

LEARN Presentation

Overview of Reinsurance

Maryland Insurance Administration
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Professional Development

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Overview of Presentation



Outline of Presentation

Life & Health Reinsurance

- Section 1: Types of Reinsurance
- Section 2: Overview of Health Reinsurance Market
- Section 3: Risk Transfer
- Section 4: Reserve Credit Security
- Section 5: Overview of Self-Funded Stop Loss Insurance Market
- Section 6: Health Claims Adjudication & Reserving
- Section 7: Life Reserves 101
- Section 8: Treaty Provisions
- Section 9: Statutory & Economic Reserves
- Section 10: Audits in Healthcare & Reinsurance
- Section 11: HMO & Provider Reinsurance
- Section 12: Impact of Healthcare Reform
- Section 13: Cash Flow Testing & Principles-Based Reserves



Section 1

Types of Reinsurance



Types of Reinsurance

What is Reinsurance?

- Insurance purchased by an insurance company to cover all or part of certain risks on policies issued by that company

Definitions

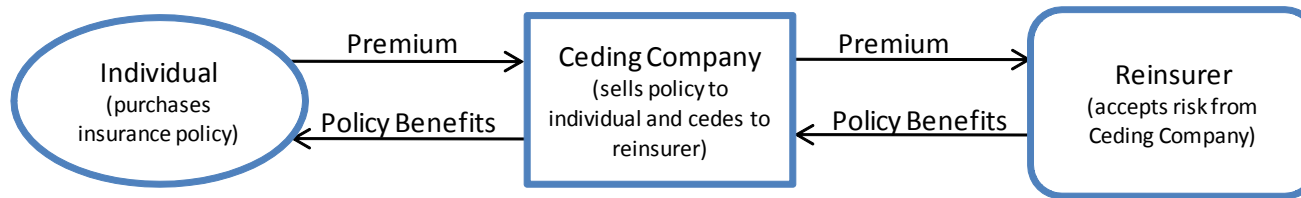
- Ceding company: An insurer which underwrites and issues an original policy to an insured and transfers (cedes) a portion of the risk to a reinsurer
- Reinsurer: A company that contractually accepts a portion of the ceding company's risk



Types of Reinsurance

Typical Reinsurance Structure

- The ceding company sells a policy to an individual and transfers a portion of the risk to the reinsurer



Types of Reinsurance

Why Reinsurance?

- Mortality/Morbidity Risk Transfer: Ceding Company only retains risk up to a certain limit (called retention limit) or as a percentage (called quota share)
- Lapse or Surrender Risk Transfer: Mainly used for products with large first year commissions
- Investment Risk Transfer: Utilize benefits of reinsurer's investment facilities or to shift part of risk to reinsurer
- New Business Financing: Shift costs of acquiring business to reinsurer
- Mergers and Acquisitions: Increase capital through transferring risk of an inforce block
- Underwriting Assistance: Reinsurers can assist with complicated cases and provide facultative reinsurance
- Entering New Markets: Utilize reinsurer's expertise
- Divesting a Product Line: Reinsure inforce business to exit certain businesses



Types of Reinsurance

Why Reinsurance? (continued)

- Increase Profitability of Product: Differences in cost structures between cedant and reinsurer could cause the product to be more profitable when reinsured
- Financial Planning/Capital Management: May need to increase capital levels through reinsurance
- Reduce Volatility of Returns: Reinsurance can reduce the cedant's exposure to large claims
- Tax Planning: Done to maintain Life/non-Life status or utilize an expiring tax loss carry-forward
- Enterprise Risk Management: Reduce concentration of risk or utilize a reinsurer's lower cost of capital



Types of Reinsurance

Coinsurance

- Reinsurance coverage ceded to the reinsurer on an individual policy is in the same form as that of the policy issued to the policyholder
- “Same form” means that the ceding company and reinsurer are exposed to the same risks, they are essentially sharing the responsibility of insuring the policy, hence the name co-insurance.
- Since the cedant generally continues to maintain the policy administration, the reinsurer will allocate a portion of the premium to return to the cedant to cover a portion of these administration expenses.
- In addition to covering the administration expenses, the reinsurer will also return a portion of the premium to the cedant to cover agent commissions and underwriting expenses.
- The total returned premium is called an expense allowance.
- The absolute level of the expense allowance can vary from reinsurer to reinsurer
- The larger the expense allowance, the more attractive the reinsurance quote

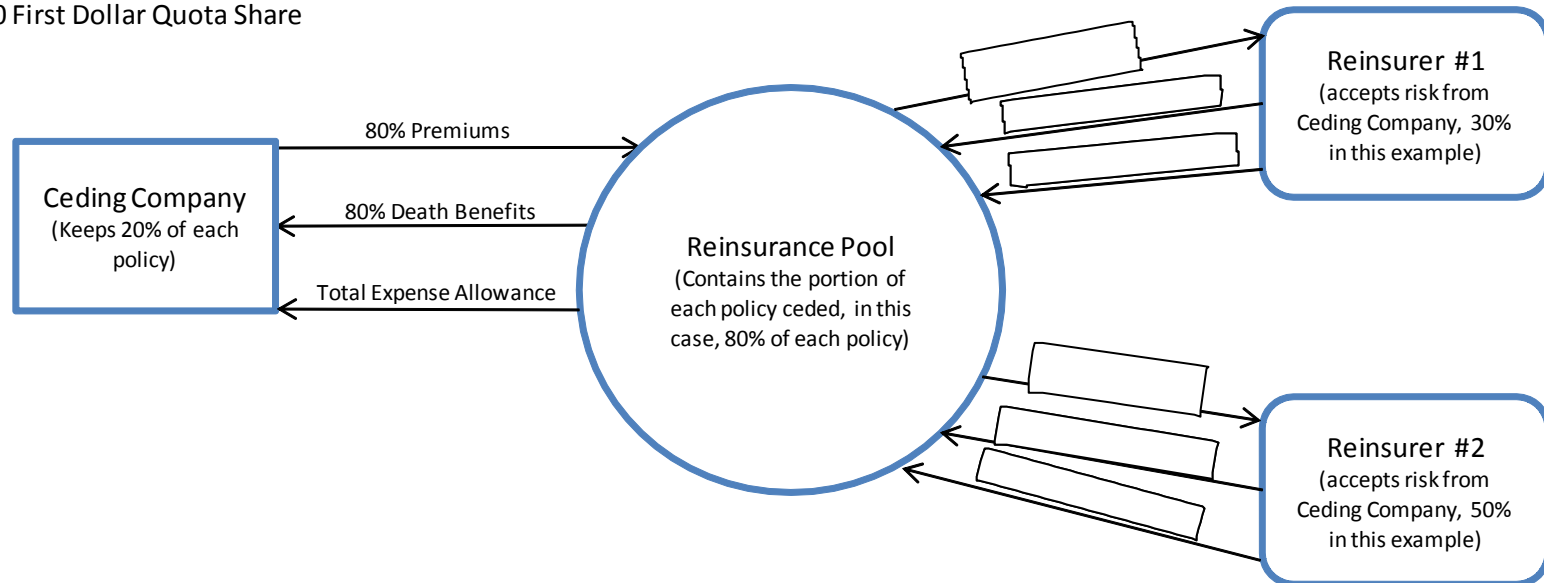


Types of Reinsurance

Coinsurance

- Typical arrangements are for term life insurance where the cedant retains a percentage of each policy and sends the rest of the policy to several other reinsurers through the use of a “pool.”

Coinsurance Example
80/20 First Dollar Quota Share



*The expense allowances will often vary by reinsurer.



Types of Reinsurance

Yearly renewable term (YRT)

- Reinsurance coverage for which the premium rates are not directly related to the premium rates of the original plan of insurance
- The premium rates are typically set as a percentage of an industry mortality table and are multiplied to the Net Amount at Risk (NAAR)
- NAAR is defined as the excess of the death benefit of a policy over the policy reserve
- Since a mortality rates generally increase each year, the premium rates per \$1,000 will be increasing
- There is generally not an expense allowance
- The reinsurers reserves under a YRT arrangement are typically much smaller than those produced under a coinsurance arrangement (to be explained in the reserve section)
- YRT is generally thought of as “mortality only” reinsurance and is one of the cheapest forms of mortality risk transfer



YRT (continued)

- Can easily be utilized for any type of life contract
- Actual rates charged to the cedant are only guaranteed for one year, and the reinsurer has the right to increase rates
- Utilizes a reinsurance pool concept without an expense allowance
- One alternate version of YRT is called zero-first year premium (ZFY)
 - In ZFY reinsurance, no premium is paid to the reinsurer
 - This helps cedants recover a portion of first-year acquisition costs



Inforce vs. New Business

Inforce Reinsurance – Reinsurance agreement on a block of existing business where all policies were written and inforce previous to the effective date.

New Business Reinsurance – Reinsurance agreement which may or may not have policies inforce at inception, but is open to covering new policies written after the effective date.



Differences in Pricing and Treaty Documentation

- **Pricing** - Additional data will often be available for inforce blocks of business allowing for more precise pricing and modeling efforts.
 1. Historical trends on the obligations including premium, claims and surrenders
 2. Experience studies for mortality, morbidity, persistency, and production
 3. Historical portfolio yields (earned and credited)
 4. Term Conversion Experience
 5. Statutory Income and Income by source
- **Treaty Documentation** - Potential for customization of treaty provisions based on whether or not the agreement is open to new business.
 1. Incurred but Not Reported amounts
 2. Effective dates of coverage for inforce and new business production
 3. Caps on new business production - reserves or face amounts
 4. Financial Triggers



What are the Concerns of a Regulator?

- **Solvency** – Potential concerns that the cession of a large block could materially affect, either favorably or unfavorably, the capital position of either party
- **“Fronting”** – To the extent that all of the business or all of a certain product line of a company is being ceded, certain jurisdictions impose limitations and or requirements around the reporting and nature of such transactions.
- **Bulk Reinsurance** – Inforce reinsurance is subject to additional insurance law in some jurisdictions which governs the approval process necessary to cede large books of business under certain conditions.



Section 2

Overview of the Health Reinsurance Market



Who Purchases Reinsurance? (*Accident & Health*)

Insurance Carriers

- Program Managers on Behalf of Carrier Clients
 - Managing General Underwriters (MGUs)
 - Third Party Administrators (TPAs)
 - Marketing Entities/General Agencies

Reinsurers/Retrocessionaires

Captive Insurance Companies

Health Maintenance Organizations (HMOs)

Medical Provider Groups (“Risk Taking”)

Employer Groups (“Self-Funded”)

Disease Management Companies

Accountable Care Organizations (ACOs)



Product Lines Reinsured

(Accident & Health)

Shorter Tail Coverage

- Medical – Traditional, Consumer Driven, Limited Medical
- Pharmacy Only
- Dental
- Vision
- Disability Income
- Group Life and AD&D – Combined with health coverage

Longer Tail Coverage

- Long Term Care
- Long Term Disability
- Medicare Supplement
- Certain Critical Illness & Cancer Policies

Other (Hybrids)

- HMO/Provider Excess Reinsurance
- Accident Medical Coverage
- Self-Funded Stop Loss Reinsurance
- Disease Management Carve-Outs
- Catastrophe Covers



Why Purchase Reinsurance?

“Intellectual Capital”

- Entry into new markets
- Drivers of RBC Formula
 - Premium volume
 - Incurred Claims
 - Reserves

Regulatory Requirements

Remove volatility in results (risk transfer of catastrophic events)

- Mitigate experience on new product offers (quota share)
- Reduce exposure to catastrophic claims (excess of loss)

Leveraged Return on Capital



Reinsurance Structures

Quota Share

Variable Quota Share

Yearly Renewable Term (YRT)

Excess of Loss

- Specific (Per Person) Stop Loss
- Aggregate Stop Loss

Retrospective Premium Adjustments (“Swing Rate”)

Contracts with Maximum Limit Caps

Insolvency Coverage

Letter of Credit

Surety Bond

Parental Guarantees (“Keepwell” Agreement)

• Note: A&H market borrowed many concepts from P&C market!



Reinsurance Terminology

Issuing Carrier/Cedant – Cedes claims to Reinsurer

Reinsurer – Accepts claims from Issuing Carrier

Loss Ratio – Expenses divided by Premium

- Gross vs. Net?

Intermediary (brokerage) fees – if applicable

Bordereaux Reporting

Various parameters may be incorporated to handle reinsurance transaction

- Experience Refund or Profit Commission
- Ceding Commission
- Deductible – Specific (Per Person) Stop Loss
- Attachment Point – Aggregate Stop Loss
- Reserves



History of Reinsurance

Profitable Period (Late 1980's – early 1990's)

Less Capacity

Purchaser less focused on cost of reinsurance

- Smaller “slice of the expense pie”

Impact:

- High medical trend
- Market accepted high premium trend
- High margin allowed room for mistakes
- Reinsured (buyer) less focused on cost of reinsurance



History of Reinsurance

Unprofitable Period (mid 1990's – 2000)

- Many reinsurers experienced poor loss ratios
 - Stop Loss: specific > 125%; aggregate > 200%
 - Too much capacity including reinsurance MGUs
 - Minimal analytics or “denial” analytics
- Major exodus in 1998 & 1999
 - Retrocessionaires lose \$ in pools
 - e.g., Workers Comp, LMX, many other pools
 - True-up of historical reserves for Unanticipated Losses



History of Reinsurance

Unprofitable Period (mid 1990's- 2000)

- Losses were due to a combination of all of the following
 - Capacity in mid 90's significantly greater than the early 90's (Market Pressure drives rates downward)
 - Non-risk-bearing entities (e.g., MGUs) were writing for fee income
 - Uncontrolled expenses
 - Ineffective underwriting and pricing for managed care
 - Sold rates were “materially” below manual rates
 - Reserve strengthening from prior underwriting years
 - Result is significantly more audits by reinsurers of claims and underwriting



History of Reinsurance –

Companies Exit Medical Reinsurance Arena

Many Companies in Market in 90's Out by 2002/03:

- Swiss Re
- Sun Life
- Transamerica Re
- CNA
- Lincoln
- D&H
- General American
- Guardian
- Life Re
- AUL
- ManuLife
- Phoenix Mutual
- Many others

Note: More than 30 companies exited market! Some are back!



History of Reinsurance – Impact of “Disputed” or Litigious Claims on Reinsurance Financials

Disputed claims have become a common practice in reinsurance in late 90's and today due to historical losses

Workers Comp,
LMX, reinsurance
pools

Reinsurers have been assessing the likelihood of legal settlements

Claim
Valuation/Reserving: Art
vs. Science?

Time will tell based
on empirical data
(actual
settlements)

Will influence business
today & going forward



History of Reinsurance – Today

Mixed Results Period (mid 2004 to today)

- Mergers & Acquisitions – Many consolidations
- Growth in limited medical plans
- Still significant stop loss direct writers (>25)
- Limited medical reinsurance capacity for A&H (<5)
 - Limited HMO reinsurance/provider excess writers
 - Limited fully insured quota share capacity
 - Reinsurance MGUs becoming extinct (not direct MGUs)
 - Change in the “finite risk” or financial reinsurance market



History of Reinsurance – Today

Mixed Results Period (mid 2004 to today)

STRATEGIES FOR MANAGING THE BUSINESS

- Implementation of “Pricing Committees” & Better Signoff Process
 - Increased actuarial analytics in the underwriting process
- Attempts to increase “skin in the game” for all parties
- Compression of the expenses in the “food chain”
- Some reinsurers develop an “Exit Re” strategy of running off business



Reinsurance Market - Today

Medical Reinsurers Today

- Axis
- Berkley A&H
- Canada Life (London Life)
- Fairmont Specialty
- Hannover Life Re
- Lloyds of London
- Maiden Re
- Munich American
- Navigators Re (new in 2011)
- Presidio
- Transatlantic
- White Mountain Re
- XL Reinsurance America
- Several others

Others

- Large HMOs
 - Offshore reinsurance or captives
- Many Direct Writers
 - Assuming reinsurance or retro
 - Done for deal-specific reasons
- Other Accident & Health Reinsurers
 - Many in Non-medical business



Current US Life Reinsurers

Based on 2010 Munich Re/SOA Survey

- Ace Tempest
- Canada Life Re
- Employers Re
- Generali
- General Re
- Hannover
- Munich Re
- RGA
- Optimum
- SCOR
- Swiss Re
- Wilton Re



Reinsurance Agreement

Treaty vs. Slip

Inclusions:

- Underwriting Guidelines -- may include MGU provisions
 - May define process for facultative underwriting & “underwriting box”
- Claims Notification – may include TPA provisions
- Reporting Requirements – Bordereaux

Other Provisions:

- Funds Held Provision
- Commutations – Settlement of Liabilities
- “Poison Pills” - Ratings Downgrading, Change of Control
- Exclusions
- Extra-contractual obligations
- Arbitration Clause



Sample Case #1

(Surplus Relief & Leverage Return on Income)

Multi-line insurance company

- Writes \$100 million of annual premiums
- RBC formula requires more than \$40 million in capital
- Underlying business is stop loss insurance for self-funded employers

Reinsurer

- Provides (assumes) 50% of the quota-share
- On paper - \$50 million in premium & the same % of the total risk, 50%.
- Transaction - Quota share w/ sliding scale ceding (administrative expense) allowance
- The profit and income levels of the plan may be achieved based on a sliding scale ceding commission or experience refund component.



Sample Case #1 (Cont.)

Insurance company receives reserve credit since claims reinsured.

Transaction is written on a funds held basis, thereby ceding company has a large working fund to pay underlying claims and administrative expenses.

Company may free up significant capital to manage the business or reinvest into the company (surplus/RBC relief).

Cost may be more efficient than borrowing capital from:

- Venture capital market – Would want ownership plus high costs. May require longer turnaround.
- Parent company – Challenged to allocate capital if competing with w/ ventures and product lines.



Sample Case #1

(Sample Financials – 50% Quota Share Reinsurance)

Results in Millions	<u>Before</u>		<u>Transaction</u>		<u>After</u>
1. Premium	\$ 100.0	-	\$ 50.0	=	\$ 50.0
2. Incurred Claims	\$ 70.0	-	\$ 35.0	=	\$ 35.0
3. Admin. Expenses	\$ 25.0	-	\$ 12.5	=	\$ 12.5
4. Reins. Risk Charge	\$ -	-	\$ 0.5	=	\$ 0.5
5. Experience Refund	\$ -	-	\$ (2.5)	=	\$ 2.5
6. Pre-Tax Profit: (1)-(2)-(3)-(4)+(5)	\$ 5.0		\$ (0.5)		\$ 4.5
7. Capital Requirement - Illustrative	\$ 42.5				\$ 22.3
8. Pre-Tax Return on Capital: (6)/(7)	11.8%				20.2%

Note: Investment income and taxes not illustrated.



Sample Case Study – Multi Year Portfolio

Aggregate Stop Loss (Case #2)

Insurance Company buys a three (3) year aggregate stop loss to smooth earnings.

Goal to handle adverse experience for a non-performing (exiting) line of business.

Years 2 & 3 - Attachment points in at highest level

- Increase with trend (inflation) and prior experience
- Losses carried by reinsurer on its balance sheet for Years 1 and 2.
- Year 2 & 3 - Functions as a “sleep” cover
- Deficit (carry forward) handled through risk charges.

Premium to buy coverage potentially tax deductible to insurance company.



Aggregate Stop Loss - Case #2 (BEFORE Reinsurance)

<u>Results in Millions</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>
1. Premium	\$ 100.0	\$ 125.0	\$ 140.0
2. Incurred Claims	\$ 90.0	\$ 107.0	\$ 120.0
3. Medical Loss Ratio: (2) / (1)	90.0%	85.6%	85.7%



Aggregate Stop Loss - Case #2 (Continued)

Premium = \$2 million per year

Coverage Period = 3 years

Claims Attachment Points

- Year 1 = Coverage for total claims > \$84.5 million
- Year 2 = Above \$120.0 million
- Year 3 = Above \$135.0 million

Maximum Benefit = \$25 million



Aggregate Stop Loss - Case #2 (AFTER Reinsurance)

<u>Results in Millions</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>
1. Premium	\$ 100.0	\$ 125.0	\$ 140.0
1a. Reinsurance Premium	<u>\$ (2.0)</u>	<u>\$ (2.0)</u>	<u>\$ (2.0)</u>
1b. Net Premium: (1) – (1a)	\$ 98.0	\$ 123.0	\$ 138.0
2. Incurred Claims	\$ 90.0	\$ 107.0	\$ 120.0
2a. Reinsured Claims	<u>\$ (5.5)</u>	<u>\$ -</u>	<u>\$ -</u>
2b. Net Incurred Claims: (2) – (2a)	\$ 84.5	\$ 107.0	\$ 120.0
3. Loss Ratio: (2b) / (1b)	86.2%	87.0%	87.0%
4. Loss Ratio Improvement from Coverage	3.8%	-1.4%	-1.2%



Section 3

Risk Transfer



Identifying and Defining Risk Transfer

***Risk Transfer** is the equitable transfer of all significant risks and responsibility for payment of future benefits, from the cedant in exchange for reserve credit, to the reinsurer in exchange for compensation.*

- Identifying what constitutes appropriate or sufficient risk transfer is a problem for both regulators and companies alike.
- Definition is often left to the discretion of the state regulator, resulting in disagreement and potential inconsistency.
- Some states have implemented specific regulations or legislation to address the issue, but it is difficult to define all situations in advance.



Statutory Requirements

- In order for a ceding company to take statutory reserve credit, the reinsurance agreement must meet the following requirements:*
- 1. Renewal expense allowances to the ceding company by the reinsurer must be sufficient to cover anticipated renewal expenses of the ceding company on the portion of the business reinsured. (In some jurisdictions, a liability may be established for the present value of the shortfall.)
- 2. Reinsurer cannot deprive cedant of surplus or assets (for example, by termination of in force reinsurance) automatically upon the occurrence of some event (except for nonpayment of reinsurance premiums or other amounts due.)
- 3. Reinsurer cannot require the ceding company to reimburse the reinsurer for negative experience under the agreement. Offsetting experience refunds against current and prior years' losses or payment of an amount equal to the current and prior years' losses upon voluntary termination by the ceding company shall not be considered such reimbursement.

*Assumption reinsurance is exempt from these requirements. YRT agreements are subject to items 2, 3, 4, 8, 9, and 10; non-proportional agreements must not contain provisions that protect the reinsurer from incurring a loss.



Statutory Requirements (cont.)

4. No automatic recapture can be scheduled in the treaty.
5. Reinsurance payments must only come from income realized by the reinsured policies. (Reinsurance premiums should not exceed direct premiums collected by the ceding company.)
6. The treaty must transfer all the significant risks of the reinsured business. Such risks include: morbidity, mortality, lapse, credit quality, reinvestment, and disintermediation.
7. For business with significant asset risk, underlying assets must either be transferred to the reinsurer or legally segregated by the ceding company. (Some specified health and life business assets may be held by ceding company without segregation.)
8. Settlements made at least quarterly.
9. Ceding company must not be required to make representations or warranties about the future performance of the business reinsured or that are not reasonably related to the business reinsured.

*Assumption reinsurance are exempt from these requirements. YRT agreements are subject to items 2, 3, 4, 8, 9, and 10; non-proportional agreements must not contain provisions that protect the reinsurer from incurring a loss.



Statutory Requirements (cont.)

10. The reinsurance agreement should not be entered into for the principal purpose of producing significant surplus aid, typically on a temporary basis, while not transferring all the significant risks inherent in the business reinsured (i.e. the expected liability to the ceding company remains unchanged.)
11. Amendment or binding letter of intent must be executed prior to the date of the financial statement. In the case of a letter of intent, the agreement must be executed within 90 days.

*Assumption reinsurance are exempt from these requirements. YRT agreements are subject to items 2, 3, 4, 8, 9, and 10; non-proportional agreements must not contain provisions that protect the reinsurer from incurring a loss.



What is Financial Reinsurance?

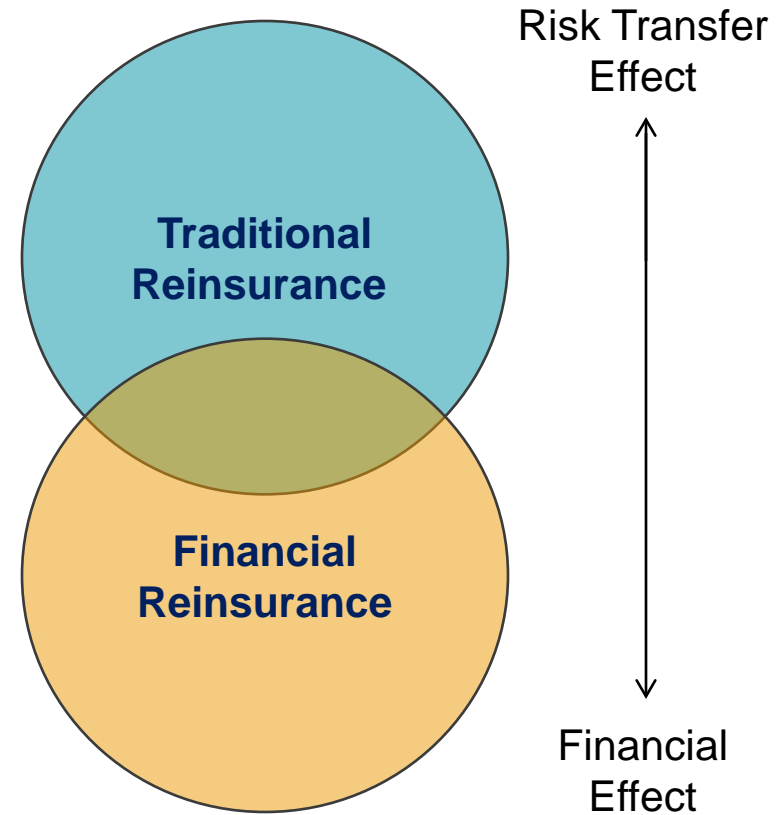
Financial Reinsurance: A type of reinsurance transacted for the purpose of achieving a desired effect on the ceding company's financial statements, e.g. to improve the balance sheet position.

Traditional Reinsurance: The transfer of insurance risks from the ceding company to the reinsurance company, to reduce the risk and volatility in the ceding company's results.



Financial Reinsurance vs. Traditional Reinsurance

- Both Financial and Traditional Reinsurance achieve risk transfer and financial objectives.
- Financial Reinsurance is best defined according to the intent of the transaction.



Implications of Financial Reinsurance

- Risk Transfer from GAAP sense and a STAT sense differ.
- Deposit Accounting vs. Reinsurance Accounting
- FASB No. 113 – Treaty must contain uncertainty as to both the underwriting result (claims) and the timing of payments. There must be “the reasonable possibility that the reinsurer may realize a significant loss from assuming” the reinsurance.
- “Reasonable Possibility” is subject of much confusion and no clear standard exists.



Challenges for Financial Reinsurance Products

- Management expectations for “consistent” profits balanced w/ comfort level of type of product
- Competing for capital with true-risk product lines
- Developing new products to meet reinsurance needs with limited data availability/accessibility
- New & Changing Regulatory Environment
- Addressing any political concerns of entering into product lines that may not be favored by senior management



Section 4

Reserve Credit Security



What risk does reinsurance introduce?

- Recall that the purpose of reserves is to help the insurance company honor its commitments to the policyholder
- When a reinsurance arrangement is entered, the insurance company transfers a portion of the risk to the reinsurer
- Even though a portion of the risk is transferred, the insurance company is still liable to the policyholder
- This is true even in the event of a reinsurer insolvency
- Because the reserve provides additional protection to the policyholder, the insurance company needs to have certainty that it can access the assets backing the reserve in the event of a reinsurer insolvency



Reserve Credit Security

What does Reserve Credit mean?

- When an insurance company sells a policy to a policyholder, it will need to hold a reserve to ensure payment of death benefits
- When the insurance company cedes a portion of the risk through reinsurance, the insurance company will be able to reduce the amount of reserves it needs to hold, given that certain conditions are met by the reinsurer
- Example: Assume that the insurance company enters into a 80/20 First Dollar Quota Share coinsurance arrangement.
 - If the reinsurer has met certain requirements, the insurance company can offset the liability it needs to hold to \$200
 - If the reinsurer has not met the requirements, the insurance company will not be able to reduce its required reserve and will hold \$1,000.

Policy Reserve without Reinsurance	\$	1,000
Reinsurer's Reserve - 80% First-Dollar Quota Share Coinsurance		<u>800</u>
Ceding Company Reserve - with Reserve Credit		200
Ceding Company Reserve - without Reserve Credit		1,000



NAIC Model Act on Credit for Reinsurance

- Establishes conditions that a reinsurer must meet in order for a domestic ceding company to take credit for reinsurance, either as an asset or as a reduction in liability for reinsurance ceded.
- Credit is allowed under the following conditions:
 - Reinsurer is licensed in the state
 - Reinsurer is accredited as a reinsurer in the state.
 - Reinsurer is domiciled and licensed in a state that has substantially similar standards as the Model Act
 - Reinsurer maintains a trust for the payment of claims
 - If any of the above items are not met, credit can be taken if:
 - The insurance contract was written in a jurisdiction where such reinsurance is required by law
 - The reinsurer agrees to submit to a US court in the event that it fails to perform
 - The reinsurance contract utilizes a funds withheld arrangement
 - The reinsurer provides a clean, irrevocable, unconditional letter of credit by a qualified US institution



Schedule S - Ceded Reinsurance Reporting Requirements

- NAIC Company Code
- Federal Tax ID
- Effective Date
- Name of Reinsurer
- Domicile of Jurisdiction
- Type of Reinsurance Ceded
- Is (Re)Insurer Authorized (Y or N)?
- Letters of Credit, Assets in Trust, Funds Withheld



Authorized/Unauthorized Reinsurer

- Authorized Reinsurer
 - Either licensed or accredited in the ceding company's state of domicile or a state with substantially similar laws as the ceding company's state.
 - Licensing: Obtain a certificate of authority from the state that specifies the lines of business that the company is licensed to write.
 - Accreditation: (all 4 must be met)
 - Meets the financial conditions of the ceding company's state of domicile
 - Is licensed in one state
 - Submits to that state's jurisdiction
 - Senior management is of acceptable character



Authorized/Unauthorized Reinsurer

- Unauthorized Reinsurer
 - Neither licensed or accredited in the ceding company's state of domicile
 - State Regulatory Concerns
 - No jurisdiction over unauthorized reinsurers
 - Difficult to enforce contractual reinsurance benefits
 - No control over the financial condition of unauthorized reinsurers
 - Upon reinsurer insolvency, the ceding company's financial position could be severely impaired



Authorized/Unauthorized Reinsurer

- Unauthorized Reinsurer
 - As stated in the Model Act, unauthorized reinsurers are required to provide security through:
 - Assets in Trust or escrow accounts
 - Letters of credit
 - Funds withheld
 - This additional security allows ceding companies to take credit for the reserves that the reinsurer is contributing



Reserve Credit Security Provided by Unauthorized Reinsurers

- Assets in Trust and Escrow Accounts
 - The beneficiary , normally the ceding company, must have a right to withdraw assets from the trust account at any time without notifying the reinsurer
 - Assets deposited in the trust must be valued according to their current market value
 - The assets must consist of only the following:
 - Cash
 - Certificates of Deposit
 - Investments as specified by the individual State's Insurance Code
 - The reinsurance agreement may state that the trust assets could be withdrawn only for reimbursing the ceding company for amounts due from the reinsurer



Reserve Credit Security Provided by Unauthorized Reinsurers

- Letters of Credit
 - A letter of credit (LOC) is a document issued by a qualified bank on the orders of one party which provides that the beneficiary will be able to withdraw funds up to a specified limit
 - Rules covering the use of letters of credit in reinsurance vary from state to state
 - Section 11 of the Credit for Reinsurance Model Regulation state that LOCs must be:
 - Clean: Beneficiary only needs to present a demand for payment
 - Unconditional: There can be no further qualifications outside of the letter of credit
 - Irrevocable: Can be modified only with consent of both parties
 - Evergreen: The LOC will renew automatically unless the issuing bank gives advance written notice of non-renewal



Reserve Credit Security Provided by Unauthorized Reinsurers

- Funds Withheld Reinsurance
 - This is a form of reinsurance where the assets are left on deposit with the ceding company
 - These assets on deposit can originate from amounts due to the reinsurer or from a deposit from the reinsurer
 - The amount of the deposit should be at least equal to the reserve credit to be taken
 - This is an acceptable form of security since the ceding company has control of the assets



Reserve Credit Security

Proposed NAIC Model Regulation 786-072611 Collateral Requirements

- The commissioner shall allow credit for reinsurance ceded by a domestic insurer to an assuming certified (re)insurer...
- The credit allowed shall be based on security held...in accordance with a rating assigned to the (re)insurer by the commissioner...

Rating	Security Required
Secure – 1	0%
Secure – 2	10%
Secure – 3	20%
Secure – 4	50%
Secure – 5	75%
Vulnerable – 6	100%



Reserve Credit Security

Proposed NAIC Model Regulation 786-072611 Collateral Requirements

- The assuming (re)insurer must maintain financial strength ratings from **two or more** rating agencies acceptable to the commissioner...
 - Standard and Poor's
 - Moody's Investor Service
 - Fitch Rating
 - A. M. Best Company, or
 - Any other Nationally Recognized Statistical Rating Organization



Reserve Credit Security

Proposed NAIC Model Regulation 786-072611 Collateral Requirements

- The maximum rating assigned will correspond to the financial strength (FS) rating...the lowest such FS rating received from the two or more rating agencies will determine the maximum rating assigned by the commissioner

Rating	Best's	S & P	Moody's	Fitch
Secure - 1	A++	AAA	Aaa	AAA
Secure - 2	A+	AA+, AA, AA-	Aa1, Aa2, Aa3	AA+, AA, AA-
Secure - 3	A	A+, A	A1, A2	A+, A
Secure - 4	A-	A-	A3	A-
Secure - 5	B++, B+	BBB+, BBB, BBB-	Baa1, Baa2, Baa3	BBB+, BBB, BBB-
Vulnerable - 6	B, B-, C++, C+, C, C-, D, E, F	BB+, BB, BB-, B+, B, B-, CCC, CC, C, D, R	Ba1, Ba2, Ba3, B1, B2, B3, Caa, Ca, C	BB+, BB, BB-, B+, B, B-, CCC+, CCC, CCC-, DD



Reserve Credit Security

Proposed NAIC Model Regulation 786-072611 Collateral Requirements

- In case of a downgrade...the commissioner shall assign a new rating in accordance...
 - Meet the security requirements of the new rating **for all business**
- In the case of an upgrade...the commissioner shall assign a new rating in accordance...
 - Meet the security requirements of the **new rating on prospective basis**
 - Maintain security requirements of **previous rating for all contracts in force**
- What happens to intervening reserve credit for reinsurance in the case of downgrade?
 - Current language implies the ceding company **can not take reserve credit until security requirements are met**
 - Would require reposting of reserves and capital
 - NY language gives commission discretion to allow ceding company to continue to take reserve credit as long as reinsurer can meet benefit obligation



Section 5

Overview of Self-Funded Stop Loss Insurance Market



Self-Funded Stop Loss – Marketplace

- **Food Chain of Entities**

- Employer – Single or Multi
- TPA
- MGU
- Reinsurance Broker
- Retrocessionaire
- Broker/Consultant
- Vendor(s)
- Carrier/HMO
- Reinsurer

- **Stop Loss Writers (Examples)**

- Symetra
- Houston Casualty Company
- HM
- Gerber
- Sun Life
- WR Berkley

← *Currently there are over 25 markets for stop loss insurance writing in excess of \$4 billion in “street” premium.*



Market Breakdown

- Some carriers specific to a market (not in all 50 states)
- Others may be exclusive to a product segment
 - Group Size
 - Industry (e.g., must have collective bargaining)
 - Specific to their HMO for self-funding
 - Product Offering
 - Other
- Sample Markets
 - Insurance Carriers – Some carriers may front and use MGUs
 - Some may be reinsurers or retrocessionaires
 - Managing General Underwriters (MGUs)
 - Some may take risk through a captive



Self-Funded Stop Loss – Sample Carriers

Aetna	Independence Holdings - Standard Security/Madison Life/IAIC
AIG / AIU / Chartis	Markel Insurance Company
Allina / Medica Insurance Company	Nationwide
Allstate	Nippon Life Insurance Co of America
Amalgamated Life Insurance Co	OneAmerica / AUL
American Fidelity Assurance Co.	OneBeacon
American National	Optimum Re
BCS Insurance	OptumHealth Specialty Benefits (United Healthcare)
Berkley Accident & Health	Presidio
Best Life (US Fire & Best Life)	QBE the Americas
Blue Cross (many different plans)	RGA (ING/Reliastar Life Insurance Co.)
CIGNA	Sun Life Financial Employee Benefits Group
Companion Life	Swiss Re (ERC)
Coventry Health Care of Louisiana, Inc.	Symetra
Everest Reinsurance Corporation	Trustmark Insurance Co.
Fairmont Speciality Group	Union Labor Life
First Rehabilitation Life	United Healthcare
Gerber Life Insurance Co.	Wellmark Inc
HCC Life Insurance Co.	Wellpoint / Anthem
HM Insurance Company	Zurich
Humana / Kanawha Insurance Company	

Note: An illustrative list. This list may not be complete or 100% accurate!



Self-Funded Stop Loss – Sample MGUs

Alliance Underwriters

ASG Risk Mgmt

Bardon Insurance Group

Beacon Risk Strategies LLC

Cairnstone

Donnelly Skrtich Underwriters, LLC

East Coast Underwriters

Elite Underwriters

Equinox Management Group

Excess Health Inc

Excess Re Underwriters

Intermediary Insurance Services, Inc. (IISI)

International Assurance of Texas

International Risk Consultants (IRC)

International Specialty Underwriters

IOA Re

J. Allan Hall

MRM

New York Underwriters

Niagara Re

Orien Risk Analysts

RMTS

Spectrum

StarLine Group

Stop Loss Concepts

Strategic Underwriting Solutions

Summit Reinsurance Services Inc

TPAC

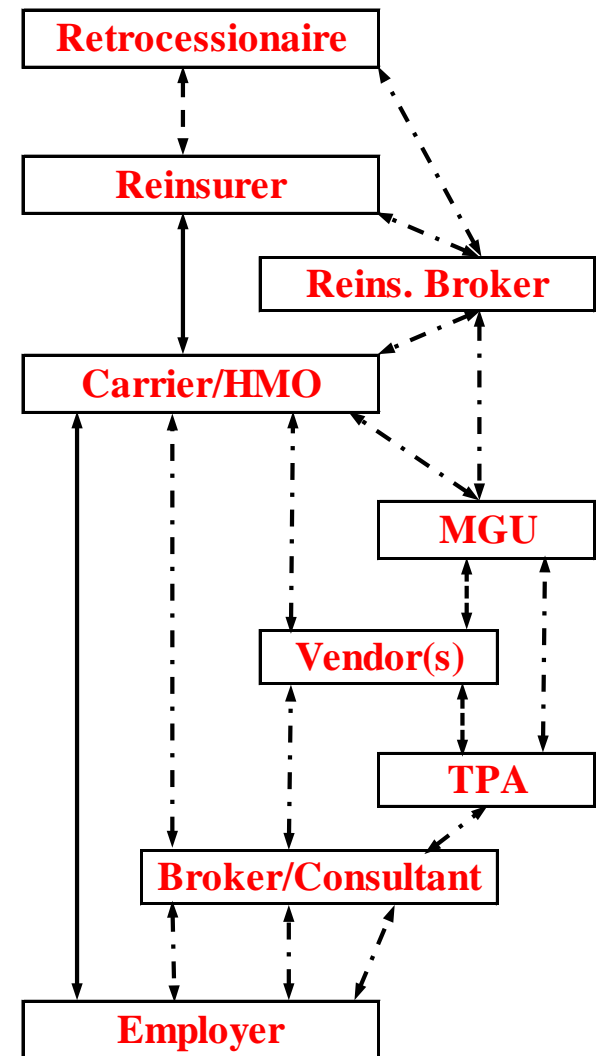
Vista Underwriting Partners, LLC

Note: An illustrative list. This list may not be complete or 100% accurate!



“The Food Chain”

- Employer contracts with issuing carrier/HMO
 - Directly or through Broker/Consultant
 - Employer – Single or Multi-Employer Group
 - Fully insured arrangement
 - Self-funded: specific and/or aggregate stop loss
- Carrier/HMO’s administration options
 - Provided directly to employer group
 - Outsource admin and/or marketing through TPA
 - Outsource other functions (disease management, wellness, etc.)
 - Outsource underwriting through MGU
- Reinsurer assumes risk from carrier (direct or through reinsurance broker)
- Multiple reinsurers/retrocessionaires



Food Chain – TPA

Traditional TPA

- Contract with provider network (PPO) and employer group.
- Direct relationship with self-funded employer group.
- Receives administrative fee on a per EE basis or % of premium.
- Pays claims and places stop loss reinsurance for fund.
- Medical management services directly or through another vendor.
- Provides reporting to fund, MGU, Carrier/Reinsurer.

ASO (UHC, Cigna, Aetna, BCBS)

- Contract with employer group.
- Direct relationship with employer group or its broker/consultant.
- Receives administrative fee on a per EE basis.
- Provides stop loss directly to fund or shopped by broker/consultant.
- Network management and claim payment.
- Provides reporting to fund, MGU, Carrier/Reinsurer.
- Have their own stop loss product.



Food Chain – MGU

Retail MGU

- Contract with Issuing Carrier of stop loss reinsurance.
- Underwrites stop loss reinsurance for self-funded employer (spec/agg.)
- Business referred by TPA or may have own distribution.
- Receives fee on a % of premium basis with potential profit commission.
- Adjudicates retail stop loss claims.
- Marketing/broker credentialing.
- May handle reinsurer reporting for Issuing Carrier.

Reinsurance MGU

- Contract with Reinsurer.
- Underwrites blocks of stop loss reinsurance business written by Carrier/TPA/MGU.
- Business referred by Reinsurance Intermediary.
- Receives fee on a % of premium basis with potential profit commission.
- Adjudicates reinsurance claims.
- Handles reinsurance/retrocession reporting.
- Audits of underlying MGU/Issuing Carrier.



Food Chain – Reinsurance Broker

Places reinsurance between carrier, reinsurer and retrocessionaire(s) if applicable

- Quota Share, Portfolio Excess (specific, aggregate, etc.)

Receives fee on a % of premium basis

- Fees potentially included as part of ceding commission

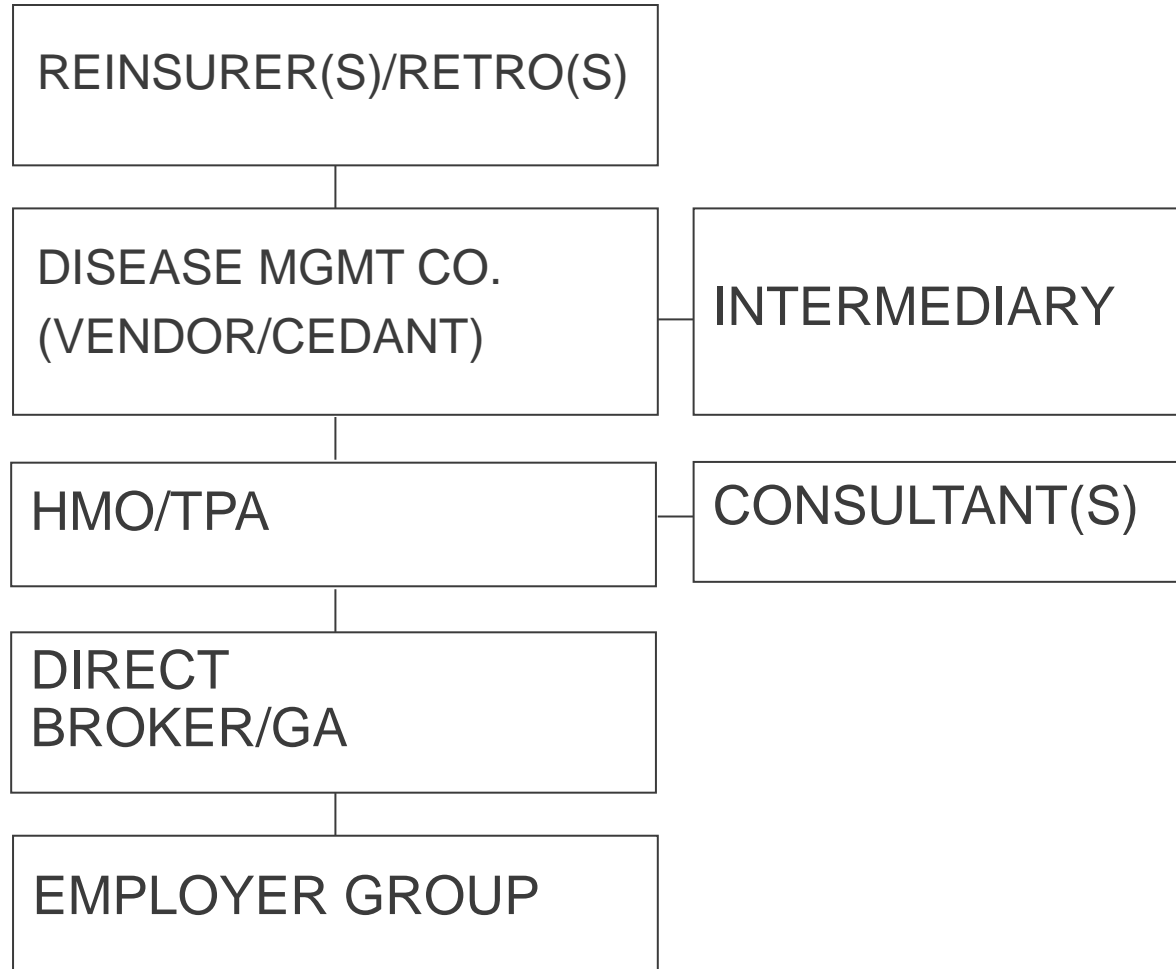
May be responsible for bordereaux reporting to reinsurer(s) and retrocessionaire(s)

May handle reinsurance agreement/contract development

May prepare reinsurance slip or treaty



Food Chain – Vendor



Product Considerations – Self-Funding vs. Fully Insured

- Benefits of Self-Funding
 - Avoid state mandated benefits
 - Avoid premium tax and certain profit margins
 - Flexibility in plan design (and administration) across state borders
 - Flexibility in program design (unbundled administration)
 - Simplify collective bargaining having one set of benefits
- Benefits of Fully Insured
 - Cost predictability (less volatility)
 - Potential ease of administration (fewer parties)



Product Considerations – Risk Mitigation Strategies

Underwriting tools

- Aggregating specific deductibles (ASDs)
- Lasers
- Swing rates
- Captive Insurance Companies

Marketing

- Single Employer, Multi-employer, PEOs and employee-leasing firms
- Associations & Fraternal Organization
- Retiree Medical: Potential FAS 106 or GASB 45 Solutions for OPEB

Underlying benefit plan design

- Consumer-driven and mini-med plans
- Carving out certain benefit categories, e.g., Rx or transplants
- Different cost sharing arrangements, e.g., monthly deductibles
- Can TPA/carrier administer plans as written or priced?

Risk mitigation requires
more sophisticated
modeling



Risk Mitigation Strategies – Aggregating Specific Deductibles (ASDs)

Additional deductible or retention for ceding company

- Functions as cost shifting exercise to reduce premium

Unique to per person excess of loss coverage

Lowers plan costs

- After reaching individual deductibles, claims not paid until exceeding an additional aggregate deductible
- Used to offset rate (inflation) increases

Aggregating Deductible traditionally a multiple of deductible (e.g., 2, 3 or 4 times specific deductible)



Risk Mitigation Strategies –

Lasers

Additional deductible or retention for ceding company, *for specifically identified individual(s)*

- Functions as cost shifting exercise to reduce premium
- Lowers plan costs by increasing individual deductibles
- Underwriting tool to combat anti-selection, separating “known” versus “unknown” risk
- Traditionally on new business, but becoming common on renewals as well

May be viewed negatively by some market participants

- “Singling out individuals is not insurance”
- The alternative might be reinsurers not quoting or rating up to cover this non-lasered cost

Lasers may be placed separately or in combination

- Combination lasers may resemble ASDs or be contingent upon factors such as loss ratio



Product Considerations – Disclosure Statements

What information is requested on a disclosure statement?

- Individuals currently disabled or confined in a medical facility/hospital
- Individuals pre-certified within the last three months.
- Individuals that received medical services during the current plan year the cost of which exceeds the lesser of, 50% of the lowest Specific Retention Amount applied for or \$50,000, and for which bills have been received and processed by the by the Claims Administrator (TPA) and entered into their Claims System.
- Individuals that have been identified as a candidate for Case Management and as having the potential to exceed during the policy period, the lesser of, 50% of the lowest Specific Retention Amount applied for, or \$50,000.
- Individuals that have been diagnosed, during the current plan year, with a condition represented by any of the ICD-9 codes contained in the attached list and have also received medical services costing \$5,000 during the same period.



Product Considerations – Common Product Features

- Specific Advanced Funding – cash flow assistance for specific stop loss claims once specific deductible has been paid in full.
- Specific Terminal Liability – provides paid claim run-out protection on specific stop loss if the employer terminates stop loss policy.
- Aggregate Accommodation – cash flow assistance for aggregate claims in the event year-to-date paid claims exceed the year-to-date aggregate attachment point.
- Aggregate Terminal Liability – provides paid claim run-out protection on aggregate claims if the employer terminates stop loss policy.
- Contract Basis – defines dates of service and payment periods (e.g., 12/15 is incurred in twelve months, paid within fifteen months).



Product Considerations – Risk Attaching vs. Incurred Contract

- Risk Attaching – duration of risk responsibility within a treaty year of reinsurance contract based on employer effective dates.
 - Treaty year 2009 reflects all employers groups written between 1/2009 – 12/2009.
 - Paid claim risk could extend out to 11/2011. Here's how...
 - Employer group effective 12/2009 to 11/2010 with a Contract Type of 12/24 (incurred in 12 paid in 24.)
 - Total of 35 months before one treaty year is complete.
 - Most typical reinsurance contract between a carrier and reinsurer
- Incurred – duration of risk responsibility within a treaty year of reinsurance contract based on date of service (incurred date.)
 - Treaty year 2009 reflects all claims with a date of service between 1/2009 – 12/2009.
 - Treaty year complete when last payment of 2009 incurred claims is made.



Pricing Considerations – Pricing Components

Specific Stop Loss

- Starting claim cost by deductible
 - Manual
 - Actual experience

The higher the deductible the less likely rate based on experience as not typically credible.
- Broker commissions
- Premium tax (if applicable)
- Fees (issuing carrier, reinsurer, MGU, intermediary, TPA)
- Profit and contribution to margin (surplus/RBC)

Aggregate Stop Loss

- Starting claim cost
 - Manual
 - Actual experience

Aggregate will very rarely be quoted without experience. Manual claim cost may or may not be used depending on the case.
- Aggregate corridor – 125%
- Premium based on final expected claim cost.
- Similar retention used in specific rating applied to aggregate premium.



Pricing Considerations – Underwriting Considerations

Changes in plan designs – underlying and stop loss

- Impact from behavioral changes due to consumer driven health plans?

Changes in plan administration – network, TPA, marketing

- Will changes effect integration and efficiency?

Sufficiency and appropriateness of data being used

Quality of reporting being utilized for underwriting

Claim run-out consistency

Stop loss carrier consistency

- Does group change stop loss carrier every year?



Pricing Considerations – Underwriting (cont.)

Appropriate reserving methodologies

- Chain ladder method (development/completion factors)
- Bornhuetter Ferguson method – combines results from chain ladder method with expected claim loss ratios.

Appropriate claim frequency & severity distributions

- Has the frequency of claims at different claim intervals changed?
- Has the severity or intensity of these claims changed?

Preferred networks (special underwriting credit?)

- Strength of geographical discounts
- Adequate access to network providers
- Tertiary networks or “Centers of Excellence”



Pricing Considerations – Underwriting (cont.)

Preferred vendors (special underwriting credit?)

- Brokers
- TPAs
- PPO Networks
- Disease management programs
- Wellness programs

Adequate pricing assumptions

- Starting claim cost
- Contract basis (12|15, Paid, etc.)
- Demographic adjustments
- Industry and geographical adjustments
- Leveraged trend?



What is “Leveraged” Trend?



Leveraged Trend (Example)

- 2010

Ground-up claim = \$100,000

Specific deductible = \$50,000

Claim in excess of deductible = \$50,000

1st dollar trend = 13.5%

- 2011

Ground-up claim = \$113,500 ($\$100,000 * 1.135$)

Specific deductible = \$50,000

Claim in excess of deductible = \$63,500

Trend on excess portion of claim = 27.0% ($\$63,500 / \$50,000 - 1$)



What is Spaggreggate?

- Self-funded product
- Some characteristics of fully insured (e.g., premium is fully funded to maximum level)
 - Fixed premium payments to cover claims fund, administrative expenses (TPA, PPO, etc.), stop loss insurance
 - Potential for experience refunds for favorable experience
- No specific stop loss insurance deductible though stop loss carrier may have internal pooling points and risk charges
- Benefits:
 - Lower carrier risk charges and lower premium tax
 - Potential for lower administrative expenses (TPA, PPO, UR, etc.)
 - More flexibility in benefits (ERISA)



What is Spaggreggate?

■ Challenges:

- Limited number of markets available
- Broker education
 - Understanding the product
 - Communication to Employer Groups
 - Compensation: Payment of commissions/consulting fees to brokers
- Challenge of being competitive with fully insured HMOs
 - HMOs traditionally have “deeper” discounts and lower cost structure
- Not fully “battle” tested
 - Industry has not seen impact of litigious events yet.
 - Industry familiar with minimum premium products but not maximum premium products



Other Stop Loss Initiatives

- Captive Insurance Companies
 - Stop Loss carriers may participate by either structuring a reinsurance agreement back to captive
 - Captive might assume layer prior to stop loss carrier
 - Layer 1: Employer
 - Layer 2: Captive Insurance Company
 - Layer 3: Stop Loss Carrier (catastrophic layer)
- Risk Retention Groups – More Popular in Other Product Lines



Pricing Considerations – Sample Stop Loss Data Request

- Description of Employer Group – name, address, # EEs, nature
- Requested Stop Loss Contract – effective date, specific deductible, maximum limits, contract type (12/15), services to be covered (medical/Rx), coverage desired (specific & aggregate or spec only.)
- Groups current coverage including in-force deductible, rates & factors, carrier and TPA name.
- Large claim report with claims paid or pending in excess of 50% of specific deductible requested including diagnosis/prognosis.
- 2-3 years first-dollar claim and enrollment history.
- Current census listing of all participants under the plan.
- Current plan document and schedule of benefits
- Managed Care information including PPO network, utilization review, case management, disease management, etc.



Section 6

Health Claims Adjudication & Reserving



Claim Adjudication – Claim Recovery Data Request

Specific Stop Loss

- Individual claimant claim backup
- Case management notes
- Proof of eligibility
- Disclosure provided (if ongoing claimant)
- Summary of network contracts
- Confirmation of coordination of benefits (COB) and subrogation

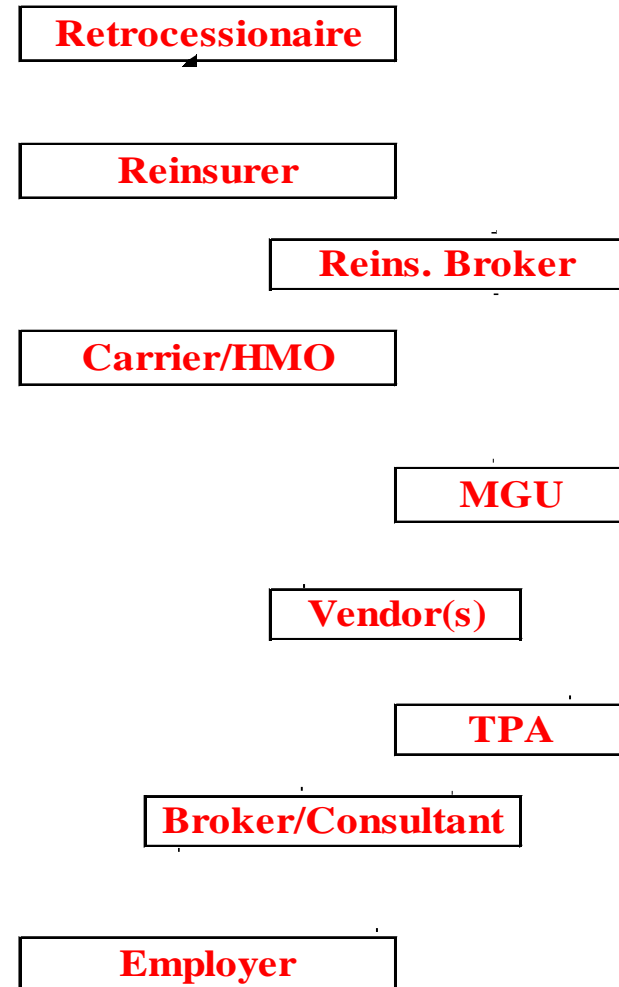
Aggregate Stop Loss

- Monthly incurred and paid claims detail
- Monthly enrollment
- Summary of plan designs changes
- Underwriting notes
- Expect claims and eligibility audits from issuing carrier, reinsurer and/or third party vendor



Claim Adjudication

- Remember the “food chain” of players involved in the claim adjudication process.
- Each may be responsible to provide information in order for the Employer to get reimbursed for a specific or aggregate claim.
- Require proof of eligibility, covered services/plan summary, and copies of adjudicated claims and specific medical management pre-certifications.
- May be multiple party signoffs (reinsurers/retrocessionaires) or “lead” reinsurer signoff.



Claim Adjudication & Recovery – Types of Large Claims

- Organ Transplants
- High Tech Cardiovascular
- Neurological Conditions
- Cancer
- High Risk Maternity & Neonates
- Severe Trauma Including Burns
- Other Catastrophic Illnesses
 - HIV/AIDS
- High Cost Prescription Drugs
 - Factor VIII



Reserve Reviews as a Reinsurer

- Use of various methodologies from health and P&C industry
 - Chain ladder method (development/completion factors)
 - Bornhuetter Ferguson method – combines results from chain ladder method with expected claim loss ratios.
- Reinsurers review and reliance on reserves and information provided by other parties:
 - Ceding company
 - Third party administrator or MGU
 - Third party actuarial consultant
 - *Importance of Identifying the Accountable Party for Reserve Reviews is critical*



Reserve Reviews as a Reinsurer (Continued)

- Methodology – What method was used? More than one approach?
 - Loss ratio development
 - Per capita claim
 - Imputed loss ratio or percentage of premium approach
 - Claims based on reporting from reinsured clients
 - Handling of Contentious claims (“legal” reserve)
 - Handling of Reinsurance/Retrocession coverages



Reserve Reviews as a Reinsurer (Continued)

- Types of Reserves – Need to review and confirm the following:
 - Known claimants (OSLR)
 - Unknown claimants (IBNR)
 - Unpaid loss adjustment expenses
 - **Deficiency reserves - - critical factor in “pool” business**
 - D&U premium
- Confirm changes in methodology (e.g., past 24 months)
- For OSLR reserves, please how reserves are established
 - Billed charges vs discounted charges vs best estimates of projected costs
 - Which areas (e.g., claims department, legal, etc.) are responsible for establishing?
 - How frequently are these reserves reviewed?



- Definition

- When expected claim cost (e.g., incurred claims) plus administrative expenses exceed premium for the remainder of a contract or rating period
- May be required for general purpose accounting (GAAP) and regulatory reporting requirements (STAT)
- May help identify impairment issues or future insolvency potential
- See Premium Deficiency Reserves discussion paper released by American Academy of Actuaries in March 2007 (visit link http://www.actuary.org/pdf/health/pdr_march07.pdf)
- Typically reported net of reinsurance

- Examples in Reinsurance

- Retrocession or Pool Business: Risk Attaching Exposure whereby future premium rates can not be applied to offset future losses
- Other Lines of Business: May follow fortunes of underlying reinsured (ceding company) business.



Retrocession Considerations

- Lag in Reported Information
 - May be a problem for reinsurers as well
 - May have lags in financial statements
 - Notifications in contentious claims
- Special Consideration may be required based on type of retrocession (quota share vs excess) and layer of coverage
- Quality of Data
 - May be multiple steps removed - - challenges of the “food chain”
 - May have to rely on third parties for information



Section 7

Life Reserves 101



What is a reserve?

- From the dictionary: To keep back or save for future use
- Necessary when premiums are designed and expected to be more than sufficient to pay benefits in the early policy years and less than sufficient in the later policy years
- When this occurs, the insurer needs to set aside money today to be able to pay claims in the future

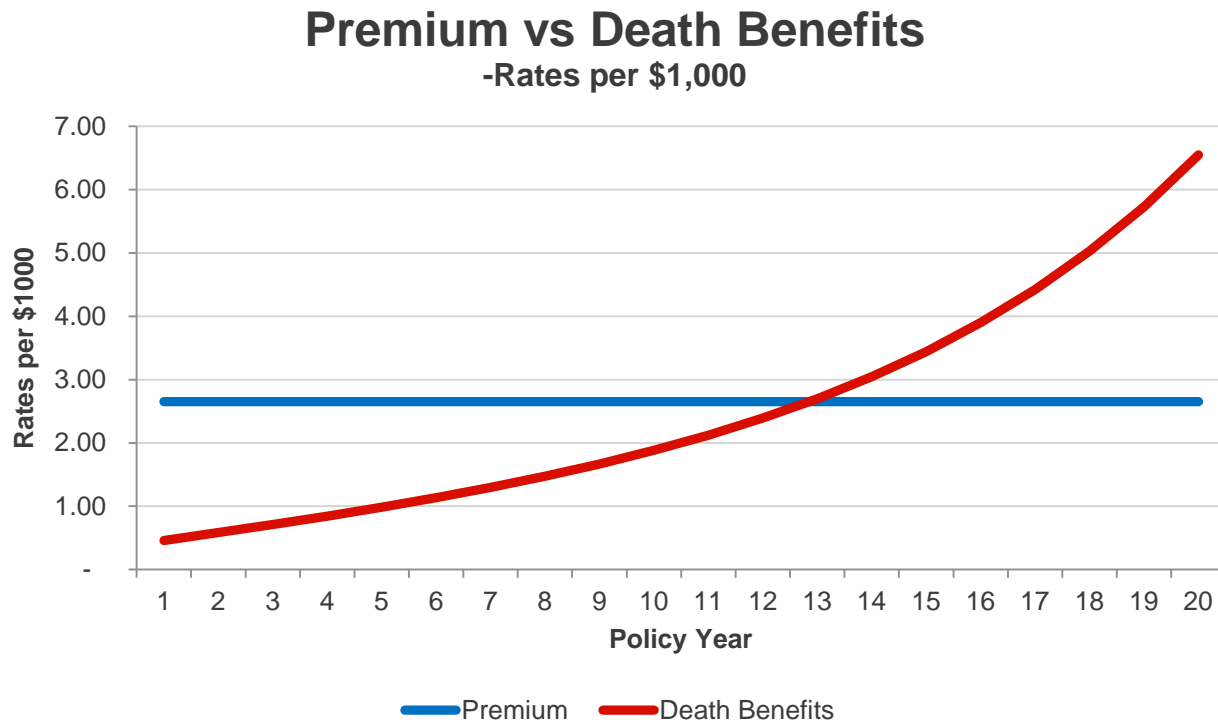
What is the purpose of a reserve?

- To help the insurance company honor its commitments to policyholders



Reserves 101

With common life insurance products such as level premium term or whole life, cash needs to be set aside in the early years of a policy in order to pay claims in the later years.



Time Value of Money

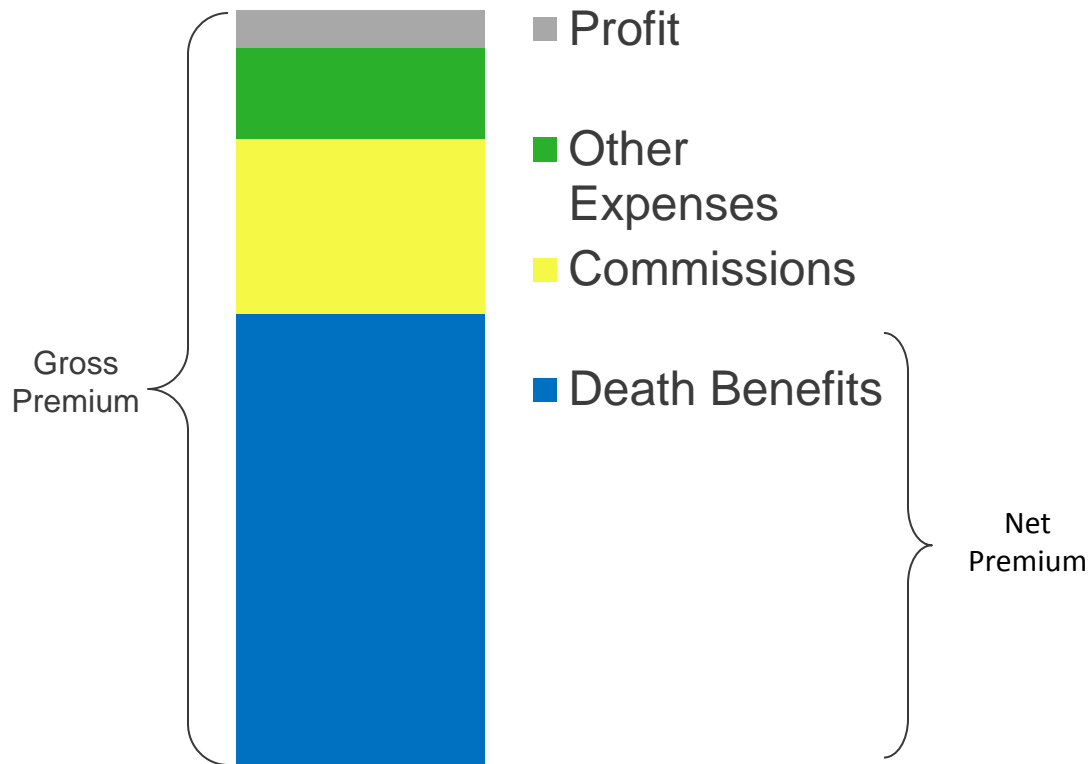
- Future Value
 - Assume you had \$100 today and could earn 5% per year.
 - Then, the future value of \$100 one year from now is \$105, and \$110.25 two years from now
 - FV: $(100) \times (1.05^2) = 110.25$
- Present Value
 - Following the same procedure, you could also say that today's value of \$105 one year from now is \$100
 - Also, today's value of \$110.25 two years from now is \$100
 - PV: $(110.25) / (1.05^2) = 100$
- Therefore, the process of determining the present value essentially translates future cashflows into an equivalent amount today.



Reserves 101

The Gross Premiums are expected to cover death benefits, commissions, other expenses, and profits.

When calculating the policy reserve, only the portion of the premium needed to pay death benefits is typically used.



Common Death Benefit Reserve Calculation

- Prospective Method
- Reserve = (Present value of future death benefits) – (Net premium ratio) * (Present value of future premiums)
- Reserve = PVFDB – NPR*PVFP
 - Where $NPR = (PVFDB \text{ at issue}) / (PVFP \text{ at issue})$



Death Benefit Reserve Example

- Reserve = PVFDB – NPR*PVFP

Benefit Reserve - Utilizes a constant percent of future premiums

Discount Rate 5.0%

Policy Year	Premiums	Expected Death Benefits	Benefit Reserve
0	-	-	-
1	1,000	325	456
2	900	375	807
3	810	425	1,055
4	729	475	1,202
5	656	525	1,249
6	590	575	1,198
7	531	625	1,048
8	478	675	799
9	430	725	450
10	387	775	-

PV at issue	5,502	4,092
-------------	-------	-------

NPR Factor	74.4% = (4,092/5,502)
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Other Considerations

- There are many methods used to calculate policy reserves
- These methods can vary by product type, treatment of acquisition costs, and level of conservatism
- For example, dynamic products allow the policyholder flexibility when paying premiums and, because of this, the method shown previously is modified
- Most reserves incorporate a provision for adverse deviation of assumptions
- There are other types of reserves such as Incurred but not Reported (IBNR) reserves, Interest Maintenance Reserves (IMR), and Asset Valuation Reserves (AVR)



Section 8

Treaty Provisions



Treaty Provisions: Automatic Reinsurance Requirements

Normal
underwriting
standards

Age and
rating ranges

Retention
limit

Automatic
binding limit

Jumbo limit

Other: US
citizen; no
prior fac; etc.

These can be viewed as conditions precedent to reinsurance coverage.



Cedant sends underwriting papers to reinsurer

Reinsurer underwrites; may make offer

Reinsurer must make an offer and cedant must accept for reinsurance to occur

- Standard principles of contract law
- Cedant must notify reinsurer of acceptance – variety of ways to do so
- Facultative not covered by errors and omissions provision (see below)

Reasons for facultative submissions

- Cases outside normal limits
- Underwriting opinion from reinsurer desired
- Cedant looking for best offer



Treaty Provisions: Premiums

Usually detailed in
schedule

May state they are
not guaranteed by
reinsurer, or for only
one year

Must be paid within
stated time period

Reinsurer may
typically cancel
treaty in its entirety
for failure to pay
premium

For coinsurance,
reinsurance premium
may not exceed
retail premium



Treaty Provisions: Claims

Rules on when cedant must consult with reinsurer

- Amount
- Duration
- Contestability
- Cause
- Location

Reinsurer may have right to opt out of claim contests

Allocation of routine expenses

- Cedant salaries vs. external investigators

Sharing of extraordinary expenses

- Particularly extra-contractual or punitive damages



Treaty Provisions: Administration

Vast majority of US life reinsurance is self-administered by cedant

- Cedant prepares billings and submits with premium
- Cedant prepares listings of inforce risks
- Cedant prepares listings of transactions affecting reinsurance
- Cedant prepares statutory reserves
- Netting of claims against premium may be permitted

Vast majority of data transmission is electronic

Cedant's have staff/units devoted to reinsurance administration

Challenge for reinsurers is lack of uniformity of cedant data

Packaged software is available from multiple firms



This is the provision that gives the reinsurer the right to audit the ceding company's records related to the reinsurance treaty. It may also give the cedant the right to audit the reinsurer's records related to the treaty, although this is much less common.

- Reinsurers will typically audit in three areas:
 - Underwriting
 - Claims
 - Administration
- Audits take place routinely every so often, and also when the reinsurer feels it has reason to audit.



Treaty Provisions: Errors and Omissions

Definitely intended to cover unintentional errors in administration once reinsurance is properly in force

- Incorrect premium rate loaded into system
- Cedant over-billed reinsurer for claim

Lack of universal agreement on whether/when it covers errors in underwriting or other treaty requirements necessary for establishment of reinsurance

- Underwriting mistakes
- Waiving of underwriting requirements
- Underwriting business decisions

Parties restored to positions they would have occupied without the error

- This is not always possible
- Difficult area: jumbo limit
- Difficult area: claim on risk never ceded



Treaty Provisions: Boilerplate

Offset

Insolvency

- Of cedant – dictated by statute
- Of reinsurer – per negotiation

Entire agreement

Arbitration



Treaty Provisions: Important Considerations

Critical provisions

- Automatic reinsurance
- Premium
- Claims

Required provisions

- Entire agreement
- Insolvency
- Arbitration (not always)

Keys to effectiveness

- Completeness
- Clarity



Section 9

Statutory & Economic Reserves



Policy Reserves under Statutory Accounting Principles (SAP)

- The emphasis of SAP is solvency
- In the US, methodologies and assumptions are prescribed in a precise manner by insurance laws and regulations
- These regulations include significant provisions for adverse deviations (PAD)
- These PADs are generally applied to the following:
 - Mortality
 - Lapse Rates – Usually zero
 - Interest Rates
 - Expenses



Statutory & Economic Reserves

Valuation of Life Insurance Policies Model Regulation (referred to as Reg XXX)

Created to address certain reserving issues related to Term Life and UL with secondary guarantees

Stipulates calculation methodology for the Basic Reserve and Alternative Minimum Reserve

Basic Reserve: utilizes 2001 CSO mortality tables and allows the use of valuation net premiums that may be higher than the guaranteed gross premiums

Alternative Minimum Reserve: uses “X” percent of the 2001 CSO table and substitutes the guaranteed gross premiums whenever they are below the valuation net premiums utilized in the Basic Reserve calculation

Creates segmented reserves and specifies a methodology for calculating the segments

Total Reserve = $\max(\text{Basic Reserve}, \text{Alternative Minimum Reserve})$

Deficiency Reserves = $\max(\text{Alternative Minimum Reserve} - \text{Basic Reserve}, 0)$



Valuation of Life Insurance Policies Model Regulation (referred to as Reg XXX) - Example

- The example below shows that the Alternative Minimum Reserve (AMR) is greater than the Basic Reserve from 2010-2014.
- Therefore, the Total Reserve equals the AMR and Deficiency Reserves exist
- In 2015, the Basic Reserve is greater than AMR, which causes the Deficiency Reserve to be zero
- It is key to note that the Deficiency Reserve is not an additional reserve that should be held in addition to the Total Reserve. Rather, it shows how much of the Total Reserve is due to premium deficiencies

	2010	2011	2012	2013	2014	2015
Basic Reserve	289	1,548	2,631	3,530	4,309	5,024
Alternative Minimum Reserve	1,551	2,311	2,972	3,653	4,353	4,995
Total Reserve	1,551	2,311	2,972	3,653	4,353	5,024
Deficiency Reserve	1,262	763	341	123	44	0



Economic Reserves (ER)

- Economic Reserves can be broadly defined as reserves that reflect best estimate assumptions and expected cashflows
- May include a PAD on certain assumptions: mortality, lapse, interest, expense
- Can utilize various accounting frameworks to determine calculation methodology
- May utilize other methods such as a Gross Premium Reserve



Statutory & Economic Reserves

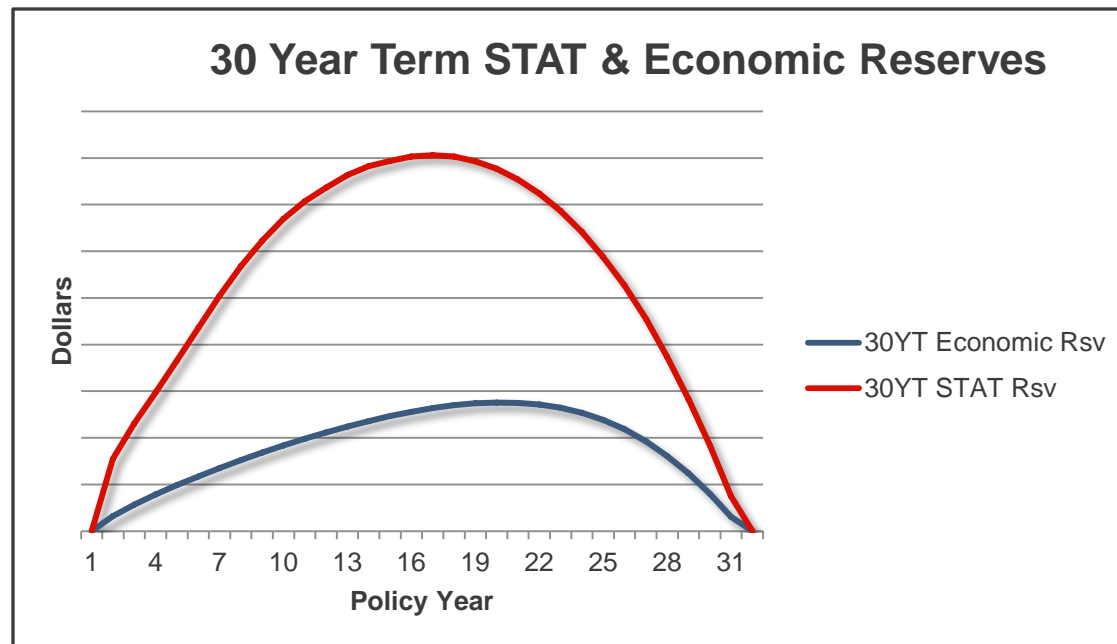
Comparison of STAT Reserves and Economic Reserves

	Mortality	Interest Rates	Lapse	Acquisition Expenses
Economic Reserves	Typically best estimate (BE) mortality and may include a PAD	Typically uses expected earned rates on assets at the time the business was sold	Uses BE lapse assumptions	Commonly uses an offset for first-year expenses
STAT Reserves	Based on 2001 CSO mortality tables, which can be a multiple of two to three times BE mortality	Detailed methodology for determining rates. Typically more conservative than the rates used in ER	Does not assume that lapses occur	Due to CRVM methodology, some acquisition expense offset



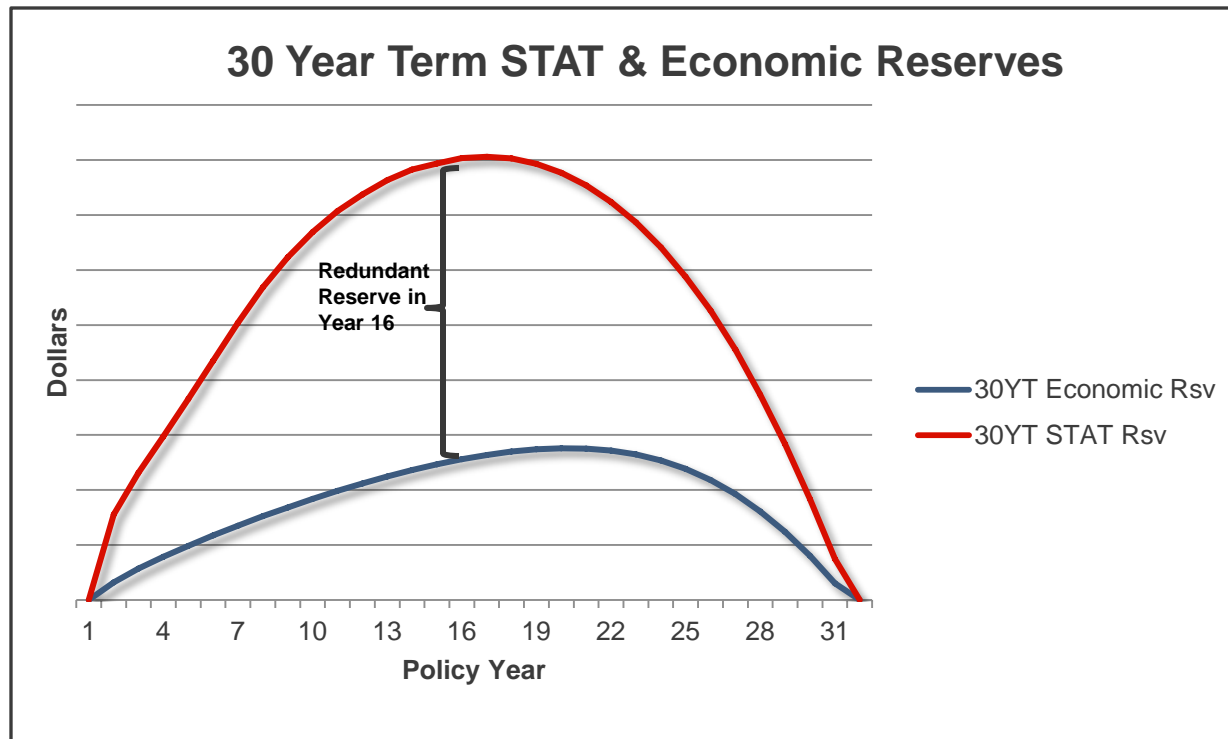
Graph - STAT Reserves & Economic Reserves

- Graph shows the yearly STAT Reserve and Economic Reserve for a typical 30 Year Term product, over the first segment
- In this example, the STAT reserve ranges between 2 to 4 times larger than the Economic Reserve



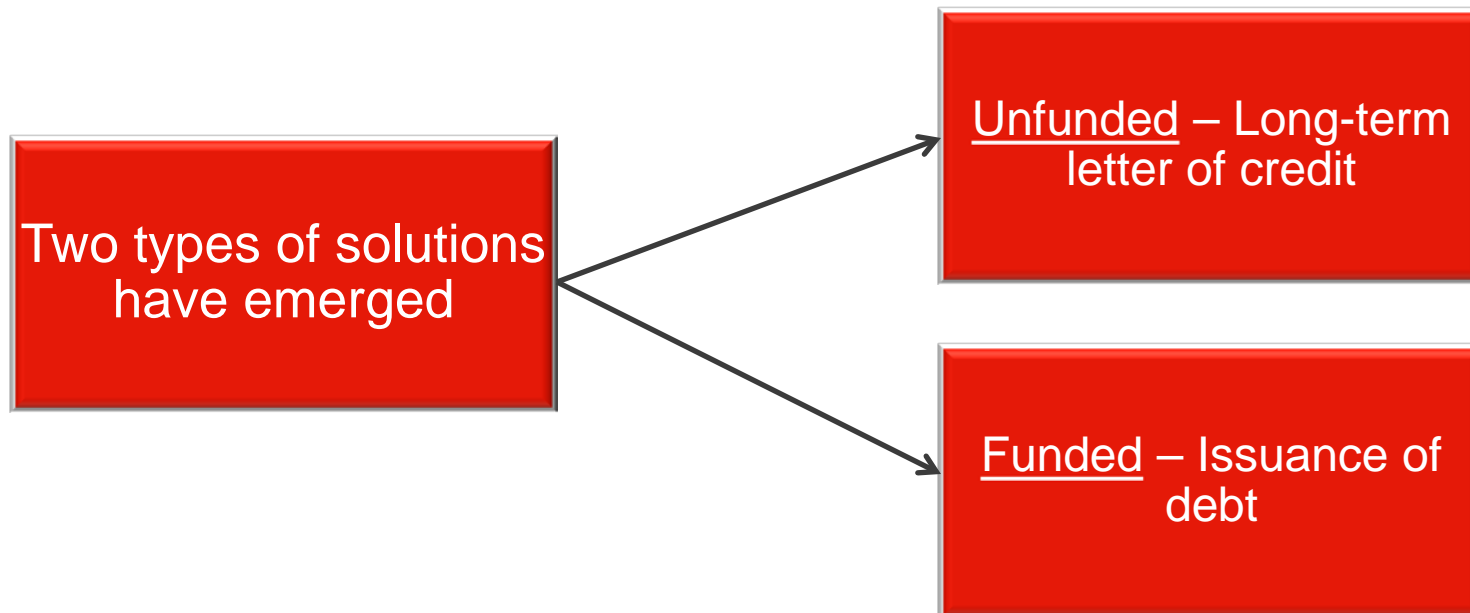
Market view of “Redundant” reserves

- Considers the difference between the STAT reserve and the Economic reserve as redundant



Structured Financing Solutions

- Insurers and reinsurers have looked to the capital markets to find solutions to fund reserve redundancy



Funded Solutions

Step 1: Parent company contributes capital to captive in an amount determined by either rating agencies or third-parties

Step 2: Insurer coinsures business to a captive

Step 3: Issue surplus notes out of the captive in the amount of the peak redundancy needed

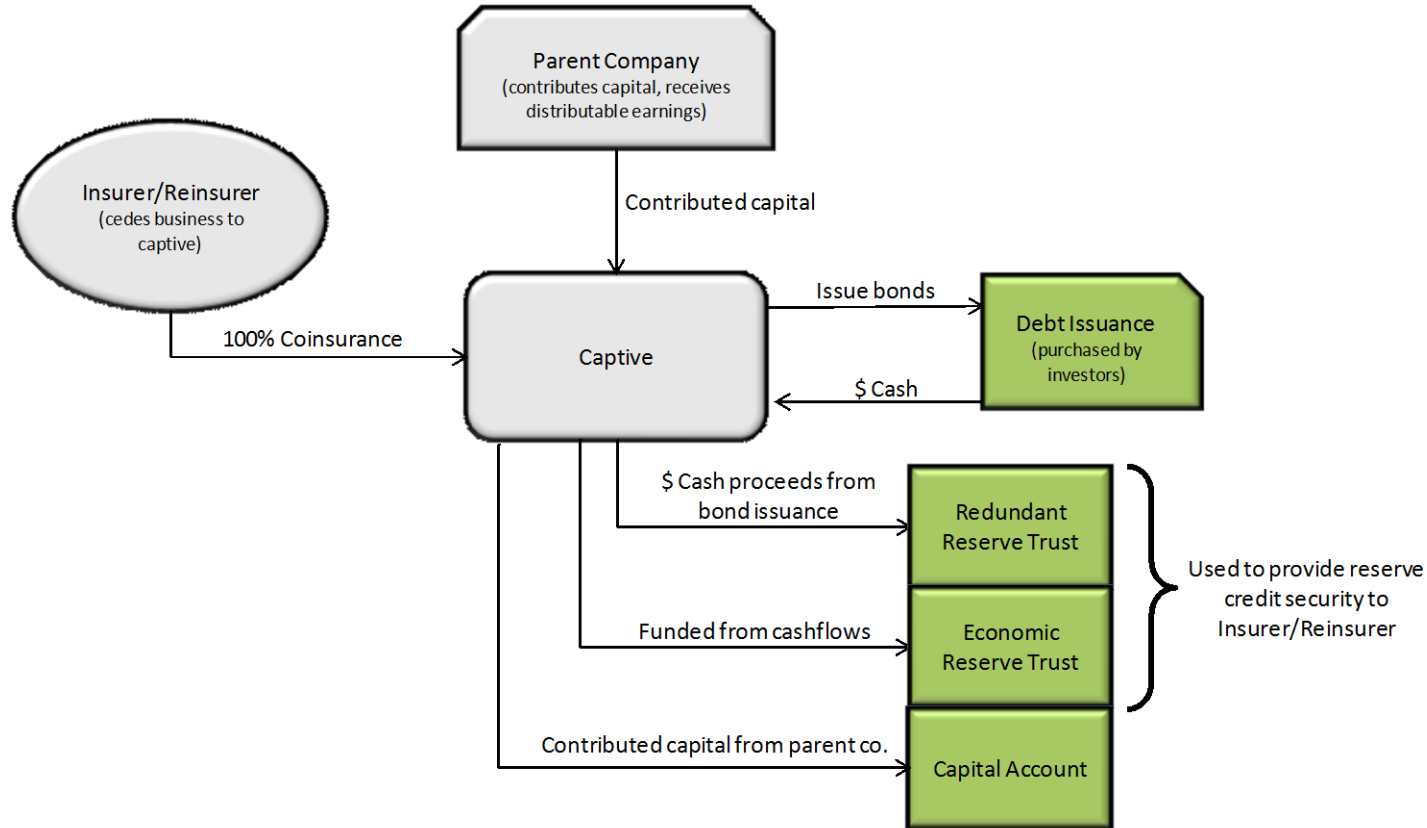
Step 4: Place debt proceeds in a trust to provide reserve credit security to Insurer

Assets in capital account and economic trust are used to pay claims before the debt proceeds are ever needed



Statutory & Economic Reserves

Funded Solutions



Unfunded Solutions

Step 1: Parent company contributes capital to captive in an amount determined by either rating agencies or third-parties

Step 2: Insurer coinsures business to a captive

Step 3: Receive long-term LOC from bank

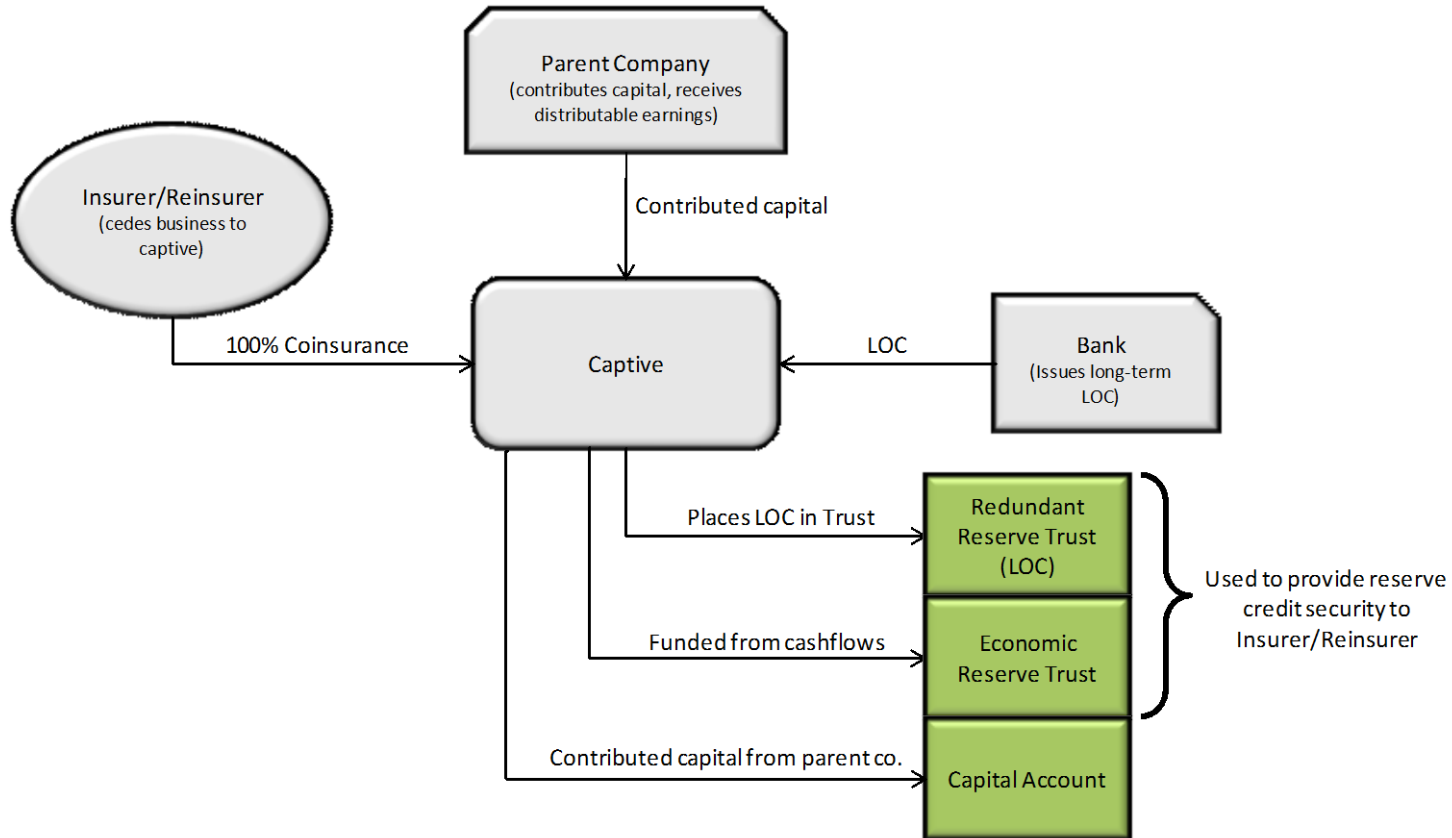
Step 4: Place long-term LOC in trust (may require regulatory approval to be an admitted asset)

Assets in capital account and economic trust are used to pay claims before the debt proceeds are ever needed



Statutory & Economic Reserves

Unfunded Solutions



Protecting the Policyholder

- Economic reserves and contributed capital are used to pay claims before debt proceeds or LOCs
- Debt proceeds or LOCs can be utilized to pay death benefits if needed
- Because of third-party requirements, captive will most likely hold more capital than required

Meeting RCS requirements

- Since captive is most often unauthorized, assets in trust and/or LOCs are utilized to provide reserve credit security



Why do companies utilize these structures?

- Companies are required to meet return on investment (ROI) hurdles
- For example, assume that the ROI requirement is 12% after-tax
- If a company can only earn 5% after-tax on the assets backing the reserve, there is a drag of 7% (12%-5%)
- If the reserve is large relative to the cashflows, this drag will make it very difficult to achieve a 12% ROI
- Funded/unfunded solutions significantly reduce this drag
 - Funded example: Assume that the debt could be issued at 6% after-tax and the debt proceeds could earn 5% after-tax.
 - This results in only a 1% drag



Section 10

Audits in Healthcare & Reinsurance



Underwriting Requirements for Medical Quota Share Reinsurance

- May have specifications in pricing model
- Definition of types of risks to be underwritten
- Definition of plan designs offered (e.g., maximum benefit limits, minimum deductibles)
- Define industry, region, contract basis, etc. as part of contract
- Policies can only be issued where ceding company authorized to do business
- Policies approved by the applicable insurance regulatory authorities
- May have requirements for exclusions and facultative signoff



First Dollar Quota Share

Underwriting Box for Fully Insured Medical Policies

- Defining Eligible Groups (e.g., case size)
- Employer Contribution Requirements
- Participation Percentages
- Defining industry/region
- Handling of Qualified Life Events (QLEs)
- Similar requirements as ceding company writing traditional medical coverage



Underwriting Audit for Medical Quote Share Reinsurance

- Review Compliance with Pricing Model
 - Factors applied, retention/administrative loads
- Review Compliance with Internal Underwriting Authority Signoffs
- Review of TPA, data, industry, distribution
- Review plan design offered and specialty provisions (e.g., lasering)
- Other Pricing Considerations
 - Use of discretionary discounts
 - Intention to underwrite for profit
 - Contractual underwriting guidelines compliance



Claim Audits for Medical Quote Share Reinsurance

- Review Compliance with Claims Procedures in Reinsurance Agreement
- Verify steps to confirm if prudent management of underlying claims (e.g., eligible claimant, discounts applied)
- May require a third party claim audit for certain claims (first dollar claim audits)
 - Aggregate stop loss claims have become more frequent in the last ten years
 - Potential for multiple audits
 - Many claim auditing firms in market – Northshore, Health Decision, Grasil, PMPM, Gallagher, and many others



First Dollar Claim Audits

- Eligibility Verification – Qualified Life Events, Terminations, Dependent Audits
- Claim Adjudication – Verification if any of the following:
 - Undiscounted claims paid in-network
 - Duplicate claims
 - Incorrect payment of loaded plan designs
 - Not processing of Coordination of Benefits (e.g., Medicare, Subrogation)
 - Fraud - - More involved steps needed to determine and confirm
- Challenges in recovery of claims once paid
- Further automation of claims payments may result in future errors
 - Lag in claims systems to handle new plan designs
 - Billing companies being more sophisticated to exploit potential holes in system
 - Fraud is still very prevalent in health care claims.
 - Waste and abuse is also prevalent, and automation will not catch this either.



Audits by Northshore (NiiS)

■ Of 1st Dollar Medical Claims

- Duplicate payments because of mis-aligned data
- Incomplete Eligibility Investigations
- Missed discounts for PPOs
- Limited identification/pursuit of subrogation or overpayment recoveries
- Misapplication of Plan terms, and/or application of administrator internal procedures, rather than adherence to the Plan terms
- Miscalculation of FMLA allotments

■ Of Self-Funded Medical Programs

- Payments not in accordance with the Published Plan of Benefits (e.g., missed internal limits)
- Overstatement of Aggregate Claim Recoveries because of Administrator not adjusting total paid reports accurately
- Errors relating to non-traditional eligibility circumstances
- Inconsistent practices for bundling/unbundling and coding
- Issues with emerging treatments and technologies and experimental/investigation plan language



Audits by Northshore (NiiS) (Continued)

- Of Managing General Underwriters
 - Wide variation depending upon experience of the staff and claim philosophy
 - Payments outside terms of Stop Loss Policy
 - Eligibility for benefits not verified/investigated
 - Payments made on non-disclosed members

- Source: NiiS audits done on behalf of Excess Carriers, Reinsurers, Self-Funded Plans, and Regulatory Authorities. Reflects following database:
 - 100+ medical claim audits
 - 15+ MGU reviews
 - Several thousand individual excess claim reviews



First Dollar Claim Audits (Other Statistics)

- 4% to 12% of covered persons are ineligible.
- 5% to 15% of enrollment records contain errors.
- 5% to 10% of all claims should not be paid or should be paid by another plan.
- Ranking of Errors (excluding fraud)
 - First - Enrollment related
 - Second - Administrator error
 - Third - Provider billing
 - High percentage of Medicare eligible issues for retiree coverage

Source: Health Decision Inc. based on its book of business (70+ clients), July 2011.



Section 11

HMO & Provider Reinsurance



Similarities to Employer Stop Loss

HMO Reinsurance Products

- Excess of Loss Coverage
 - Traditionally Per Person Excess
- Some Similar Reinsurers as the Employer Stop Loss Market
- Many similar underwriting strategies and policy provisions
- Disclosure Requirements



Unique Features of HMO Reinsurance Product

- Underlying Ceding Company traditionally has more “skin in the game”
 - Higher retention
 - Doing day-to-day claims management
 - Better discounted networks (most of the time)
 - Ceding company owns their own TPA and provider network
- Reinsurance contracts may have inside limits
- May have continuation of benefits (COB) coverage
- Out of Area Conversion Coverage
- Potential variations based on lines of coverage
 - Commercial vs Medicaid vs Medicare



Inside Limits

- Inpatient Hospital – Inside Daily Limits
 - May vary in-network vs out of network
 - Example: \$3,000 Average Daily Limit
 - \$400,000 billed charges for a 50 day length of stay would be capped to \$150,000 (50 days x \$3,000)
- Outpatient Hospital
 - May have cap on billed charges (e.g., 60%)
- Physician Fee Schedule Limitations
 - Capped fee schedules (e.g., 125% of RBRVS)

Note: Reinsurance agreements and policy forms will have many bracketed items to provide flexibility for contract variations.



Continuation of Benefits Coverage

- Continuation of covered benefits for all plan members (not the HMO) for a definite period, generally 30 days, following HMO insolvency, or for a period generally not to exceed 365 days for members confined in an acute care facility as of the date of insolvency.
- Referred to as HMO “insolvency” coverage in the market place.
- Reimbursement of continuation benefits generally limited to a total of \$5,000,000 to \$10,000,000 per person by reinsurance plan design.



Continuation of Benefits Coverage (Continued)

- Similar underwriting process required as financial reinsurance
- The risk for this product line is credit risk more than medical underwriting risk.
- Require more stringent financial underwriting guidelines for this product line and will only consider offering the product on a limited basis.
- May require aggregate dollar limit (e.g., \$1 million limit)
- May financial guarantees
 - Letter of credit
 - Keepwell agreement



Out-of-Area Conversion

- Out-of-area conversion policies are benefits available to members terminated from HMO coverage.
- Conversion option sometimes required by the regulatory entities within the HMO Certificate of Authority approval.
- Most reinsurers not positioned to provide individual health coverage on a direct basis so use third party
- Celtic Life Insurance Company is one of the more popular companies providing conversion option.
- Reinsurers will structure contract or marketing arrangement with conversion insurance company.



Purchasing Considerations

- Price – Per Member Per Month (PMPM) basis
- Services Covered/Excluded
- Carrier Security (e.g., A.M. Best rating)
- Reputation
 - Handling of claims reimbursement
 - Renewal terms (e.g., rate increases, lasering, etc.)
- Quote Contingencies (e.g., pending reinsurance, etc.)



Who are the HMO Reinsurance Markets

- Houston Casualty Company Life (HCC Life)
- HM Insurance Company
 - Acquisition of Risk Based Solutions (RBS)
- Munich Re
- One Beacon
- Presidio
- RGA (acquisitions of ING/Reliastar)
- Starline (MGU for QBE)
- Summit Re (MGU for Swiss Re)
- Zurich
- Others - Berkley, Fairmont, Navigator Re, Standard Security, White Mountain Re, etc.



Distribution

- Product is marketing directly by HMOs and also through reinsurance brokers
- Brokerage market traditionally different from the retail medical brokerage market
 - Traditionally product sold by Property Casualty brokers
 - Same broker that does company D&O/E&O, malpractice, general liability coverage
 - Aon, Beecher Carlson, Dubraski & Associates, Evergreen Re, few others large firms and independent brokers
- Result is a smaller number of reinsurance brokerage firms for HMO reinsurance due to need for specialty knowledge in healthcare
- Companies may be outsourcing services



NAIC Risk-Based Capital Managed Care Organizations

- Considers an MCO's asset portfolio make-up, credit risk, business risk and most importantly underwriting risk.
- HMOs, insurance carriers with managed care, Physician Hospital Organizations (PHO), Provider Sponsored Organizations (PSO), other
- The RBC formula, a.k.a. Risk-Based Capital After Covariance (RBCAC), determines the minimum solvency standard for an MCO. The formula is as follows:

$$= H_0 + \sqrt{H_1^2 + H_2^2 + H_3^2 + H_4^2}$$

Where

- H₀ is Affiliates Asset Risk
- H₁ is Non-affiliates Asset Risk
- H₂ is Underwriting Risk
- H₃ is Credit Risk
- H₄ is Business Risk

Note: "H" is similar to "C" classifications of life and P&C insurance companies.

H2 Component - RBC Formula

- Most significant risk of this business line is the underwriting risk (short term nature of business).
- Risk management through provider risk sharing could have material impact on the level of required RBC
- The H2 computation can be summarized as follows:

$$[\text{Maximum (A, B)}] * C + D$$

Where

A is the product of the RBC factor and the expected claims of the current reporting year

B is \$1.5 million (less if services provided are comprehensive

C is a managed care credit multiplier ranging from 0.25 to 1.00

D is risk charge for rate guarantees and FEHBP

Drivers of RBC Formula for A&H Reinsurance

- Premium
- Incurred Claims
- Reserves (Incurred & Unpaid Claims)
 - Morbidity Assumptions
 - Discount Rates

Provider Reinsurance

- Similar structure and design as HMO Reinsurance
- Applies to risk bearing provider groups
 - Traditionally lower deductible coverages
 - May be specific to services at risk (may vary by HMO contract)
 - May vary by product line (commercial vs. Medicare vs. Medicaid)
 - Same distribution market as the HMO reinsurance market
- Result is a smaller number of reinsurance brokerage firms for HMO reinsurance due to need for specialty knowledge in healthcare
- Companies may be outsourcing services



Section 12

The Impact of Healthcare Reform



Healthcare Reform Review

Preventative Benefits

Coverage to Age 26 for Dependent Children

Unlimited Benefits

- Traditionally \$1 million limits
- Unions and certain industries have limited caps/benefits

Healthcare Exchange

Reporting Requirements

Change in Waiting Periods – Move to 90 Days

Early Retirement Reinsurance Program (retirees age 55-64)

- 80% Claims between \$15,000 and \$90,000
- Provided as a “stop gap” basis only



Reinsurance Pricing Considerations for Healthcare Reform (PPACA)

- Multiple reinsurance structures (e.g., quota share, excess, etc)
- Unlimited Benefit Maximums
- Minimum Loss Ratio Requirements (impact to reinsurers and ACO)?
- Waiver of pre-existing conditions
 - Although direct writers need to cover, reinsurers may consider rating up or “lasering” certain large claimants?
- Case mix changes within a reinsurer
- Provider contracting changes
- Layer for pre-65 retirees (ages 55 to 64): 80% claims between \$15k & \$90k
 - Need to integrating with other reinsurance programs
- Impact of Leverage Trend
- Components that impact underlying business



Insurance Department Actuaries

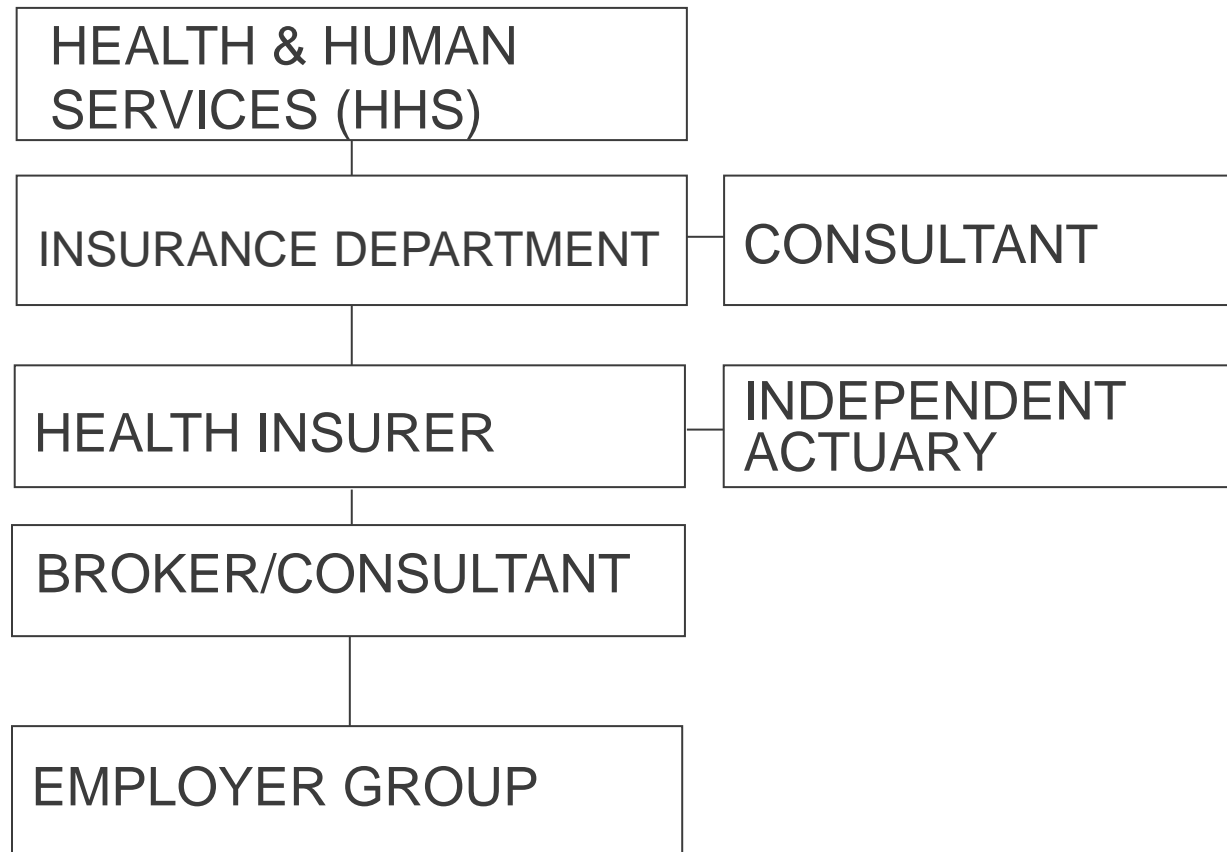
- 164 actuaries (all disciplines) in 36 states
- 42 health actuaries in 20 states

Number of <u>Actuaries</u>	Number of <u>States</u>	% <u>Total</u>
3+	4	8%
2	4	8%
1	12	24%
0	30	60%
Total	50	100%

- Many insurance departments will subcontract to third party actuaries (consultants) to evaluate health actuarial matters.
 - Rate Filings/Reviews, Reinsurance, Market Conduct Reviews
- Issue: *May create inconsistencies in the review process.*



Healthcare Reform Review – “Future” of Rate Filing Process



Healthcare Reform Review – Reform by 2014

- Prohibited from rating based on Health Status Factors
- May be able to give discounts for wellness participation
- Guaranteed renewability of policies
- No pre-existing conditions (all ages)
- Unable to rate for the following:
 - Health status or disability
 - Medical history & genetic information
 - Specific claims experience
 - Evidence of insurability
 - Receipt of healthcare
 - Any other factors as determined by HHS

Note: Above may not be applicable to reinsurers



Loss Ratio Restrictions

- Minimum Medical Loss Ratios
 - 85% large group
 - 80% small groups/individuals
- Formula for Medical Loss Ratio Calculation:

$$\frac{(\text{Claims} + \text{Loss Adjustment Expenses} + \text{Activities to Improve Health Care})}{(\text{Earned Premium} - \text{State Fees})}$$

- Key Dates:
 - 2010: Require reporting of loss ratios
 - 2011: Require to provide rebates



Broker Considerations

- Commissions – Paid out of SG&A
 - Current: Unbundling & Disclosure of Fees
 - 2011: Further Disclosure
 - Result: Reduction of Fees
- Need to be More Consultative
 - Provide Pricing Scenarios & Compliance Assistance
 - Value Added Services – Administration, Actuarial Services
- Need for Reinventing Themselves
- Impact on the “food chain” to be determined



Health Insurance Exchanges

- Organizations exploring the Exchanges and Administrative “Role”
 - Health Plans (e.g., HMOs)
 - Brokers (e.g., General Agencies)
 - TPAs (e.g., Enrollers, Claims Payors)
 - Payroll Companies (e.g., Enrollment Companies)
 - Technology Companies
 - Wellness Companies



Opportunity for Accountable Care Organizations (ACO)

Risk Bearing Provider Groups

- May include managed care carve-outs, wellness & disease management

Potential Cost Reduction

Creating Predictability in Claims Costs

Providers having “skin in the game” on utilization

Potential for health plan to delegate administrative responsibilities and costs



ACO Considerations

Managing SG&A costs

Impact of Implementing Healthcare Reform

- System Implementation
- Reporting
- Measuring and Maintaining Quality

Outsourcing expenses to capitated third party vendors

- How will minimum loss ratios be impacted by this?
- Integration of ACO with HMO systems (e.g., claims, medical management, network providers, reporting, eligibility)

Health Plan Expectations of Provider Groups

- Capital Requirements/Letter of Credit
- Reinsurance
- Parental Guarantees
- Data Management & Analytics



What is the Correct Measurement of Carve-Out Costs?



1. Correct Starting Costs/Data
2. IBNP Reserves
3. Healthcare Inflation
4. SG&A Costs



ACO Challenges

Quality of Data

Availability of Data (Historical Information)

Impact of Current Experience

Changes in Underlying Population (e.g., demographics)

- Definition of Poverty Level and Medicaid Eligibility

Valuing the Impact of Plan Changes

Anticipating Changes in Cost Structure and Financial Impact (e.g., network contracting, utilization)

Impact of Regulatory Environment



Disease Management or ACO Reinsurance (Case #3)

Disease Management
Company (DMC)
assumes risk from
HMO

- Could resemble the needs of Accountable Care Organizations (ACOs) under healthcare reform

DMC guarantees
(e.g., 10%) reduction
in certain costs due
to:

- better contracts
- reduced admits
- reduced length of stay (LOS)

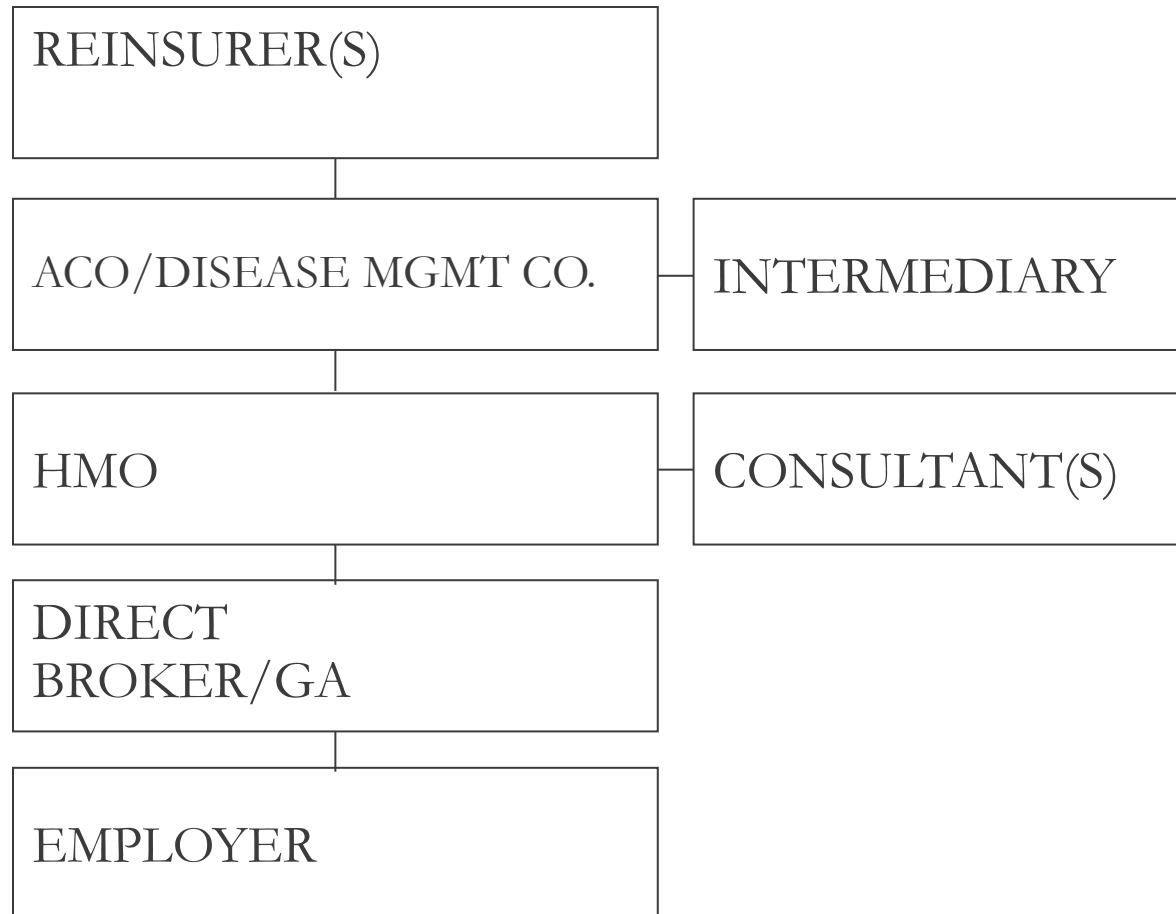
HMO requires
guaranteed savings

- Letter of credit from DMC to assume risk reserve transfer (3 months capitation)
- DMC obtains a reinsurance policy to protect against insolvency
- DMC to purchase per person excess
- DMC may require aggregate stop loss protection (not readily available)

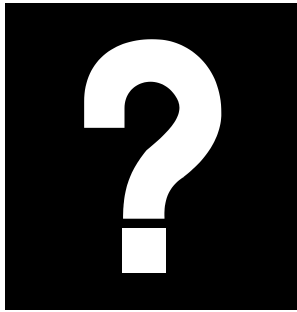


ACO/Disease Management Co.

Reinsurance “Food Chain” – Case #3



For ACOs, is Reinsurance Cheaper than Borrowing from Capital Markets? Is Capital Available from Parent Company?



Society of Actuaries – Recent Developments

Stop Loss Risk Based Capital Workgroup

- Society of Actuaries (SOA)
- American Academy of Actuaries (AAA)

Healthcare Reform Task Forces

- American Academy of Actuaries (AAA)
- Conference of Consulting Actuaries (CCA)

SOA Reinsurance Section Council LEARN Program



Websites to Know!

- Self-Insurance Institute of America (www.SIIA.org)
- Society of Professional Benefit Administrators (www.SPBATPA.org)
- MyHealthGuide LLC (www.myhealthguide.com)
- SOA Reinsurance Section Council (www.soa.org)
- American Academy of Actuaries (www.actuary.org)
- Department of Health & Human Services (www.hhs.gov)
- Centers for Medicare & Medicaid Services (cciio.cms.gov)
- Kaiser Family Foundation (www.kff.org)



Section 13

Cash Flow Testing & Principles-Based Reserves



Cash Flow Testing: Overview

CFT is just that: testing of the cash flows of the business for potential solvency issues

Cash flows from the inforce liabilities are run off using best-estimate assumptions

Cash flows from the asset portfolio are run off using best-estimate assumptions

The basic idea is to assure that the assets are sufficient to support the liabilities over the course of the testing period.

While the emphasis is on the overall adequacy of the assets, the two streams of cash flows can be compared period by period to find places where there are deficiencies: where net liability outflows will exceed cash produced by assets

Gaps may require additional reserves to eliminate; or, may be able to restructure assets depending on timing



The primary idea behind cashflow testing is to assure that the assets backing a set of liabilities are adequate to meet the liabilities over time.



Cash Flow Testing: Mechanics

Starting assets are equal
to starting reserves
(liabilities)

Positive net cash flows
are reinvested per
company guidelines

Negative net cash flows
require sale of assets to
meet outflows, or
borrowing per the
insurer's stated
investment strategy

Best estimate
assumptions are used

Major product lines
should be tested
separately, with assets
allocated appropriately



Many states require testing the “NY 7” at a minimum

- Seven interest rate scenarios intended to stress test reserve and asset adequacy
- Scenarios assume variety of interest rate movements
- Cash flows are tested in light of what happens in the various interest rate scenarios to both liability and asset flows

Appointed actuary may determine that additional scenarios should be tested based on specific mix of assets and liabilities

For some product portfolios, the actuary may determine that more sophisticated modeling is necessary, potentially including stochastic modeling

Cash flow testing is not always required, depending on the block of business

- A key consideration is the sensitivity of the liabilities and associated assets to changes in the economic environment



Was reserve strengthening necessary?

- If so, worth reviewing the reason
- Was there an overall shortfall? (more concern)
- Was there an interim gap in one duration, but the assets overall were sufficient? (less concern)

Are any gaps or deficiencies substantial compared to the company's overall financial situation (e.g., surplus position and ratio)?

How likely or remote are the scenarios that cause the deficiency?

Does the company write significant amounts of risky coverage or invest in riskier assets?

- If so, does the company have a sophisticated ALM program?
- Does the company have a well-developed risk management program?



Compare current year memorandum with prior years

- Examine changes from prior years as potential problem areas
- Changes may indicate resolution of a prior problem, rather than a new problem
- Using the same assumption year after year should be reviewed – is this reasonable, or is the assumption out of date?



The Actuarial Standards Board has issued detailed guidance to actuaries regarding cash flow testing

- Actuarial Standard of Practice No. 7: Analysis of Life, Health or Property/Casualty Insurer Cash Flows (specific to cash flow testing)
- Actuarial Standard of Practice No. 22: Statements of Opinion Based on Asset Adequacy Analysis by Actuaries for Life or Health Insurers (related to cash flow testing)



Historical Practices

- U.S. statutory reserves have been formulaic and prescribed, and most risk-based capital has been factor-based. Relatively simple calculations were adequate when most insurers sold similar products with basic features.
- As companies introduced more complex products with varied benefits and guarantees, which employed increasingly complicated investment strategies to match, the traditional reserve and capital standards have become less suitable.
- The traditional prescribed approaches are widely believed to produce redundant levels of reserves and capital for certain types of life insurance products, thereby forcing some companies to either limit production or commit scarce capital.



Evolving Practices

- Advances in technology and actuarial practice are enabling regulators to push for a new era of principle-based reserves and capital.
- Practices founded on a framework that will more appropriately reflect product design, experience, policyholder behavior and economic relationships and conditions in a company's reserve and capital requirements.
- Principle-based regulations have been implemented gradually:
 - C-3 Phase I in 2000
 - C-3 Phase II in 2005
 - Actuarial Guideline 43 in 2009
 - C-3 Phase III and VM-20 *end of 2011?*



Reinsurance Industry Affects

- How will Principles-Based Reserves affect the Reinsurance marketplace?
- Will the need for financing solutions be reduced?
- What challenges will these changes have for insurance companies?
 1. Systems and software
 2. Staffing requirements
 3. Governance
 4. Controls and documentation
 5. Operations and reporting framework



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