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January 21, 2022

Steve Drutz
Chair, Health Risk-Based Capital (E) Working Group
National Association of Insurance Commissioners (NAIC)

Re: Request for Comprehensive Review of the H2—Underwriting Risk Component and Managed Care Credit Calculation in the Health Risk-Based Capital Formula

Dear Mr. Drutz:

On behalf of the American Academy of Actuaries (Academy)¹ Health Solvency Subcommittee, I am pleased to provide this report to the National Association of Insurance Commissioners (NAIC) Health Risk-Based Capital (HRBC) (E) Working Group. This report is in response to the [request](#) from the working group to analyze and comprehensively review the H2—Underwriting Risk component and the managed care credit calculation in the health risk-based capital (RBC) formula.

1. Introduction

In this report, the subcommittee presents a discussion of the current H2 — Underwriting Risk factors, key changes affecting health insurers that have impacted underwriting risk since the factors were originally developed, alternative views of underwriting risk from other regulating entities, and a set of targeted recommendations for improving the H2 — Underwriting Risk factors.

Our approach surveyed other methods of evaluating risk, and in particular underwriting risk taken by other risk quantification formulas (e.g., health, life, property and casualty (P&C) RBC formulas; credit rating agencies) and summarized their respective merit for health underwriting risk. The subcommittee recommends a constructive dialogue with the NAIC’s HRBC Working Group to determine the best approach before beginning detailed analysis and factor development.

¹ The American Academy of Actuaries is a 19,500-member professional association whose mission is to serve the public and the U.S. actuarial profession. For more than 50 years, the Academy has assisted public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues. The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.

2. Review of the H2 Risk Factor in Current HRBC Formula

History of H2 in Health Organizations' Risk- Based Capital Formula

In the early 1990s, the Academy fulfilled a request from the NAIC to assist in the development of a risk-based capital formula - similar to those in place for life Insurers and P&C Insurers - that could be applied to a variety of traditional and nontraditional risk-assuming enterprises in the health insurance space. The objective in developing an RBC formula was to calculate the minimum amount of capital that the reporting entity should hold to support the risk associated with the business venture. In doing so, monitoring and regulatory agencies would be able to identify entities that were exhibiting signals of financial weakness and could take steps to promote their solvency. The RBC formula was also to be constructed in such a way that results would be the same for companies engaged in the same health insurance business activity, regardless of organizational structure.

Over time, refinements have been made leading to today's health risk-based capital (HRBC) model. Like the life and P&C risk-based capital formulas, multiple risk categories are included in the calculation of the minimum capital amount for an entity. In the case of HRBC, five categories are employed (emphasis added to H2 - Underwriting Risk):

Category Title	Abbreviation	Definition
Insurance Affiliates and Misc. Other	H0	This is the risk from the declining value of insurance subsidiaries as well as risk from off-balance sheet and other miscellaneous accounts (e.g., deferred tax assets (DTAs)).
Asset Risk - Other	H1	This is the risk of asset losses due to default of principal and interest or fluctuation in market value.
Underwriting Risk	H2	This is the risk of underestimating liabilities from business already written or inadequately pricing business to be written in the coming year.
Credit Risk	H3	Creditor risk of not recovering receivable amounts owed
Business Risk	H4	This category includes several miscellaneous risks not captured elsewhere, such as those associated with administrative expenses, administrative services contracts/administrative services only (ASC/ASO) business, guaranty fund assessment, and excessive growth.

To develop the original H2 (underwriting risk) component of the HRBC formula, the Academy employed statistical modeling based on health insurance and provider data available at that time. Stochastic modeling was performed using a five-year modeling time horizon, and formulas and factors were developed to calculate capital levels that allowed each product to remain solvent in 95% of the modeled scenarios. Ultimately, the original modeling was used to develop relative risk values (RVs) for most lines of business which would be referenced by the NAIC to establish risk factors, based on the NAIC's risk tolerance.

Calculation of H2 in HRBC Formula

The total H2 risk charge is calculated through several sub-formulas within the HRBC calculation, denoted as XR013 through XR019. The following is a summary of each sub-formula that contributes to the overall calculation of H2 for a reporting entity:

XR013 — Underwriting Risk

For most health reporting entities, underwriting risk constitutes the largest share of the overall risk-based capital charge, representing the general risk of fluctuations in underwriting experience —i.e., the risk that premiums (which are an expected value of future costs and considerations) are insufficient to cover actual plan costs. In such a scenario, the next dollar of cost is funded by the reporting entity's capital and surplus. Depending on the policy type and the level of provider contracting, the reporting entity may not be fully exposed to this potential fluctuation in claims experience, as the risk may be transferred to another entity (e.g., a provider group or a reinsurer). However, this could introduce a separate and material credit risk that the assuming entity may default on its obligation(s).

To calculate the charge for this risk, six general lines of business are utilized:

1. Comprehensive Medical & Hospital
2. Medicare Supplement
3. Dental and Vision
4. Stand-alone Medicare Part D Coverage
5. Other Health Coverages
6. Other Non-Health Coverages

For each line of business, risk factors are applied to the reported incurred claims for the reporting entity, sourced from the Annual Statement. The risk factors are the same for all reporting entities, but generally decrease as the premiums for a particular line of business increases. Applying the risk factors to the estimated incurred claims generates Base Underwriting Risk RBC. See an illustration in Table 1 of the Underwriting Risk Factors by premium tier:

Table 1.

	\$0 - \$3 Million	\$3 - \$25 Million	Over \$25 Million
Comprehensive Medical & Hospital	0.1493	0.1493	0.0893
Medicare Supplement	0.1043	0.0663	0.0663
Dental & Vision	0.1195	0.0755	0.0755
Stand-Alone Medicare Part D Coverage	0.2510	0.2510	0.1510
Other Health	0.1300	0.1300	0.1300
Other Non-Health	0.1300	0.1300	0.1300

To the subcommittee’s collective knowledge, aside from the adoption of investment income adjustments into the Comprehensive Medical & Hospital, Medicare Supplement, and Dental and Vision factors in 2021, the premium tiers have not been adjusted over time to capture market dynamics that influence risk, such as medical cost growth.

A Managed Care Credit (sourced from XR018) is then applied to the Base Underwriting Risk RBC, which can reduce the risk charge for certain lines of business if the managed care contracts in place limit the financial risk of adverse claims fluctuations on the reporting entity.

The ultimate calculation of Net Underwriting Risk RBC compares the calculated Underwriting Risk (including the Managed Care Credit) to an Alternate Risk Charge that is dependent on the amount of risk borne by the reporting entity, after adjusting for any reinsurance arrangements.

XR014 — Annual Statement Source

This page contains no RBC calculations; however, it does illustrate to the user where information can be retrieved to perform RBC calculations on XR013. Some pieces of information are obtained from the reporting entity’s annual statement, while others must be sourced from internal company records (e.g., all premium and claims data for stand-alone Medicare Part D coverage).

XR015 — Other Underwriting Risk

This page contains the risk charge calculation for the following, where the risk charge, unless otherwise specified, is a risk factor applied to earned premium:

1. Business with rate guarantees split by a rate guarantee period of 15 to 36 months and a rate guarantee period of over 36 months
2. Federal Employees Health Benefits Program (FEHBP) and TRICARE, where the risk factors are applied to incurred claims
3. Stop Loss and Minimum Premium
4. Supplemental Benefits within Stand-Alone Medicare Part D Coverage, where the risk factors are applied to incurred claims
5. Medicaid pass-thru payments reported as premium
6. Disability income split by the first \$50 million in earned premium and earned premium over \$50 million for the following with the risk factor varying by premium tier:
 - a. Noncancellable morbidity risk
 - b. Other than non-cancellable morbidity risk
 - c. Credit monthly balance plans
 - d. Group long-term
 - e. Credit single premium with additional reserves
 - f. Credit single premium without additional reserves
 - g. Group short-term

For single premium credit insurance with additional reserves, the premium is reduced for the change in additional reserves held.

The premium and additional reserves used in the risk charge calculation are based on company records.

XR016 — Long-Term Care (LTC) Insurance Premium/Loss Ratio Experience

The majority of the risk charge is for morbidity risk plus an additional risk charge for rate risk on noncancellable LTC insurance. The rate risk factor is 0.100 for all noncancellable premium and the morbidity charge is 0.100 and 0.030 for all LTC insurance premiums up to \$50 million and over \$50 million, respectively.

Then, additional charges for morbidity risk are based on experience. The average loss ratio is calculated for the current and prior year. Actual claims are adjusted to the average loss ratio and this adjusted claim amount is used to calculate the risk charge. The risk charge is calculated as follows:

1. For the first \$35 million, the risk factor is 0.250 if current year premium is positive; otherwise, the factor is 0.370.
2. For adjusted claims in excess of \$35 million, the risk factor is 0.080 if current year premium is positive; otherwise, the factor is 0.120.
3. A risk factor of 0.050 is applied to LTC Insurance claim reserves.

The premium and claim information used in the risk charge calculation are based on company records.

XR017 — Limited Benefit Plan

This page contains the risk charge calculation for the following limited benefit plans:

1. Hospital Indemnity and Specified Disease
2. Accidental Death and Dismemberment
3. Other Accident
4. Premium Stabilization Reserves—this is a credit to RBC and it is limited to the total Underwriting RBC for all lines, excluding stand-alone Part D.

The premium and reserve information used in the risk charge calculation are based on company records.

XR018 — Underwriting Risk — Managed Care Credit

The managed care credit seeks to account for volatility in claims costs relative to the coverage period. For instance, if an actuary was aware of capitation rates during the rating cycle, that would improve the likelihood of rate adequacy.

The managed care credit calculation utilizes five factors that reflect the impact of different types of provider contracts on medical claim predictability and volatility. The factor associated with each contract category is applied to the level of incurred claims in that category and an overall discount or credit is calculated based on the relative claims weights. The discount factors have remained unchanged since they were first adopted.

For example, fully capitated provider contracts (i.e., when providers are accepting 100% of the underwriting risk) are generally assumed to provide a health insurer with substantial financial protection and, accordingly, the substantial credit noted in the below table. Other provider contracts may also provide the health insurer with a range of financial protection less than full capitation (e.g., from discounted fee-for-service contracts to partial capitation and/or withholding funds from the provider that may only be paid after financial results have been evaluated against the provider contract agreement). The factors in Table 2 that vary by type of provider contract reflect this range of financial protection for the health insurer.

Table 2.

Category	Credit
Category 0—Arrangements not Included in Other	0%
Category 1—Contractual Fee Payments	15%
Category 2—Bonus / Withhold Arrangements	0-25%
Category 3—Capitation	60%
Category 4—Non-Contingent Expenses and Aggregate Cost Arrangements and Certain PSO Capitated Arrangements	75%

As Medicare Part D was implemented in 2006, the managed care credit was adapted to include a credit for stand-alone Part D plans in 2009 to reflect the reduction in risk to health plans attributable to the various risk adjustment programs implemented in accordance with the Affordable Care Act (ACA).

XR019 — Calculation of Category 2 Managed Care Factor

Category 2 in the managed care credit has a scaling factor determined by how significant the bonus / withhold payments are relative to the total claims subject to these programs. For example, if providers have been paid a 20% bonus on contracts subject to bonus, the managed care credit applicable is 20%.

3. Evolution in Underwriting Risk Since Original Development of the H2 Risk Factor

Changes in Health Care Economics and Provider Systems

There has been considerable evolution in health economics since HRBC was first developed in the 1990s. The most obvious is the significant rise in the size of the health care sector, which has grown by 6.8% annually over the last 25 years², amounting to nearly a fourfold increase over that period. As part of that growth, there have been major regulatory and industry changes as well.

Changes in Claims Distributions

Among the many changes brought about by the ACA, is the distribution of claim cost risk. For instance, the elimination of annual and lifetime coverage limits, the elimination of medical underwriting, and the establishment of essential health benefits, while addressing issues from a public policy standpoint, have contributed to higher frequencies of high-cost individual claimants (often referred to as catastrophic claims).

Additionally, there has been significant progress made in modern medicine, both from a medical/surgical and prescription drug standpoint. These advanced procedures and drugs often serve a niche market and can command very high prices. For example, gene therapies driving \$1

² Center for Medicare and Medicaid Services (CMS) National Health Expenditure Data.

million or higher price tags have become more common, and that trend is likely to continue moving forward.

Asymmetric Claims Risks

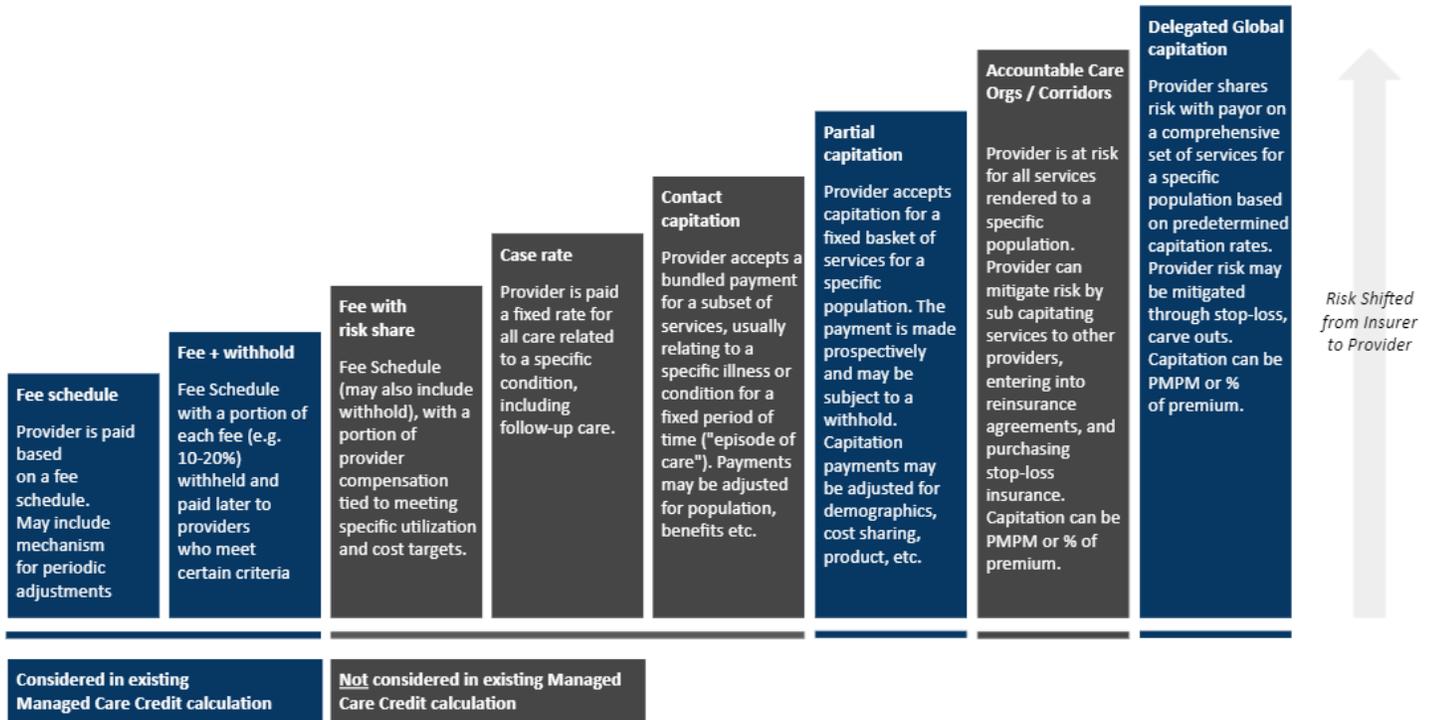
The profitability distribution for insurance carriers is often asymmetrical due to the introduction of minimum loss ratios and other risk sharing arrangements across many lines of business. In favorable years, carriers are required to rebate premiums to policy holders or government entities, while in unfavorable years they might have to absorb losses.

Provider Contracting Developments

The nature of insurer / provider relationships has also evolved significantly over the past 25 years. While fee-for-service payments are still common, there has been a significant increase in risk arrangements, particularly for government lines of business.

Insurance carriers have continued to move providers toward risk-based contracts as providers' risk tolerances have grown; frequently, this has led to improvement in member medical management and increasing insurer predictability of claims costs. Illustration 1 shows several new ways of contracting that are not currently contemplated in the formula.

Illustration 1.



Specific H2 Risk Considerations by Health Insurance Line of Business

Since the HRBC formula was developed, there have been significant changes in the lines of business that make up the health insurance industry. In addition to the introduction of the exchanges through the ACA, Medicare Advantage was implemented, and Medicaid Managed Care has become common for state Medicaid programs. Additionally, the LTC insurance market has changed materially as well.

Commercial Insured—Individual Market

The most significant event contributing to changes in underwriting risk in the individual market was the passage of the ACA in 2010 with the implementation largely phased in through calendar year 2014. Several changes affecting the individual health insurance underwriting risks include (not exhaustive):

- Elimination of annual and lifetime coverage limits
- Minimum medical loss ratio (MLR) requirement of 80%
- Pricing cycle requiring development and approval of rates well in advance of their implementation
- Increasingly robust rate review processes and provisions that influence the risk of adverse rate determinations and administrative actions (e.g., exchange exclusion)
- Elimination of pre-existing condition exclusions
- Revised and limited rating practices
- Risk mitigation programs (e.g., reinsurance, risk corridor, and risk adjustment mechanisms)

Commercial Insured—Small Group Market

Like the individual market, the commercial small group market was drastically altered by the ACA. Though similar changes were put in place (including the same minimum MLR requirement of 80%), it should be noted that usually the small group market is a separate risk pool from the individual market exhibiting its own risk characteristics.

Commercial Insured—Large Group Market and Self-Insured/Administrative Services

The ACA also affected commercial large group products, but to a lesser extent due to ERISA preemption of self-insured benefit programs. The minimum MLR requirement of 85% for large group insured coverage is somewhat more restrictive than the 80% minimums for individual and small group, reflective of the typically higher MLRs for large groups. Notably, there has been advancement in the type of medical insurance plans offered in the marketplace. At the time of original HRBC development, indemnity products were prevalent in the marketplace, with Health Maintenance Organization (HMO) plans offered by managed care organizations (MCOs). However, in the last 25 years, growth in preferred provider organizations (PPOs) and high-deductible health plans (HDHPs) have grown significantly. These products have different benefit

administration and provider payment characteristics than the indemnity products, which are far less prevalent today. For instance, per the Kaiser Family Foundation's 2021 Employer Health Benefits Survey,³ the proportion of covered workers enrolled in conventional (e.g., indemnity) health plans decreased from 26% in 1996 to ~1% in 2021. During that same period, enrollment in HDHPs, which were not tracked until 2006, has grown to 28%.

In addition, due to potential administrative cost savings of self-insured services and increases in employer risk appetite, there has been a shift from large group fully insured policies (loosely defined as groups with >100 employees) to self-insurance and analogs (e.g., minimum premium arrangements). From a payer underwriting risk perspective, this has reduced the proportion of claims expense and associated risk attributed to large employer groups. However, a corollary to this secular trend has been the growth in employer stop-loss products that hedge the claims risk to these clients.

Medicare

Since the creation of the original HRBC formula, four of the largest drivers of change impacting Medicare health insurer underwriting risk have been (1) the growth of the Medicare Population, (2) the creation of Medicare Part C with the Balanced Budget Act of 1997, (3) the creation of Part D prescription drug benefits and the modification of the Medicare Advantage managed care program with the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, and (4) Medicare provisions included in the ACA.

Under the Medicare Part C and Part D programs, beneficiaries can enroll for medical and/or prescription drug coverage under a private-sector payer. In return, the payer receives prospective, risk-adjusted capitation payments and member premiums. Under the ACA, payer capitation payments are tied to operational and clinical quality through the Star quality rating system, and a minimum medical loss ratio requirement of 85% was instituted, capping favorable payer surplus gains.

The net effect of these drivers has been an increase in Medicare spending, growth in the amount of Medicare underwriting risk borne by health payers, and increased complexity in the underwriting risk, due to the nature of risk adjustment, and quality and minimum loss ratio requirements. As a point of comparison, in 1998 under the prior Medicare HMO program, Medicare enrollment through private-sector plans was approximately 6 million.⁴ In 2020, approximately 24 million beneficiaries were served by Medicare Advantage. Medicare Advantage-share of enrollment had grown from 24% in 2010 to approximately 42% in 2021.⁵

³ <https://files.kff.org/attachment/Report-Employer-Health-Benefits-2021-Annual-Survey.pdf>

⁴ Squire, Daniel et al. *Group Insurance*, 7th Ed. Pg. 139.

⁵ [Medicare Advantage in 2021: Enrollment Update and Key Trends | KFF](#)

Medicaid and CHIP

Since the inception of the HRBC formula, there has been an overall expansion of the Medicaid program. In addition, there has been a shift to Medicaid Managed Care programs managed by private health payers, as opposed to state-based fee-for-service programs. Two drivers of change impacting health insurer underwriting risk have been (1) the enactment of Title XXI of the Social Security Act, which created the State Children's Health Insurance Program (CHIP), and (2) Medicaid enrollment expansions provided for in the ACA. As of 2019, 54.2% of all Medicaid expenditures were managed care and provider capitation payments.

Each state is unique in their requirements for Medicaid Managed Care products (i.e., risk adjustment protocols, minimum medical loss ratios, risk corridors, etc.). While a state is not required to establish a minimum medical loss ratio for Medicaid MCOs, CMS requires that (i) each contract calculate and report its medical loss ratio and (ii) for any state that does establish a minimum medical loss ratio, that the minimum may not be less than 85%.

Long-Term Care (LTC) Insurance

There are several characteristics of the LTC insurance market that have evolved since the product's inception that affect its underwriting risk profile.

When LTC insurance was initially developed, there was little to no applicable experience to use to price the product. As experience developed, the accuracy of the pricing has improved. This has led to three market segments: original (oldest generation) products that are the most underpriced, a middle generation with improved pricing, and a newer generation based on more credible experience leading to more appropriate pricing. The accuracy of the pricing, or lack thereof, impacts the level of rate increases being requested by the insurers, with the older blocks of business typically needing higher rate increases than the newer blocks.

With some exceptions, most insurers are managing closed blocks of business. There are challenges to managing the rates on closed blocks, particularly on the older and smaller blocks. On blocks that are smaller and older, even very large rate increases will generally have little to no impact to the financials of the insurer.

Large, actuarially justified rate increases are typically not being approved by the regulators, and in some cases, not being requested by insurers, due to concern for the impact on the consumer. This is a key difference between LTC insurance repricing and other health blocks. With other health blocks, there typically is not a large discrepancy between actuarially justified, requested, and approved rate increases, as is seen with LTC insurance. Also, because rate increases have been consistently occurring, there may be "rate-increase fatigue" on the part of regulators – leading to potentially fewer or less approvals of rate increases.

Other characteristics and developments in the LTC insurance market that affect the risk profile are the following:

- More credible data now exists for mortality and morbidity assumptions, used in rate increase and cash flow testing projections.
- The persistent low interest rate environment suppresses investment income.
- Possible increased litigation against insurers and reputational risk due to rate actions.
- Existence of LTC insurance hybrid products that have a different risk profile than stand-alone LTC insurance products.
- Actuarial Guideline (AG)-51—*The Application of Asset Adequacy Testing to Long-Term Care Insurance Reserves*.

These developments in the market affect the amount of risk that an insurer bears and may impact the fit-for-purpose of the current RBC H2 framework. Insurers will have different risk profiles that are dependent on the age of the business, the adequacy of rates, and the ability to receive future rate increases, none of which are fully addressed in the current framework.

4. Alternative Views of Underwriting Risk

There are a number of other capital evaluation/requirement frameworks that consider underwriting risk. Based on the subcommittee’s review, several of these frameworks utilize risk quantification measures that would be valuable to consider as part of the health underwriting risk formula. The frameworks we found most instructive were Best’s Capital Adequacy Relativity (BCAR), P&C RBC, Solvency II, and DMHC⁶ Tangible Net Equity (TNE) requirements.

BCAR

There are two main components of risk charges for underwriting risk within BCAR—net earned premium risk and reserve risk. The following summaries are based largely on descriptions of the BCAR methodology provided by AM Best.

Net Earned Premium Risk

The net premiums risk is related to risk of underwriting losses on a book of business written in the next year. AM Best created an industry database of profit and losses for each line of business, using each insurer’s historical underwriting profit or loss based on the actual reported results. The industry database was then split based on the size of the net premiums written for that line of business, and statistical methods were applied to create distributions of profit and loss ratios.

The following blocks of business are evaluated separately:

⁶ California Department of Managed Health Care

Indiv Hosp Maj Med	Group Hosp Maj Med
Indiv Hosp Indem ADD	Group Hosp Indem ADD
Indiv Medicare Supp	Group FEHBP
Indiv Medicare Adv plus Choice	Group Dental
Indiv Medicaid	Group Vision
Indiv Medicare Part D	Group Disability - LTD
Indiv Medicare Part D Supp	Group Disability - STD
Indiv Fee for Service	Group Long Term Care
Indiv Disability - Non Can	Group Dread Disease
Indiv Disability - Other IDI	Group Stop Loss and Min Prem
Indiv Long Term Care	Group Lim Benefit
Indiv Dread Disease	Group Student
	Credit
	Group Prem Equiv ASO Stop Loss
	Workers' Comp Carve Out Prem
	All Other (Group&Indiv)

When calculating company-specific capital requirements, the industry factors can be adjusted based on the rating unit's own historical profitability. Implicitly, this assumes that historical underwriting performance is correlated with future underwriting performance. The company-specific factors are based on the most recent three years of profitability and can adjust the base factors by as much as 20% (positively or negatively). Like the H2 component of the health RBC formula, the rating unit's current year written premium is used in the model as a proxy for the premium to be written next year. Using this assumption, the company-specific factors are applied to current year premium to calculate the capital requirement.

Reserving Risk

Unlike health RBC, BCAR includes a reserving risk component as part of underwriting risk. The applied risk charges are intended to cover the possibility of negative reserve development due to adverse claims experience. Like premium risk, AM Best's reserve risk factors are based on an industry database of each company's reserve adequacy generated from the annual statements by line of business and a company's specific experience can adjust the base factor by as much as 20%. The BCAR formula utilizes the following reporting segments to develop reserving risk factors.

Group A&H	Workers Comp Carve-Out Liability
Credit A&H	Comprehensive
Collectively Renewable	Medicare Supplement
Non-Cancellable	Dental
Guaranteed Renewable	Vision
Non-Renewable	Fed Employees
Other Accident	Title XVIII Medicare
All Other	Title XIX Medicaid
	Other Health

Diversification Credit

AM Best calculates diversification factors using correlation matrices based on industry-aggregated data across lines of business—for both premium risk and reserving risk. This intent behind the calculation is that often underwriting profits and losses in one line of business might offset underwriting profits and losses in another line of business. Similar to written premium, because reserves are largely set based on line of business, adverse or favorable reserve development for one line of business might offset development for another line of business.

Managed Care Credit

The managed care credit within the BCAR formula reflects the reduction in the overall premium risk charge for companies with managed care arrangements that reduce uncertainty regarding future claim payments.

This credit is reduced for the risk that the MCO will pay the capitation to a provider but not receive the agreed-upon services and will encounter unexpected expenses in arranging for alternative coverage, essentially introducing a credit risk that a provider might default on its obligations. This credit risk charge is based on the contractual relationship between the MCO and a provider. Higher credit risk charges apply to capitation payments made to unaffiliated or third-party care providers than to capitation payments made to affiliated care providers.

P&C RBC

Similar to BCAR, P&C underwriting risk is broken into two components in the P&C RBC formula: reserves and net written premiums.

Reserve Risk

The reserve risk RBC is developed by multiplying a set of RBC factors, which are discounted for investment income and adjusted for each individual company's own relative experience of its net reserves for each line of business. The reserve risk is also adjusted downward with a credit for diversification among the lines of business.

The major lines of business largely correspond to the breakdowns in the annual statement (e.g., the Underwriting and Investment Exhibit). Calculations for some, generally smaller, lines are combined.

Net Written Premium

The net written premium component is developed by multiplying a risk factor (based on an analysis historical industry-wide underwriting performance at the 87.5th percentile) by the current year's net written premiums, by line of business. The actual risk charge is based on the excess of a discounted combined ratio adjusted for investment income over 100%. As with the reserve risk factors, individual company experience is also considered in computing the RBC factor.

Solvency II

Solvency II divides health insurance into Similar to Life Techniques (SLT) and Non-Similar to Life Techniques (Non-SLT)—the distinction based on how products are priced. Products like long-term care insurance and individual disability income insurance would likely be examples of SLT Health, while typical medical products would be examples of Non-SLT Health.

The nature of how the Solvency II capital requirement is constructed is very different between SLT Health and Non-SLT Health. Solvency II discusses three main risks for Non-SLT Health:

1. Premium Risk
2. Reserve Risk
3. Catastrophe (CAT) risk

The time horizon for Solvency II is one year. In keeping with that, the definition of premium risk relates to both unexpired risks on existing contracts and policies to be written/renewed during the coming year. As a result, the inputs into the Solvency II calculation are prospective in nature, rather than retrospective in nature like current HRBC. The issuer is expected to estimate not just its expected premiums for the coming year from the unexpired term on existing contracts, but also its expected premiums for the coming year on both new and renewal business. Keeping with the one-year time horizon, the focus is on the risk of loss within the coming year and not on the risk of cumulative losses over a longer time frame.

DMHC Tangible Net Equity (TNE)

The DMHC⁷ maintains a simple capital requirement driven by underwriting risk. Full-service health plans must maintain a TNE of at least:

- (1) \$1 million; or
- (2) the sum of two percent (2%) of the first \$150 million of annualized premium revenues plus one percent (1%) of annualized premium revenues in excess of \$150 million; or
- (3) an amount equal to the sum of:
 - (A) eight percent (8%) of the first \$150 million of annualized health care expenditures except those paid on a capitated basis or managed hospital payment basis; plus
 - (B) four percent (4%) of the annualized health care expenditures, except those paid on a capitated basis or managed hospital payment basis, which are in excess of \$150 million; plus
 - (C) four percent (4%) of annualized hospital expenditures paid on a managed hospital payment basis.

This approach of excluding capitated payments demonstrates one potential approach for the managed care credit. It is worth noting that risk-bearing organizations (i.e., those that accept capitation) are regulated by the DMHC and themselves must meet minimum capital requirements, and requirements for risk-bearing organizations vary considerably from state-to-state.

⁷ Cal. Code Regs. Title 28, §1300.76 - Plan Tangible Net Equity Requirement.

5. Options for Better Aligning H2 Risk Factors to Economic Risk

Based on the subcommittee's review of the current H2 risk factors, the evolution of health insurance underwriting risk since those risk factors were originally contemplated, and the alternative approaches utilized by other regulating entities, we recommend further study and potential implementation of, the following changes to the H2 underwriting risk factors.

1. Refresh factors based on updated insurer data
2. Develop factors at a more granular product level
3. Develop factors specific to more relevant block sizes and consider an indexing factor for cut points to change over time
4. Model risk factors over an NAIC-defined prospective time horizon with a defined safety level that can be refreshed regularly
5. Refresh of managed care credit formula and factors to be more relevant and reflective of common contracting approaches and other risk factors associated with these contracting approaches
6. Analyze long-term care insurance underwriting performance to create a more nuanced set of risk factors that considers pricing changes over time

Refresh factors based on updated insurer data

Because the underwriting risks taken by health insurers has changed significantly since many of the H2 underwriting risk factors were adopted, we recommend utilizing updated data to understand the current risk profile of health insurers. This could be achieved utilizing underwriting performance and volatility over the past 10 years—between 2011 and 2020—to consider pre-ACA, post-ACA and pandemic years to create new risk factors.

Develop factors at a more granular product level

Because many health products carry a range of underwriting risk—even within comprehensive medical coverage—a more detailed product view can be utilized to create new risk factors. For example, Commercial Group and Individual products are currently both included within the Comprehensive Medical column but have significantly different levels of volatility and associated financial risk.

This recommendation could be accomplished in the immediate term by utilizing reporting data from Page 7—Analysis of Operations by Line of Business. Over time, factors should be developed even more granularly. This can be accomplished by utilizing the Accident and Health Policy Experience Exhibit but would either require a change to when that filing would be submitted or via company records within the RBC filing.

Develop factors specific to more relevant block sizes and consider an indexing factor for cut points to change over time

As blocks grow, underlying volatility declines given the law of large numbers, but the relevant cut points to reflect that decline in volatility are likely well above what is currently utilized within the Underwriting Risk formula (e.g., \$3M, \$25M). Given the high prevalence of claimants

reaching costs well in excess of anything contemplated 20 years ago, these cut points should be revised to reflect more relevant block sizes and shifts in volatility.

Model risk factors over an NAIC-defined prospective time horizon with a defined safety level that can be refreshed regularly

Because risk factors are applied to historical claims to calculate capital buffers for losses against future premiums, the updated risk factor analysis should analyze prospective future losses over a defined time horizon. There are a range of defensible time horizons and safety levels that could be utilized within the risk factor modeling. While a one-year time horizon is most common, multiyear horizons could arguably better reflect the underwriting cycle. A range of safety levels could also be reasonably justified. Ultimately, these two modeling elements require regulatory discretion but should be well-defined and generally consistent over time to enable business management.

Refresh of managed care credit formula and factors to be more relevant and reflective of common contracting approaches and other risk factors associated with these contracting approaches

Because many of the common provider contracting mechanisms that existed when the factors were originally created are no longer widely used, an update to the managed care credit would better account for approaches like gain sharing and bundled payments. Additionally, the subcommittee encourage revisiting the bonus calculation for Category 2 claims in light of typical bonus levels available to providers and whether those bonuses have reduced underwriting volatility for health plans.

Analyze long-term care insurance underwriting performance to create a more nuanced set of risk factors that considers pricing changes over time

Because the underwriting environment for LTC insurance policies has undergone multiple somewhat discrete phases, it would likely be appropriate to evaluate LTC insurance underwriting risk charges according to the groups of policy issue years (e.g., before 2000, between 2000 and 2010, after 2010).

6. Potential Next Steps for Working Group Consideration

As a next step, the Subcommittee recommends first focusing on developing new factors on XR013 and XR018/XR019 consistent with recommendations 1 - 6 above. This would involve collecting historical statutory financial data from the analysis of operations by lines of business as well as Exhibit 7 Part 1—Summary of Transactions with Providers. Then, a data analysis exercise would be required to develop risk factors at a range of safety levels for the working group's consideration.

Following that analysis, other underwriting risk factors (e.g., those on XR015 and XR016) could be evaluated utilizing the working group-approved approach—likely with special consideration for LTC insurance.

Thank you for the opportunity to provide this report in response to the request of the working group to provide analysis to perform a comprehensive review of the H2—Underwriting Risk component and the managed care credit calculation within the health RBC formula. We welcome the opportunity to speak with you in more detail and answer any questions you might have regarding this report. If you would like to discuss anything pertaining to this report and its recommendations, please contact Matthew Williams, the Academy's senior health policy analyst, at williams@actuary.org to make arrangements.

Sincerely,

Derek Skoog, MAAA, FSA
Chairperson
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