April 12, 2012

Mr. Walter Smith, Esq.
The DC Appleseed Center for Law and Justice, Inc
1111 14th Street NW, Suite 510
Washington, DC 20005

RE: Group Hospitalization and Medical Services, Inc. ("GHMSI") Surplus

Dear Mr. Smith,

At your request, I have reviewed the actuarial reports, testimony and other materials related to the 2009 hearing to determine the appropriateness of the surplus levels of GHMSI. It is my understanding that a new independent review of GHMSI's surplus is to be undertaken by Rector and Associates, Inc. ("Rector") and it is in that regard that I proffer the comments herein.

Having reviewed the various materials, it is my conclusion first and foremost that Rector should develop its own model, rather than relying on Milliman's, particularly since, as Rector itself said[1] in its prior report, Milliman's model – which was the basis of all the actuarial reviews other than that done by Actuarial Risk Management ("ARM") - contains various anomalies and simplifications in methodology that may materially impact resulting surplus estimates.

Summary of Recommended Approach

The Rector work in 2009 started with the Milliman model and then made adjustments. While this may have been an expedient approach, the end result was compromised by the method. For the new independent review Rector should abandon the flawed Milliman model in favor of developing a new, independent model that, at a minimum, will:

1) Use as its foundation a forecast of after-tax adjusted net income; which ARM previously demonstrated was a better predictor of surplus changes than the narrow focus on line of business underwriting gains and losses from one product line that the Milliman model used.
2) Abandon the passé paradigm of a 3-4 year underwriting cycle.
3) Use more realistic assumptions about future revenue growth.
4) Address other questionable Milliman assumptions, many of which Rector identified[2] in its previous report.
5) Use appropriate confidence intervals to establish a range of feasible surplus.

The remainder of this letter will explore each of these key points in more depth.

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[1] See page 5 of Rector's report to the DISB.
[2] See pages 6-9 of Rector's report to the DISB.

Net Income vs. Underwriting Results
The Milliman report focuses exclusively on the potential underwriting gain/loss of a single product line and not the component that actually correlates most closely to change in surplus, namely adjusted net after-tax income for the entire company.   A myopic focus on underwriting gain/loss for a single product line – even if it is the biggest - does not adequately predict expected change in surplus since change in surplus is affected by the profitability of all product lines and investment income (both realized and unrealized) on invested assets. This skewed focus results in erroneous conclusions about loss probabilities that in turn support unreasonably high surplus requirements.

The ARM report of November 2, 2009 demonstrated mathematically through Pearson correlation coefficients[3] that underwriting profitability is not the best overall predictor of change in surplus for GHMSI. Instead, the use of adjusted net after-tax income is a much better predictor[4].

The Underwriting Cycle Paradigm
The Milliman model contained a foundational assumption of a 3-4 year underwriting cycle which suggests that the profitability of health insurers has a sine-wave type aspect where several years of underwriting profitability will be inevitably followed by several years of losses before profitability returns. While such a phenomenon may have existed in the 1970's to the early 1990's, there is no supporting evidence that such a paradigm has existed in this century much less in today's current market.

At the September 10, 2009 hearing Milliman's Mr. Robert Dobson testified[5] as follows:

> "For many years the health insurance industry had a three year up and a three year down cycle that was well documented by both commercial carriers and notably the Blues. That has definitely changed over recent history.   There's no doubt about the change in the cycle."

Indeed, GHMSI's own history indicates that the multi-year underwriting loss cycle is an obsolete concept. Please note the following:

1) GHMSI had more than a decade of consecutive years of underwriting gain before incurring a tiny underwriting loss (0.04%) in 2009. Was this a harbinger of several years of underwriting losses? No, in fact GHMSI promptly returned to immediate and significant profitability with an underwriting gain of more than $60 million in underwriting profit in 2010, in the midst of the worst economic conditions in perhaps 75 years.
2) Before 2008 GHMSI's lowest underwriting gain in the 10 year period ending in 2008 was in 2002 when the gain was a mere 0.9% of total revenues.[6] That result did not, however,

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[3] Pearson's correlation coefficient is the best method of measuring the correlation between two sets of numbers (in this case adjusted net income vs. Changes in Surplus), because it takes into account covariance. Pearson's correlation coefficient gives information about the degree of correlation between sets of numbers as well as the direction of the correlation.
[4] See more detailed explanation on pages 9-11 of the ARM November 2, 2009 report.
[5] See pages 226-227 of the hearing transcript.
[6] In Chart D on page 7 of CareFirst's July 31, 2009 submission is presented a chart of GHMSI U/W gains and adjusted net income for the ten-year period 1999-2008. Inexplicably, this chart shows GHMSI with a 1.9%

signal the beginning of a multi-year loss cycle. In the year immediately following, 2003, GHMSI's underwriting gain was the second highest of the ten year period at 2.8% of total revenues.

Another deficiency in Milliman's model is that it assumed that the underwriting loss cycle concept would happen despite any management intervention. In his September 10, 2009 testimony, Milliman's Dobson discussed[7] the weaknesses of their model. In response to questioning about whether the model is independent of management actions, Mr. Dobson replied:

> "…I can see you describing it that way because in the loss cycle we assume that that loss cycle is going to occur, and it may be in spite of management's intentions and various interventions that management might do."

It appears from Mr. Dobson's testimony that the Milliman model fails to anticipate dynamic responses from company management with regard to emerging losses. In essence their model appears to assume that once a loss period begins then management will not act with more expediency or with greater corrective action than they would in a year where such unusual losses were not occurring. Rather, it appears that the Milliman model assumes in such circumstances that once begun a loss period will continue for a three or four year period. This approach makes a loss cycle self-fulfilling.

There are numerous reasons that the underwriting cycle is an obsolete concept. Some of them include:

1)	In the late 1980s and early1990s, state insurance regulators, through the NAIC, developed a uniform solvency system, introducing "risk-focused" processes into the supervisory system and creating the Risk-Based Capital (RBC) tool to replace fixed capital requirements that did not vary by company size or risk exposure.

2)	The development of better risk management processes at companies. Most well-run medical insurers monitor actual to expected claims on a monthly basis and are quick to make changes if unfavorable trends begin to emerge. The implementation of rate increases can begin mid-year in most cases and be completed in virtually all cases within 18 months of the first emergence of a negative trend.

3)	U.S. regulators have made continuous improvements to our financial regulatory system over the past two decades, with many enhancements such as the model audit rule, risk-focused financial analysis and examination, and uniform statutory accounting practices and procedures. Today, the enhanced risk-focused surveillance process implemented across the states focuses on the insurer risks, the mitigation of those risks and on prospective risk analysis.

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underwriting gain in 2002 despite the annual statement of GHMSI showing the 0.9% referenced above. This same chart also shows GHMSI's 2000's adjusted net income to be 3.8% while the 2000 annual statement of GHMSI shows a 4.8% adjusted net income.

[7] See pages 238-240 of the hearing transcript.

4) Additional regulatory monitoring is conducted by the NAIC through its surveillance processes (such as the Financial Analysis Solvency Tools (FAST) and the Financial Analysis Working Group).

5) Regulators are processing rate increases more quickly. Indeed the District has received a substantial federal grant under PPACA to enhance its rate review procedures. Like other state regulators, the District is developing changes to its law and regulations that reflect best practices, and developing more sophisticated technology for its rate reviews. The net effect of these enhancements is to reduce the time required for regulatory approvals.

Another major deficiency in the Milliman model is the fact that their model assumed that insurance liabilities and assets are independent. Industry practice for well over a decade has been to use dynamic asset/liability matching.

In summary, the concepts of an underwriting cycle and non-dynamic financial modeling are passé. Rector should develop a modern actuarial model to evaluate surplus in compliance with MIEAA, rather than relying on Milliman's outmoded approach. Finally, an essential criterion for an effective model is that it be able to validate against GHMSI's actual experience over the last 15 years – which, as Rector noted in its earlier Report to DISB (p. 5), the Milliman model does not do.

Assumed Future Premium Growth

The assumption for future annual premium growth is a significant factor in the calculation of needed capital. Because premium growth increases ACL RBC, assuming a larger growth number has the actuarial effect of increasing surplus requirements at any confidence level. Milliman assumed a growth range of 12-14% and Rector subsequently increased the range to 10-16%, effectively increasing the required surplus. This growth assumption should be set at a more appropriate level.

There are several concerns with the levels of growth that either Milliman or Rector assumed:

1) It is questionable whether premiums would grow at all during a loss period.
   a) Implementation of corrective rate action tends to slow premium growth as policyholders seek other alternative coverages or carriers to offset the increases and higher premiums discourage new sales.
   b) First year medical business tends to have the lowest loss ratios of all medical business. Thus, periods of time when the number of policyholders is increasing correlates much more closely with underwriting gains rather than losses.

2) The reasonability of a high premium growth assumption is undermined by GHMSI's own testimony concerning the "unprecedented . . . movement towards high deductible health plans," and lower premiums[8].

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[8] Sept. 10, 2009 Tr. at 244 (Testimony of Mr. Burrell).

3) The previous Milliman/Rector growth rates are entirely inconsistent with GHMSI's recent experience. GHMSI's revenue has grown from $2.828 billion in 2007 to $3.058 billion in 2011 – a compound annual growth rate of only 2.0%.

In summary, a more reasonable range of premium growth should be assumed in any modeling. A range of 0% - 6% is more consistent with GHMSI's experience in the last 5 years.

Other Questionable Assumptions

The Milliman model, which was the model relied upon by all previous reviewers other than ARM, had other notable deficiencies including:

1) The question of how Catastrophic Events[9] should be included;
2) The question of whether growth and development charges[10] should be assumed to occur in time periods during which losses were occurring;
3) The question of whether reserve margins would be available for release[11] during times when losses were occurring; and
4) Most importantly, the assumptions of an apparent laissez-faire approach by management during a loss period[12] rather than pro-active approaches to intervene early.

Each of these assumptions should be modified or discarded in determining GHMSI's efficient level of surplus.

Confidence Intervals

Each of the previous analyses of surplus needs, including Rector's, used point estimates to create a range. These point estimates were developed with different confidence intervals applied to modeling avoidance of 200% and 375% RBC levels. A more appropriate approach would be to recognize different confidence interval against the higher 375% RBC target, while maintaining a floor relative to the lower 200% RBC target.

Milliman proposed using a 98% confidence interval to estimate the lower boundary for the 200% RBC standard, while Rector used a 99% confidence interval for the lower boundary. Given that the company endorsed the Milliman report, it seems appropriate to use the 98% confidence interval relative to the 200% RBC standard.

For the 375% Blue Cross monitoring target, everyone agrees that a lower level of confidence should be used. Dipping below that level does not have an immediate impact on policyholders (after all, it is almost double the 200% standard which itself was set by the NAIC at a level designed to be conservative). While falling below 375% is not pleasant for management (as they

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[9] See page 6 of the Rector report.
[10] See page 7 of the Rector report.
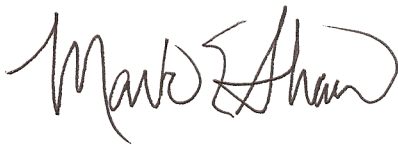[11] See page 7 of the Rector report.
[12] See page 7-8 of the Rector report.

will be subject to more peer review by the Blue Cross Association), a confidence interval of perhaps 75% to 90% would be more than sufficient.

In summary, a logical range of feasible surplus would be a range that has as a minimum the greater of a 75% probability of the RBC ratio not dipping below 375% or a 98% probability of the RBC ratio not dipping below 200%, and as a maximum a 90% probability of the RBC ratio not dipping below 375%. Anything more than this would not seem reasonable.

I am available to clarify or expound on any of the recommendations made herein.

Sincerely,

Mark E. Shaw, FSA, MAAA, CERA, FLMI
Senior Consulting Actuary
United Health Actuarial Services, Inc.
mshaw@uhasinc.com

Attachment: C.V. of Mark E. Shaw

CURRICULUM VITAE

MARK EDWARD SHAW

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BUSINESS EXPERIENCE

UNITED HEALTH ACTUARIAL SERVICES, INC., Summerville, South Carolina
Senior Consulting Actuary, 8/08 to present

Provide life and health actuarial and management consulting services for a wide range of individual and group medical and supplemental insurance products for both insured and self-insured plans. Health products include Major Medical, Medicare Supplement, Long Term Care, Disability, Accident only, Cancer, Critical Illness and Hospital Indemnity. Services provided include:

Compliance and statutory reporting	Experience and financial analysis
Expert witness and litigation support	Liaison and negotiation support
Merger & acquisition support	All aspects of company management
Peer review	Product/plan development and pricing/re-pricing
Risk Management	Valuation/financial reporting and related support

Sample of Recent Services Provided
- Review Medical rate filings on behalf of CMS/HHS
- Review LTC rate filings on behalf of states of CA and WV
- Serve as Appointed Actuary for insurance company
- Develop and file Disability, Critical Illness and Cancer products in NY
- File Small Group and Individual medical rate filings in numerous states
- Serve as damages expert witness in arbitration between two insurers

ASSURANT HEALTH, MILWAUKEE WISCONSIN
Senior Vice President, Strategic Development, 4/07 to 5/08
Provide leadership of selected initiatives for future company growth including: 1) Be expert resource for new limited benefit health business; 2) Develop international opportunities for medical products; and 3) Explore M&A opportunities in the individual and small group major medical market space.

Senior Vice President and Chief Actuary, Group Markets, 11/04 to 3/07
Provide leadership of all actuarial functions (staff of 36) to support business unit including product development, product pricing, forecasting, trend analysis, risk management, advanced analytics, and data management. Oversee corporate-wide functions related to network management and pricing. Review financial reporting including reserve development and make monthly presentations to corporate CEO and executive management team on business initiatives and results. Participant in corporate Compliance and Government Relations steering committees. Help lead business unit strategic planning and consumer marketing initiatives. Interact with distribution partners to encourage effective partnerships. Be the face of Group Markets to various constituencies,

Vice President, Development, 7/03 to 11/04
Create a new business for Assurant to compete with other supplemental and limited benefit health insurers such as AFLAC, Colonial, and Allstate. Responsible for developing and managing all aspects of the business including: crafting business strategy, designing product portfolio, overseeing actuarial work, getting products approved in target states, producing marketing plan, and setting up administration through a third party administrator (TPA). Act as P&L leader in monthly financial reviews.

AFLAC INC., COLUMBUS GEORGIA
Senior Vice President, Corporate Risk Management, 5/01 to 5/03

Create and lead the worldwide risk management efforts in newly created corporate function of international insurer. Primary responsibility to consult with and help other senior officers identify, measure, evaluate, monitor, and mitigate all significant business risks. Oversee staff of 8 in Japan. Participate in corporate governance and disclosure committees. Review quarterly financial results, analysis and reporting with financial personnel. Other financial duties as assigned by President.

CONSECO, CARMEL INDIANA
Senior Vice President, Health Actuarial, 3/97 to 5/01
Interim President, Health Business Unit, 9/99 to 1/00

Built and led the newly created health division of the actuarial department to support all actuarial aspects including valuation, financial reporting, product design, pricing and administration of the $1.3 billion annual revenue Carmel-based health businesses of Conseco. Primary product lines supported: Medicare Supplement, Long Term Care, Specified Disease, Group Dental and Disability, Major Medical. Lead Product Steering Committee. Lead divisional budgeting process ($120 million annual budget). Review financial results with executive management and external auditors. Make presentations to rating agencies, analysts and investors. Assist in analyzing potential health acquisitions. Assess need for, negotiate and administer health reinsurance.

CAPITOL AMERICAN FINANCIAL CORP., CLEVELAND OHIO
Senior Vice President and Chief Actuary, 6/91 to 3/97
Vice President and Chief Actuary, 11/89 to 6/91
Vice President and Actuary, 5/88 to 11/89

Responsibility for all actuarial functions including valuation, financial reporting, product design, pricing and administration for primarily supplemental health products. Responsible for filing and seeking approval of products with state insurance departments. Built high-performing actuarial and compliance staff of 19. As member of Senior Leadership Team, a key participant in all strategic planning, budgeting and corporate-wide decision-making. Regular participant in corporate board and board committee meetings. Director of insurance subsidiaries. Frequent company representative with insurance departments and attendee/participant at NAIC meetings.

LOYAL AMERICAN LIFE, MOBILE ALABAMA
Vice President and Chief Actuary, 5/87-5/88
Chief Actuary, 4/86-5/87

First in-house actuary. Responsible for all actuarial functions for traditional and interest-sensitive life and supplemental health products sold through captive agents in credit union market, payroll deduction, direct mail and brokers. Negotiated and administered both risk-transfer and surplus-relief reinsurance. Member of three-officer team responsible for day-to-day operations of the company. Built actuarial staff of six.

EARLIER CAREER, ATLANTA GEORGIA AND KNOXVILLE TENNESSEE, *5/80-4/86*

- ➢ Designed and priced a full range of traditional and interest-sensitive life and annuity products for the brokerage market and captive agents.
- ➢ Developed and priced supplemental health products.
- ➢ Assisted with pricing of group and credit products.
- ➢ Created and programmed illustration software.
- ➢ Facilitated filing and approval of life and health products with insurance departments.
- ➢ Assisted in the pricing and administration of reinsurance.

EDUCATION/CREDENTIALS

GEORGIA STATE UNIVERSITY
BBA, major in Actuarial Science, 1980

SOCIETY OF ACTUARIES
Fellow (FSA), 1987
Chartered Enterprise Risk Analyst (CERA) – 2008
Chair of Enterprise Risk Management Sub-group, 2002 – 2004

AMERICAN ACADEMY OF ACTUARIES
Member (MAAA), 1984

LIFE OFFICE MANAGEMENT ASSOCIATION
Fellow (FLMI), 1981

AMERICA'S HEALTH INSURANCE PLAN (FORMERLY HEALTH INSURANCE ASSOCIATION OF AMERICA)
Chairman, Member of various committees 1995 - 2008

THE AMERICAN COLLEGE
Various CLU Credits obtained

RECENT INDUSTRY ACTIVITIES

AMERICAN ACADEMY OF ACTUARIES
Member of Health Solvency Task Force, March 2010 – present
Member of LTC Rating Group, May 2011 – present