reasons (4 non-ACA and 3 ACA) for modifying the rating adequacy and fluctuation factor. In Data Request # 1, we requested the probability distributions for each of those factors, and their separate impacts on Rector's modification of the rating adequacy and fluctuation factor. We again request that information.

Response:

Information regarding the impact of health care reform on the rating adequacy and fluctuation factor was provided in R&A March 6, 2014 memorandum to the DISB that was included in the March 14, 2014 correspondence responding to your requests for information (see R&A's response to question 2). The response to this question remains the same.

It is important to point out that the values and probabilities for the model's risk and contingency categories were determined based on a number of factors that required R&A to exercise actuarial judgment in its review of the values and probabilities chosen by Milliman. Accordingly, it is not feasible or appropriate to quantify the reasons behind revisions to the rating adequacy and fluctuation factor.

ITEM 14

Appleseed Request:

Pages 28-29 of The Rector Report state that the following considerations were taken into account in determining GHMSI's future premium growth levels: Enrollment Changes Including Health Care Reform Effects, Rising Health Care Costs, and Policyholder Cost-Sharing Decisions.

a) Please identify the specific impacts of each of these considerations in establishing GHMSI's future premium growth levels.

Response:

a) Appleseed requested this information in question 4(c) of its January 29, 2014 request for information. The response to this question, as set forth in the March 14, 2014 correspondence responding to your requests for information, was:

> **For item 4.c., the modeling was not performed in such a way to isolate the specific impacts of each of these considerations.**

The response to this question remains the same.

Appleseed Request:

b) Please identify which lines of business (i.e., individual, small group, large group, Medicare Supplement, Dental, Vision, Other) to which each consideration was applied.

Response:

b) Attached is R&A's March 31, 2014 memorandum that describes its analysis of the premium growth assumptions used in the Milliman stochastic modeling process.

ITEM 15

Appleseed Request:

On page 17 of the May 31, 2011, [sic] Milliman Report it states, "...we used an automated process to simulate the tens of millions of possible combinations produced by our distribution, employing a simulation model that is commonly applied in financial modeling." On page 10 of the December 9, 2013, Rector Report it states, "First, Milliman uses a stochastic modeling process to generate hundreds of thousands of potential gain or loss outcomes...." We request:

a) A detailed explanation of why the number of scenarios changed from "tens of millions" to "hundreds of thousands";

Response:

a) The number of scenarios used in the model did not change. Appleseed appears to be mixing together two different steps in the stochastic modeling process: 1) Milliman's description of its automated process that simulates tens of millions of possible combinations; and 2) R&A's description of the hundreds of thousands of potential gain or loss outcomes generated by the stochastic modeling process. These two steps are not the same and are separate actions occurring during the stochastic modeling process.

Milliman's description of the process that simulates tens of millions of possible combinations refers to the number of possible frequency and severity results for each of the factors that are used in the modeling process. Alternatively, R&A's description of the hundreds of thousands of potential gain or loss outcomes refers to the gain or loss outcomes that are generated by the stochastic model (that incorporates the frequency and severity results for each of the 12 modeling factors). In other words, each gain or loss "outcome" will result from a large number of possible "combinations" of assumptions and factors. R&A referenced the number of "outcomes;" Milliman referenced the number of "combinations" leading to those "outcomes."

Appleseed Request:

b) A statement as to whether some possible scenario combinations were not considered;

Response:

b) At the conclusion of the stochastic modeling process, Milliman generated 500,000 potential gain or loss outcomes (i.e., R&A's reference to hundreds of thousands of potential gain or loss outcomes). Each of the scenarios that were randomly generated by the stochastic model was considered. R&A was informed in discussions with Milliman that using a greater sample size did not affect the results.

Appleseed Request:

c) If some possible scenario combinations were not considered, an identification of the ones that were not considered; and

Response:

c) Not applicable. All of the generated gain/loss outcomes were considered.

Appleseed Request:

d) If some possible combinations were not considered, a detailed explanation of the reasons why each was not considered.

Response:

d) Not applicable. All of the generated gain/loss outcomes were considered.

MARCH 20, 2014 EMAIL REQUEST

On March 20, 2014, the DISB received an email from Mark Shaw requesting the following:

1. At page 22 of the 2013 Rector Report there is a chart titled "*Revised Modeling,* Provision for Rating and Adequacy Fluctuation." The heading for the second column is "Charge." Should that heading instead be "Change"?

2. If the answer to the above question is "yes," and the correct heading is "Change," please confirm that the signs for the numbers in that column are correct. For example, 30.1%, which is the first number in the column means that surplus would increase by 30.1%.

Response:

1) It would be more appropriate for the heading in the second column of the chart on page 22 of the R&A 2013 Report to be "Change."

2) The signs for the numbers in this column are correct. Accordingly, in your example, there is a 3.0% probability of 30.1% increase in surplus as a percentage of non-FEP insured premiums.

Appleseed Follow-Up Request

DISB's preliminary response to question 2) had been worded differently, stating: "Accordingly, in your example, there is a 3.0% probability of 30.1% increase in surplus needs as a percentage of non-FEP insured premiums." In a follow-up email on April 4, 2014, Appleseed asked:

Without the highlighted word "needs," we would have interpreted the DISB's response as agreeing with Mr. Shaw's statement, 'For example, 30.1%, which is the first number in the column means that surplus would increase by 30.1%.' However, by inserting the word "needs," it appears the DISB is saying that 30.1% is a surplus decrease, rather than increase. **Is that correct?**

Follow-Up Response:

The sentence quoted above perhaps would be clearer if the word "needs" were excluded. The 30.1% in the first column reflects an upward change in Surplus as a % of Non-FEP Insured premium.

Again, DISB appreciates Appleseed's contributions to this process and look forward to continuing to work with you.

If you have any questions, please contact Philip Barlow, Associate Commissioner of Insurance, at (202) 442-7823 or philip.barlow@dc.gov.

Sincerely,

Chester A. McPherson
Interim Commissioner

Enclosures

cc: Randy Sergent, CareFirst (via email)
E. Desmond Hogan, Hogan Lovells LLP (via email)