



# AMERICAN ACADEMY *of* ACTUARIES

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## MARCH 1999 REPORT AND RECOMMENDATIONS REGARDING RBC TREATMENT OF CERTAIN HEALTH INSURANCE PRODUCTS

TO: NAIC HORBC Working Group  
NAIC Life RBC Working Group

FROM: American Academy of Actuaries  
DI/LTC/SL/LB RBC Work Group  
Chair: Burt Jay

DATE: March 3, 1999

### Background:

The NAIC Health Organization and Life Risk Based Capital Working Groups asked the American Academy of Actuaries<sup>1</sup> (AAA) to recommend the treatment and factors that should be incorporated into the MCORBC formula for Disability Income (DI), Long Term Care (LTC) and Stop Loss (SL) coverages sold by the various health organizations to which the MCORBC formula applies. Further, the Academy was asked to recommend any changes to the Life RBC formula which would be required to achieve consistency with the MCORBC formula with regard to these products. The P&C RBC formula is already linked to the Life RBC formula with respect to the treatment of health products. It is therefore expected that any such changes to the Life formula would be reflected in the P&C formula as soon as practicable.

The charge was given to a Work group of the American Academy of Actuaries assembled for this purpose. To facilitate consistency between the formulas, members were selected from both the

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AAA HORBC and Life RBC Task Forces. This group is called the DI/LTC/SL/LB Work Group and is chaired by Burt Jay. Following is the March 1999 Report and Recommendations of the Work Group with specific, more detailed statements from each of the four subgroups representing the four categories of coverages being considered.

Early in the process the DI/LTC/SL/LB Work Group decided to expand their review to include other "limited benefit" (LB) products which were included in the recommendations made to the NAIC by the AAA's HORBC Task Force in 1994 and 1996. These products include cancer and other disease-specific products, hospital indemnity, accident only disability and hospital and AD&D. For a number of reasons, the 1994 and 1996 recommendations for these products were not acted upon. Recommendations for these products should now be considered as a part of the package to maintain consistency between all of the health products and between the two formulas.

### DI Recommendations

For the 1999 Statement year we recommend the use of the C-2 factors in the current Life RBC formula for both the Life and MCO formulas. These factors and directions are provided in the attached report of the DI Subgroup. We further suggest that the formula be changed to combine individual non-cancelable and guarantee renewal coverages into a single two tiered structure as described in the report of the DI Subgroup. The lower \$50 million earned premium tier would be filled with non-cancelable premium first which would have a 35% factor. Any remaining room in the lower \$50 million tier would be filled with guarantee renewable premium and would have a 25% factor. Any remaining individual DI premium in excess of \$50 million would receive a 15% factor.

The DI Subgroup will update the work done prior to the 1994 recommendations with new experience data and refinements to the model. Credit disability and short term disability will specifically be addressed. A detailed work plan is contained in the DI Subgroup's Report calling for preliminary results for exposure by August 1999 and final recommendations for the NAIC by October 1999. These recommendations will be long term and available for adoption for statement year 2000 and beyond.

### LTC Recommendations

For the 1999 Statement year we recommend that the treatment for LTC be the same as that now prescribed for DI in the Life RBC formula. If the NAIC decides to combine non-cancelable and guarantee renewal DI into a single tiering structure, as suggested earlier in this report, it is recommended that LTC be treated in a consistent manner, though it is believed that very little non-cancelable LTC exists. The LTC Subgroup considered the treatment of limited pay and single pay LTC products and the availability of LTC claim reserves in MCO Statements. For reasons provided in the report of the Subgroup it was decided that no special treatment would be recommended for these situations for 1999.

A strong opinion did develop among half of the members of the LTC Subgroup to use smaller factors (85%) for LTC than are now applied to DI Premium. This is not now being recommended

for reasons provided in the Subgroup's report, but the related controversy underscores the need for a strategy of deriving the appropriate long term RBC measures for both DI and LTC for the year 2000 and beyond.

The future plans of the LTC Subgroup is to review the existing model and collect new data by June 1999 and to build a separate alternative model to validate the work of the existing model. The target is to prepare a long-term recommendation before the end of 1999.

#### Stop Loss Recommendations:

For the 1999 Statement year we recommend no change in the Life or P&C RBC formula method. Currently, a factor of 25% is applied to earned stop loss premium in the life formula and in the P&C formula. For the MCOB formula, it is recommended that a separate line be added for stop loss premium to which the 25% factor would be applied.

The SL Subgroup plans to have a long-term recommendation with the associated rationale by June of 1999. This recommendation will be based upon review, analyses and, perhaps, replication of the earlier work done by the Academy's HORBC Task Force.

#### Limited Benefit Coverage Recommendations:

We recommend the following RBC treatment of these coverages for 1999 and beyond:

- I. Hospital Indemnity and Specified Disease  
\$50,000 plus 3.5% of earned premium
  
- II. Accidental Death and Dismemberment
  - +5.5% of the first \$10 million of earned premium plus 1.5% of the earned premium in excess of \$10 million
  - is the smaller of \$300,000 or 3 times the maximum retained risk on a single life
  
- III. Other Accident-Only  
5.0% of earned premium

The attached Report of the Limited Benefits Subgroup includes thorough documentation of the history of the older work that provides the rationale for these recommendations. These recommendations are the same as those presented to the NAIC in a report from the AAA HORBC Task Force dated June 1996, except accidental death and dismemberment, which is characterized by large, infrequent claims, has been separated from other accident-only coverages, which is characterized by small, more frequent claims.

The members of the three AAA Subgroups, DI, LTC and SL, will be continuing their work into 1999, and are looking forward to having this opportunity to serve the NAIC and the profession as they move to the data gathering and modeling phases of their respective projects.

### **DI Subgroup Report**

Dennis Lauzon, Chair Nick Bieter

James Blackledge

Kevin Borchert

William Carter Floyd Chadee      Andy Deitch      Kevin Farley  
 Scott Hagland      Robert Meilander      Timothy PatriaMichael Presley  
 James Reiskytl Al Riggieri      Nicholas Smith      Kenyon Stevenson  
 Leigh Wachenheim

RECOMMENDATIONS

Short term, the Subgroup recommends the use of the C-2 factors in the current Life risk based capital formula for the Life and MCO formulas. Those factors are as follows:

<u>Item</u>	<u>Annual Statement Source</u>	<u>Statement Value</u>	<u>Factor</u>	<u>RBC Requirement</u>
<u>Disability Income Premium</u>				
Noncancellable Disability Income – Individual Morbidity	Earned Premium (Schedule H, Part 1, Line 2, in part) first 50 Million	-----	X 0.350 =	-----
	Earned Premium (Schedule H, Part 1, Line 2, in part) over 50 Million	-----	X 0.150 =	-----
Other Disability Income – Individual Morbidity	Earned Premium (Schedule H, Part 1, Line 2, in part) first 50 Million	-----	X 0.250	-----
	Earned Premium (Schedule H, Part 1, Line 2, in part) over 50 Million	-----	X 0.150 =	-----
Disability Income – Group and Credit Morbidity	Earned Premium (Schedule H, Part 1, Line 2, in part) first 50 Million	-----	X 0.250 =	-----
	Earned Premium (Schedule H, Part 1, Line 2, in part) over 50 Million	-----	X 0.150 =	-----
Claim Reserves	Exhibit 9 Claim Reserves	-----	X 0.050 =	-----

It is being suggested that the factors for individual noncancellable premium and other individual disability income be combined as follows:

Apply the noncancellable factor of 35% to noncancellable premium up to \$50 million, if noncancellable premium is less than \$50 million apply the 25% other individual disability income factor to other premiums up to \$50 million less the noncancellable premiums, apply the 15% factor to individual disability income premium over \$50 million.

The subgroup supports this approach as being more consistent with the application of different factors at different premium levels to reflect statistical risk. The subgroup is neutral as to implementing this change now or waiting to implement it in 2000 when new factors will be recommended.

### BACKGROUND

The DI/LTC/Stop Loss RBC Subgroup had its initial conference on August 27. Burt Jay defined the charge for the Subgroup as reviewing the existing Academy work on both the MCO and Life RBC formulas and developing recommendations for DI, LTC and Stop Loss. At that time the DI Subgroup was formed to address disability income.

Academy staff forwarded the Academy's December 1994 (revised) "REPORT TO THE NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS HEALTH ORGANIZATIONS RISK BASED CAPITAL WORK GROUP" including the appendices to the Subgroup. Much of the subsequent effort was focused on reviewing the data, methodology, modeling and assumptions that resulted in the 1994 report's recommendations.

The Subgroup also discussed the source of the current Life RBC factors, the 1991 "REPORT OF THE INDUSTRY ADVISORY COMMITTEE TO THE LIFE RISK BASED CAPITAL WORK GROUP". The 1991 report has less information and supporting documentation on the disability income risk based capital factors than the 1994 report. It is not possible using the 1991 report for a third party to trace how experience data and judgement were used to arrive at the 1991 recommendations for disability income.

A key difference between the two reports is that the formula in the 1994 report separates short-term and long-term disability, while the Life formula does not. While shorter benefit periods have less risk, the Subgroup did not have any analysis to recommend specific changes. The Subgroup recommends separate factors should be developed for shorter benefit periods as part of any follow up work.

Given the short time frame and unresolved questions, the Subgroup decided the Life RBC factors should be used until a more complete and updated review is available. The Life factors were chosen as the short-term recommendation because they present a more conservative approach since they result in higher requirements than the 1994 work and because they are already in place.

### Plans

The subgroup has begun the process of updating the work done in 1994 in order to recommend new factors for 2000. A tentative work plan is given below.

<u>Step</u>	<u>Time</u>
1. Final Submission of methodology Questions	2/5/99
2. Phone conference to develop working answers to methodology questions	2/12/99
3. Model group outline model changes needed based on methodology	2/26/99
4. Data group to outline data gathering plan	2/26/99
5. Methodology group to report on past practice	2/26/99
6. Conference to review status, timing steps, deliverable to March NAIC.	2/26/99
7. Methodology group to provide pros and cons of open questions	3/13/99
8. Conference to finalize methodology questions	3/19/99
9. Report on model group of work and timing to adjust model	4/2/99
10. Data group to provide plan for gathering data	4/2/99
11. Gather initial data for testing	5/7/99
12. Modify model	5/7/99
13. Conference on work to finish data gathering and model	5/14/99
14. Test model with raw data	5/21/99
15. Prepare June NAIC report – hopefully that model and data are set	5/28/99
16. Scrub data	7/2/99
17. Provide preliminary results	7/16/99
18. Phone conference on initial results and next steps additional analysis needed.	7/23/99
19. Review new work.	8/6/99
20 Prepare preliminary results for NAIC and public comment	8/27/99
21. Consider steps/work to incorporate public comment	9/17/99
22. Prepare final recommendations for NAIC	10/15/97

**American Academy of Actuaries  
LTC Subgroup Report**

**Bob Yee, Chair**  
**Mike Abroe**  
**Linda Ball**  
**Bob Darnell**  
**Mark Dinsmore**  
**Norm Hill**  
**Yang Ho**  
**Roger Martin**

**Dan Nitz**  
**Amy Pahl**  
**Gerald Rankin**  
**Jim Reiskytl**  
**Larry Scheinson**  
**Allen Schmitz**  
**Larry Segal**  
**Marc Slutsky**

**RECOMMENDATION**

The Long Term Care (LTC) Subgroup recommends the following Life and MCO LTC Risk Based Capital formula for the year 1999:

<u>Item</u>	Annual Statement Source	Statement Value	<u>Factor</u>	<u>RBC Requirement</u>
<u>Long Term Care</u>				
<b>Non-cancellable</b> Long Term Care	Earned Premium (Schedule H, Part 1, Line 2, in part) first \$50 Million	-----	X 0.350 =	-----
	Earned Premium (Schedule H, Part 1, Line 2, in part) over \$50 Million	-----	X 0.150 =	-----
<b>All Other</b> Long Term Care	Earned Premium (Schedule H, Part 1, Line 2, in part) first \$50 Million	-----	X 0.250 =	-----
	Earned Premium (Schedule H, Part 1, Line 2, in part) over \$50 Million	-----	X 0.150 =	-----
<b>Long Term Care</b> Claim Reserve	Claim Reserve (Exhibit 9, Line 14, in part)	-----	X 0.050 =	-----

During 1994, a similar subgroup of the Academy HORBC Task Force conducted a simulation study. At that time, there were major concerns about the model and the input data. The designated simulation model expected relatively stable claims experience. Loss ratio data collected was deemed unreliable due to the emergence of the market. As the market was less than ten years old, inconsistent pricing and reserving methods produced wide variability of durational loss ratios within and among the companies. That subgroup recommended that the proposed Individual Disability Income (DI) RBC formula also be used for LTC for the time being.

The current LTC RBC Subgroup considered the possibility of conducting a new survey for data and using a revised model. The Subgroup concluded that the concerns in 1994 still remain. It would also be difficult to collect new inter-company data, scrutinize the model and derive new results within the time constraint of the first quarter of 1999.

In considering the above recommended formula, the subgroup identified four issues as discussed below. The subgroup arrived at a general consensus on all but one issue.

The current NAIC Instructions for RBC do not establish a specific category for LTC. The Instructions state that "Premiums for Long Term Care Insurance should be included for the purposes of the RBC calculation with the line of business with which it is currently reported." The subgroup believed that companies classified LTC either as DI or as medical insurance. The current DI formula is 25% of the first tier of \$50 million of earned premiums and 15% in excess of \$50 million plus 5% of claim reserves.

The subgroup agreed that LTC is more akin to DI than medical insurance for RBC purposes. The subgroup considered the issue of combining individual DI and LTC for the purpose of tiering. The subgroup concluded that the risks associated with LTC are inherently different than the risks associated with DI. The major distinctions where the two product lines have varying degrees of riskiness are: anti-selection, economic environment, over-insurance and underwriting criteria. The subgroup generally agreed that Individual DI and LTC should not be combined for tiering purpose. It was estimated that few companies have significant in force business in both lines and would not be materially affected by the separation.

The second issue is the treatment of limited-pay (including single-pay) LTC policies. During the paid-up period, no RBC will be held if the formula is based on premiums. While there is evidence that this segment of the market is growing, the subgroup recognized that it represents a very small amount of business for most companies. It was noted that these policies have premiums that are significantly greater than annual premium policies. It follows that, for limited-pay policies other than single-pay issued prior to 1999, the RBC based on premiums would produce a larger RBC than the corresponding RBC for annual premium policies. The subgroup concluded that no special treatment is necessary for limited-pay policies for the year 1999.

The next issue is related to the claim reserves segment of the recommended formula. Such tabular reserves may not be readily available from the MCO annual statements. Several MCO health actuaries were consulted. Generally, MCO do not provide typical LTC coverage that is contingent on chronic care. A few MCO have sponsored LTC demonstration projects a number of years ago but they are in a run-off mode today. If a MCO is marketing typical LTC coverage, it would most likely be through an affiliated life insurance company. Any nursing home or home health care benefits currently provided are supplementary to basic hospital expenses. These benefits are short-term in nature and are considered with other medical expenses for claim liability purposes. The subgroup agreed that no adjustment to the recommended formula is needed to compensate for the lack of tabular claim reserves in the MCO statements.

The difference between the relative riskiness of Individual DI and LTC is the final issue addressed by the subgroup. Some members of the subgroup contended that LTC is less risky than DI and therefore should have lower RBC requirements. A proposal was to use 85% of the portion of the guaranteed renewable DI formula based on premiums. The 85% was based on general considerations and not from a detailed analysis.

Some of the arguments for the reduction are as follows:

- LTC experience is not subject to cyclical or economic trends in the same manner as DI.
- The recommended DI formula above \$50 million are the same for non-cancellable and guaranteed renewable policies. LTC is essentially all guaranteed renewable.
- Compared to DI, the stigma of using LTC services, particularly nursing homes, mitigates the likelihood of anti-selection by the applicants.
- LTC applicants are less likely to over-insure than DI applicants.
- Some companies made a good faith interpretation of the current Life RBC requirements and concluded that LTC falls within the category of health coverages that do not anticipate rate increases. This category has an 8% premium factor. The recommended formula may present a hardship.

Some of the arguments against the reduction are as follows:

- LTC has greater pricing risk than DI because morbidity data is less commonly known and established. This is especially true for home health care, assisted living facility and residential care facility coverage as well as new features such as eligibility based on instrumental activities of daily

living, restoration of benefits, preferred rate discount, survivorship benefit, etc.

- Cutback in government programs (e.g., Medicare's recent limitation on home care services) will likely have an adverse impact on LTC claims. There is currently less chance that government programs have a significant effect on DI claims.

The subgroup split evenly on the both sides of the issue. However, based on various communications among the entire work group, the Chair suspected that the general opinion of the entire group would tip against the reduction. The subgroup hopes that the NAIC will carefully consider all the arguments before determining the final formula.

The controversy over the above issue underscores the need for a strategy of deriving the appropriate RBC measures beyond 1999. Based on the experience of the past, the subgroup is skeptical that a permanent formula can be determined during 1999 that can be relied upon for a long period into the future. The charter of this subgroup therefore is to arrive at a reasonable formula that is backed by sound analysis and to set forth a plan for continuous monitoring and refinements in the future.

The subgroup has a tentative plan to conduct a target surplus survey of companies selling LTC in March, begin reviewing of the existing model in April and collect new data by June. A concurrent model may be developed for the purpose of independent validation. Modeling will commence in July with a target of making a recommendation to NAIC by the end of 1999.

## **Stop Loss Subgroup Report**

Tim Patria, Chair  
Darrell Knapp  
Leonard Koloms  
Steve Lippai  
Leigh Wachenheim

### RECOMMENDATION

It is our desire to have a final recommendation for the June NAIC meeting that would apply to years 2000+. The last date available to make a final recommendation is March 2000, and we expect that any foreseeable delays in our work would not push us past this date. The balance of this document describes our recommendation and rationale for the temporary 1999 RBC recommendation.

We have based our temporary recommendation on the currently used Life & Health RBC Formula which is either the same as or more conservative than either the P&C RBC or the MCO RBC. An RBC factor is applied directly to stop loss earned premium to determine the capital requirement.

In working towards the June date, the Stop Loss Subgroup presents the following temporary recommendation for use in 1999 only:

- Life & Health formula - continue with the current method
- P&C Formula - continue with the current method
- MCO Formula - change the current method to break out stop loss

### RATIONALE

#### Life & Health Formula:

The factor should remain at the current level of 25%. At this point there is no immediate evidence suggesting that this should be changed until we complete the peer review of the stop loss factor proposal developed by the health RBC group.

#### P&C Formula:

If a company writes between 5 and 99.999% of its premium in A&H lines the stop loss factor is 25% and if the company writes all of its premium in A&H lines then it must use the L&H RBC formula.

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Stop Loss Subgroup Report

If the company writing A&H premium is fully following the P&C RBC formula, the factor applied to Group Health Stop Loss depends on what annual statement line the premium and losses are coded to. (The P&C annual statement has over 30 "statement lines", such as Auto liability, Fire, Homeowners, Workers Compensation.)

If Group Health Stop Loss is coded to a "write-in" line, then both the premium and reserve factors would be roughly 25 to 30%.

Alternatively, Group Health Stop Loss could be coded as Excess liability. All excess liability gets coded to the "Other Liability" line directly. If coded as Excess Liability, then both the premium and reserve factors would be roughly 25 to 30%. A technical reading of the P&C annual statement instructions seems to require that Group Health Stop Loss be coded to this line, Other Liability, but it is not known whether actual practice is in line with these rules

If instead, the Group Health Stop Loss is coded to the Group A&H line and the A&H business is less than 5% of total business, then the P&C company would treat A&H like any "2-year line". The resulting premium and reserving factors would be roughly 10% to 15%. Note that the exact P&C factors, regardless of the line assignment, would be impacted by historic company loss ratios relative to the industry, company expense ratio and company diversification across lines of business.

In general, the capital requirements would be consistent with the life RBC. Any inconsistencies are likely to be small in amount relative to the property casualty business and will be addressed in a final recommendation.

#### MCO Formula:

Stop loss business is not separately identified in the MCO formula. If we assume an insurer provides stop loss for any specific line of business, it is included in the premium for that line of business, and with the managed care credits, the present factors are much lower than the currently used L&H factor. Therefore, we are recommending a change to the present MCO formula to separately identify stop loss premium and apply the current L&H RBC factor of 25% of earned premium.

We will work with the AAA Health RBC working group to build instructions for this MCO formula recommendation.

## Limited Benefits Subgroup Report

**Bill Bugg, Co-chair**  
**Steve Lippai, Co-chair**  
**Regina Rohner**

### RECOMMENDATION

The Limited Benefits Subgroup has concluded that the recommendations for these coverages contained in the earlier report of the Academy RBC Taskforce are still appropriate and constitute the Subgroup's current recommendation for the two RBC formulas being addressed. This project consisted of several steps, a summary of which is attached.

Also attached is a summary of the recommendations for the Risk Based Capital formulas for these supplemental lines. These recommendations came from the subgroup members, all of whom were involved in the original development work on the HORBC formulas as well as the simplification work. In addition, the Subgroup has reviewed some of the workpapers and files that were created during the development process for both HORBC efforts.

The results of these reviews and discussions indicate general agreement that the earlier recommendations still remain appropriate at this time. However, there are two exceptions to this general agreement. First, in the process of simplification it was determined that the consolidation of the original work into as few factors as possible was extremely desirable. In retrospect, it appears that the spirit of the group's charge may have been carried a bit too far in one specific situation.

The consolidation of accidental death coverages with the other accident-only coverages into a singular formula appears inappropriate. These two types of contingencies have very different risk patterns. Products that provide for a single payment for accidental death, dismemberment, or permanent loss of use have a risk pattern very similar to life insurance. For this type of coverage the frequency is very low and the amount paid on a claim is, generally, quite high. While there is a great deal of volatility in a small block of business, this volatility diminishes rapidly after a certain critical mass has been reached. For the other accident-only coverages the original RBC work did not show any diminishing of volatility based on the amount of business. The contingencies covered under this type of business tend to have much lower maximum benefit levels and much higher claim frequency. The volatility appears to exist independent of the size of the block of business.

Consolidating these two types of accident business seems to be inappropriate since: (1) the risk patterns are different; and (2) many companies specialize in either one type of coverage or the other. There does not appear to be a consistent blend of these coverages between companies. The difference in the capital requirements could be significant for companies with large blocks of either one type of business or the other. Blending the two types of business to a single formula would create an overstatement in capital requirements for certain companies and a significant

understatement in capital requirements for other companies. For this reason, it appears best to keep these two lines separate.

The second exception relates to the development of a new type of specified disease coverage that provides for a single lump sum benefit for certain critical conditions. In general, these lump sum amounts provide for a significant payment of \$25,000.00 or more. These coverages were not very common when the original work was being done. Even now, there is very little experience that could be used to develop the appropriate factors for this type of approach. For that reason, it seems appropriate to include these coverages in with the specified disease products. However, a note should be made that it would be appropriate to review the work when this type of product develops a more significant presence in the marketplace.

**Attachment #1**  
**Development of Limited Benefits HORBC Factors**

The following outline summary of the development of the limited benefits HORBC factors has been prepared.

The project consisted of several steps:

### **Stage 1 – Data Collection & Modeling**

Data [Company data for Accidental Death, Accident Only, Cancer, and Hospital Indemnity / Intensive Care (HIP/HIC)]

Cancer:	5 Companies
HIP:	4 Companies
Accidental Death:	11 Companies
Accident Only:	8 Companies

Adjustment for Inherent Trend

Statistical Removal (statistical variation removed from regression values)

Individual Claim Distribution / Portfolio Distribution – individual claim distributions were used in the modeling process

Model – Milliman & Robertson RBC Simulator 1.2

Iterations: 5,000

Portfolio Sizes:

#### Cancer

5,000; 10,000; 25,000; 50,000; 100,000; and 500,000 lives

#### HIP/HIC

5,000; 10,000; 25,000; 50,000; and 100,000 lives

#### Accidental Death

50,000; 100,000; 500,000; 1,000,000 lives

#### Accident Only

5,000; 10,000; 50,000; 100,000; 200,000; 500,000; and 1,000,000 lives

### **Stage 2 – Reporting of Results & Conversion of Results into Initial Formulas**

Model Output (for a given set of model assumptions):

Probabilities of ruin associated with various surplus target levels

The surplus levels bracketing a 5% probability of ruin were first generated. A 5% probability of ruin was then interpolated from the model output.

Conversion to Initial RBC Formulas:

Cancer

1.65 RV ´ INCURRED CLAIMS for first 5,000 lives

0.78 RV ´ INCURRED CLAIMS on the excess

HIP/HIC

1.20 RV ´ INCURRED CLAIMS for first 5,000 lives

0.78 RV ´ INCURRED CLAIMS on the excess

Accidental Death

$C + (0.56 \text{ RV } \text{ ´ } \text{ EARNED PREMIUM on the first } \$6,000,000 \text{ of premium})$   
 $+ (0.11 \text{ RV } \text{ ´ } \text{ EARNED PREMIUM in excess of } \$6,000,000 \text{ of premium})$

Where C is the smaller of (\$300,000) or (3 ´ the maximum retained risk after reinsurance on any single life)

Excludes FEGLI and SEGLI coverages

Accident Only

0.50 RV ´ EARNED PREMIUM

The results through the second stage were covered in a report presented to the NAIC in December 1994. Among other things the report addressed:

- Considerations in Developing the Formula
- Discussion of Issues
- Description of Models and Data
- Formula Testing and Future Tasks
- Structure of Modifications of Life RBC Formula for Health Organizations
- Modifications of Life RBC Formula for Health Organizations
- Various Technical Appendices

At this point, the HORBC Task Force was asked to simplify the formulas. This led to another stage.

**Stage 3 – Simplification of Initial Formulas & Conversion to A Minimum Amount plus A Percentage of Premium**

Cancer

The proposed simplified formula:

$$[ 35,000 \cdot (RV / 0.09) ] + 0.354RV \cdot \text{EARNED PREMIUM}$$

Simplified formula validated against original formula for consistency

HIP/HIC

The proposed simplified formula:

$$[ 25,000 \cdot (RV / 0.09) ] + 0.31RV \cdot \text{EARNED PREMIUM}$$

Simplified formula validated against original formula for consistency

Finally, the two simplified formulas for Cancer and HIP/HIC were merged into one formula for both lines of business:

$$[ 50,000 \cdot (RV / 0.09) ] + 0.354RV \cdot \text{EARNED PREMIUM}$$

Accidental Death and Other Accident Only

These two lines of business were consolidated in the simplification process into the following formula:

$$C + .06 \times RV \text{ on the first } \$10 \text{ million of earned premium} \\ + .25 \times RV \text{ on the excess earned premium}$$

Where  $C$  is the smaller of \$300,000 or 3 times the maximum retained accidental death risk after reinsurance on any single life.

Testing of final formulas to determine if comparability between the simplified formula and the earlier formula was reasonable and appropriate.

The final simplified formulas were presented to the NAIC and fully documented in a report dated June 1996.

## **Attachment #2**

## RECOMMENDATIONS

### **Risk Based Capital Supplemental Accident & Health Insurance**

#### I. Hospital Indemnity & Specified Disease

Coverages that provide either (1) a pre-determined, fixed benefit or daily indemnity for contingencies based on a stay in a hospital or intensive care facility or, (2) pre-determined benefits or expenses included for cancer and/or other specified diseases.

**\$50,000 plus 3.5% of earned premium**

#### II. Accidental Death and Dismemberment

Coverages that provide a single payment benefit for only accidental death, dismemberment, and/or permanent loss of use.

**C + 5.5% of the 1<sup>st</sup> \$10 million of premium earned  
plus 1.5% of the excess premium earned**

**Where C is the smaller of \$300,000 or 3 times the  
maximum retained risk after reinsurance on any single life**

#### III. Other Accident - Only

Coverages that provide for any other accident based contingencies (short-term disability, medical, hospital, expenses incurred, specified event, etc.) either on a stand-alone basis or in combination with accidental death type benefits.

**5.0% of premium earned**

