State of South Dakota Employees Benefit Program

Risk Mitigation Strategies

Purpose of Study

- During 2013 legislative session, the Appropriations Committee and Sub Committee on Insurance requested BHR to review stop loss coverage for the State Employee Health Plan

- During the summer of 2013, BHR enlisted the assistance of Silverstone Group to do a preliminary exploration into Stop Loss Coverage options for the State Employee Health Plan

  – In July 2013 Aon Hewitt was selected to serve as the States benefit and actuarial consultant

- BHR and Aon Hewitt's actuarial consultants explored stop loss as well as other risk mitigation strategies

- This reports serves to provide the results of our analysis and BHR's recommendations

Executive Summary of Results

- BHR and Aon Hewitt explored three risk mitigation techniques:
  - Stop Loss (SL)
  - Catastrophic (Cat.) or Claims Fluctuation Reserve (CFR)
  - Guaranteed Cost Model (GCM)

- The following results were found:

	Flexibility/Mngmt Control	Financial Benefit	Risk Mitigation	Impact to Member	Member Behavior Change
Stop Loss					None
CFR		initially , then			None
GCM					Major
No Change					None

- Remainder of presentation describes results in detail

Stop Loss

Stop Loss - Defined

- **Aggregate Stop Loss** covers claim amounts greater than a certain percentage of total expected plan costs
  - Usually a 20% or 25% attachment point (i.e. amounts above these levels are protected with SL)
  - Typically purchased by entities with less than 2,500 employees

- **Individual Stop Loss** covers incurred expenses over a given threshold generated by a *single* member
  - For large entities, such as 10,000 employees, rarely encountered
    - Although not completely actuarially credible at these high dollar claim levels (above $500K), the likelihood is low that the cost associated with purchasing this coverage would be less than the poor experience avoided

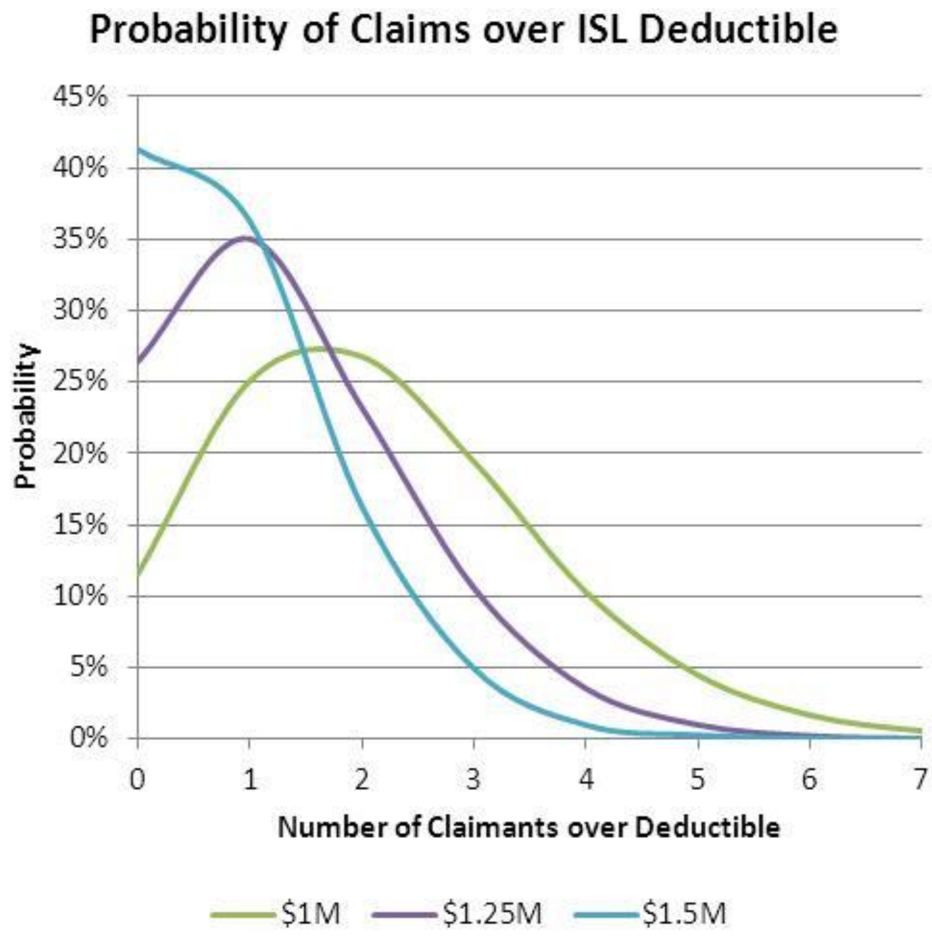
Stop Loss Premium Quotes

Specific		Sun Life Tentative	PEPM Rate	HCC Tentative	PEPM Rate	ING Firm	PEPM Rate	ING Firm	PEPM Rate
$500,000	Annual Premium	$2,727,225	$17.12						
	Aggregating Specific	$0							
	Add'l Laser Liability	$2,000,000							
		$1,300,000							
	Total Potential Liability	**$6,027,225**							
$750,000	Annual Premium	$1,335,667	$8.38						
	Aggregating Specific	$0							
	Add'l Laser Liability	$1,750,000							
		$1,050,000							
	Total Potential Liability	**$4,135,667**							
$1,000,000	***Annual Premium***	***$935,141***	***$5.87***	***$1,000,329***	***$6.28***	***$1,104,198***	***$6.93***	***$1,975,766***	***$12.40***
	Aggregating Specific	$0		$1,000,000		$500,000		$0	
	Add'l Laser Liability	$1,500,000		$500,000		$0		$0	
		$800,000		$750,000		$0		$0	
	Total Potential Liability	**$3,235,141**		**$3,250,329**		**$1,604,198**		**$1,975,766**	
$1,250,000	***Annual Premium***			***$973,543***	***$6.11***	***$661,244***	***$4.15***	***$1,518,472***	***$9.53***
	Aggregating Specific			$500,000		$500,000		$0	
	Add'l Laser Liability			$250,000		$0		$0	
				$500,500		$0		$0	
	Total Potential Liability			**$2,224,043**		**$1,161,244**		**$1,518,472**	
$1,500,000	Annual Premium			$967,170	$6.07				
	Aggregating Specific			$250,000					
	Add'l Laser Liability			$250,000					
				$0					
	Total Potential Liability			**$1,467,170**					
$2,000,000	Annual Premium			$685,145	$4.30				
	Aggregating Specific			$200,000					
	Add'l Laser Liability			$0					
				$0					
	Total Potential Liability			**$885,145**					

How many large claims should we expect?

- Expect that there will be at least 1 claim
  - 88% likelihood 1 claims is over $1M
  - 72% likelihood 1 claim is over $1.25M
  - 58% likelihood 1 claims is over $1.5M

- No more than 7 claims are expected above $1M deductible
- No More than 6 claims are expected above $1.25M deductible
- No more than above 5 claims are expected above the $1.5M deductible



Stop Loss Example Summary

State of South Dakota

Illustrative Stop Loss Example Summary

	FY 2012	FY2013
No Stop Loss- Current Plan		
Claim Costs without Stop Loss	$103.8	$111.6
Administrative Costs	$8.0	$10.0
Total Expense	**$111.8**	**$121.6**
Stop Loss- Current Plan		
Claim Costs without Stop Loss	$103.7	$111.1
Administrative Costs	$8.9	$10.9
Total Expense	**$112.6**	**$122.0**
Stop Loss Savings	**($0.8)**	**($0.4)**

Stop Loss Example - Details

Based on Sun Life tentative $1M specific deductible stop loss quote

- $5.87 PEPM premium
- Does not protect against overall aggregate poor claims experience
- Two lasered individuals with additional liabilities of $1,500,000 and $800,000

Based on FY12 Enrollment and High Cost Claimants

Premium (PEPM)	$5.87
Employees	13,057
Premium Paid by State	**$919,735**
Lasered HC Claimant #1 Claims Cost	$2,407,068
Total SL Threshold ($1M + $1.5M Laser Liability)	$2,500,000
Reimbursement Received	**$0**
Lasered HC Claimant #2 Claims Cost	$517,178
Total SL Threshold ($1M + $800k Laser Liability)	$1,800,000
Reimbursement Received	**$0**
HC Claimant #3 Claims Cost	$1,107,266
SL Threshold ($1M)	$1,000,000
Reimbursement Received	**$107,266**
Total Cost to State (Premium - Reimbursements)	**$812,469**

Based on FY13 Enrollment and High Cost Claimants

Premium (PEPM)	$5.87
Employees	13,297
Premium Paid by State	**$936,641**
Lasered HC Claimant #1 Claims Cost	$1,215,653
Total SL Threshold ($1M + $1.5M Laser Liability)	$2,500,000
Reimbursement Received	**$0**
Lasered HC Claimant #2 Claims Cost	$561,296
Total SL Threshold ($1M + $800k Laser Liability)	$1,800,000
Reimbursement Received	**$0**
HC Claimant #3 Claims Cost	$1,489,812
SL Threshold ($1M)	$1,000,000
Reimbursement Received	**$489,812**
Total Cost to State (Premium - Reimbursements)	**$446,829**

Number of HC claimants needed to exceed $1M in reimbursement (and annual SL premium) to make stop loss financially advantageous (excludes lasered individuals):

- 4 Individuals with at least $1.25M large claims
  - Aon Hewitt modeling estimates 4% probability of this scenario
- 2 individuals with at least $1.5M large claims
  - Aon Hewitt modeling estimates 22% probability of this scenario

Guaranteed Health Cost Strategy

Guaranteed Health Cost (GHC) Overview

- Aggressive Cost Control
  - Efficient network/provider purchasing
  - Increase accountability of individual population health
  - Plan design driving desired consumer behavior
  - Manage highest cost, most complex diseases more efficiently
- Capping Trend at x% over 3 years
  - “x” determined by employer, balance cost reduction with ability to drive and effect change in covered population
  - Dollar for dollar liability guarantee for spending in excess of PEPM guarantee
  - Annual budget capped, even with 3 year program will be intermittent payments to meet annual budget if exceeded in year 1 or 2
- Previously not an available solution for a claim based liability financial guarantee
  - New innovation within employer healthcare cost management
  - Implementation timeline more expansive than traditional stop loss
  - To be a viable solution, expect premiums ~ 1.0 – 1.5% of overall claim spend

Guaranteed Health Cost (GHC) Overview

- Self funded, claims capped at ceiling
- Cap trend based on employer choice
- Manages/focuses consumer driven purchasing, efficient network/provider contracting, and behavioral improvements
  – Reinsurance carriers will base their premium quotes on the perceived effectiveness of the programs in place
- Employer still has control, drives Guaranteed Health Cost program structure for 3 year duration

Guaranteed Cost Example

Executive Summary of Guaranteed Healthcare Cost (GHC)

Illustrative *Example - assumed effective FY 2016-2018*

	Expected Claims 2016 - 2018
(1) Baseline - No Plan Modifications	$411.1 (M)
(2) With a 4% Trend Guarantee	$388.0 (M)
(3) GHC Program - including cost mitigation strategies	$372.2 (M)

(4)	Expected GHC Savings:	$38.9 (M)	(1) - (3)
(5)	Savings Needed for 4% Trend:	$23.1 (M)	(1) - (2)
(6)	Implied Margin in GHC:	$15.8 (M)	(4) - (5)
(7)	Margin as a Percent of Expected Cost:	4.1%	(6) / (3)
(8)	GHC Premium:	$5.5 (M)	

Guaranteed Cost Example

State of South Dakota

Illustrative Guarantee Cost Scenario

In Millions
7.0% Annual Claims Trend
Guarantee begins in 2016

Illustrative current claims scenario

	2014	2015	2016	2017	2018	Sum 2016-2018	
Projected claims at 7%	$117.0	$119.5	$127.9	$136.8	$146.4	$411.1	
Target (4% Trend)		$119.5	$124.3	$129.3	$134.4	$388.0	
3 year savings needed			$3.6	$7.5	$12.0	**$23.1**	
Cost Savings Tactics Implemented and Cash Flow							
			2016	2017	2018	Sum 2016-2018	Yr 1 Savings %
Illustrative Plan Design Savings			-$8.8	-$3.1	-$4.1	-$16.0	-6.9%
Revised Projection (7% underlying trend)			$119.1	$124.3	$128.9	$372.2	
Implied 3 year margin						**4.1%**	

Fixed Expenses

	2014	2015	2016	2017	2018	Total (Last 3 years)
Current Administrative Fees Projected	$12.0	$12.3	$12.5	$12.8	$13.1	$38.4
Revised Projection						
Current Administrative Fees Projected			$12.5	$12.8	$13.1	$38.4
Reinsurance			$1.8	$1.9	$1.9	$5.6
Total			$14.3	$14.7	$15.0	$44.0

Total Cost (Variable + Fixed)

	2014	2015	2016	2017	2018	Total (Last 3 years)
Total Estimated Baseline (claims +admin)	$129.0	$131.8	$140.4	$149.6	$159.4	$449.5
Revised Projection with plan savings			$133.4	$138.9	$143.8	$416.2
Maximum Guaranteed Liability			$138.6	$143.9	$149.4	$431.9
Expected Savings (plan design)						$33.3
Guaranteed Minimum Savings						$17.5

Guaranteed Cost Example

Plan Design Savings assumes

- Shift to a Consumer Driven type of plan design
- Network steerage
- Robust wellness approach with gate keeping
- Better management of high cost claimants
- Disease management program adherence

Timeline for Guarantee Cost Assessment and Implementation

Implementation Year

(7/1/2015 Effective Date)

Phase	Client Involvement	Timing
Introduction to GHC	Learn about GHC concept and make decision to proceed with modeling	Nov – Jan 2014
Current Program Overview	Assess cost mitigation status of current program, identify diagnostic and health plan structure related cost drivers	Jan – Feb 2014
Analysis	Review expected impacts from identified cost reduction tactics and confirm/modify tactics	Feb – May 2014
Engage Risk Mitigation Marketplace	Work with reinsurance marketplace to place financial guarantee on final program, receive and negotiate pricing	May – July 2014
Decision	Review GHC quote proposal and make final decision whether or not to proceed	August 2014
Implementation	Implement cost reduction tactics and prepare for multi-year GHC solution	Sep – Dec 2014

Claims Fluctuation Reserve Methodology

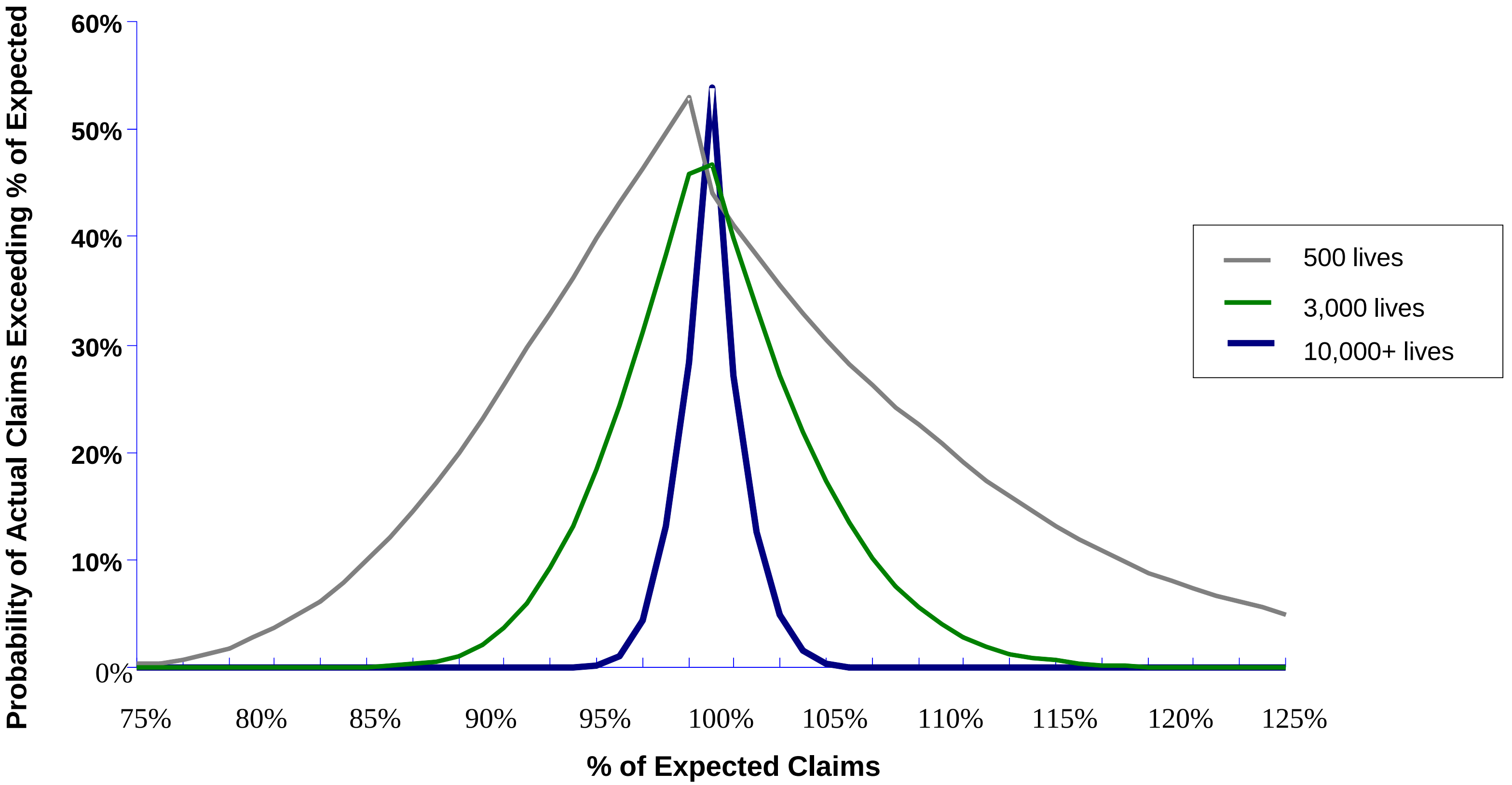
Catastrophic (Cat.) or Claim Fluctuation (CFR) Reserve Methodology

- One of the more popular means to determine a catastrophic (Cat.) or CFR reserve is using Confidence Interval (CI) Methodology
  - Incorporates simulation and other statistical modeling tools: high level of solvency
  - State data used in the model to simulate over 50,000 life years and estimate the predictability and solvency at a given confidence level

- Example: funding a Cat./CFR at a 90% confidence interval (CI) **in addition to funding expected claims** would indicate that the reserve would cover claim costs 9 out of 10 years
  - 95% CI would indicate the total would cover claims in every 19 of 20 years

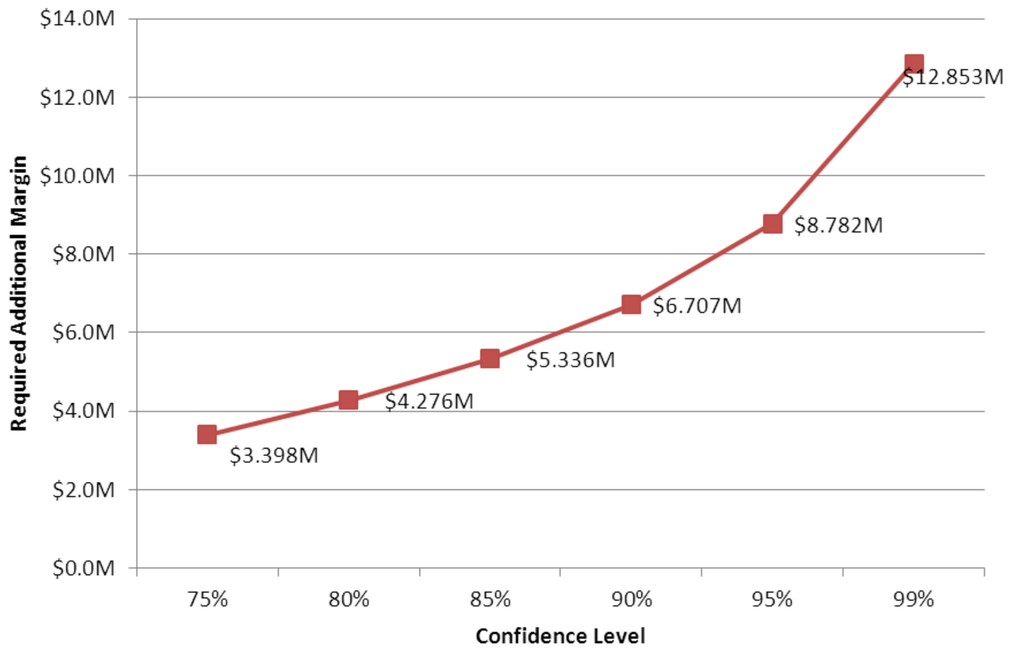
- Establishing and maintaining a CFR is popular among large entities and state plans where mitigating fluctuations in annual paid claims is important for budgeting

CFR Example - Claims Distribution by Group Size



Claim Fluctuation Reserve Analysis – Confidence Levels for State of SD

- *90% Confidence Level:*
  - $6.707M in added margin (FY2015 claims budget)
  - Total budget + CFR - 5.6% increase to claims budget
- *95% Confidence Level:*
  - $8.782M in added margin (FY2015 claims budget)
  - Total budget + CFR - 7.3% increase to claims budget



Aon Hewitt State Clients – CFR Target Confidence Intervals

Target confidence intervals from informal survey of 10 state clients:

- 99%: 2 states
- 95%: 3 states
- 75%: 1 state
- 50% or expected value of claims (including IBNR): 4 states

Notes:

- 99% confidence levels achieved through Risk-Based Capital (RBC) reserving methodology, both states currently at 200% of RBC
- One of the states reserving at 95% is contemplating drop to 90%
- States currently budgeting at 50% or the expected value of claims considering building a catastrophic reserve, some in light of excess reserves experienced in last two fiscal years
- Additional state budgeted at or below 50%, was temporarily insolvent, is currently fully insured
- Aon Hewitt unable to release the names of states above without explicit permission given the sensitive nature of reserving information

Conclusion and Recommendation

Conclusion on Stop Loss Methodology for Risk Mitigation

- Challenges:
  - Initial financial outlay
  - Specific
    - Still can incur claims risk
    - Not comprehensive risk mitigation strategy
    - Quotes laser high cost claimants, thus provides limited protection for high cost individuals
    - Doesn't protect overall budget from exceeding a certain threshold
  - Aggregate
    - Not a viable or meaningful solution to protect claims in excess of 20-25% of expected for a population this size
    - Not typical and difficult to find given State's population size
    - Inefficient method to mitigate risk and claims volatility
- Benefit:
  - Employees see no change

Conclusion on Guaranteed Health Cost Strategy for Risk Mitigation

- Challenges:
  - New program that is untried, no record of success
  - Locked in to program for 3 years once in place
  - Ties State to a specific vendor for risk mitigation
  - Requires individuals to more actively engage in personal health management which we can influence but not mandate
  - Requires aggressive cost management

- Benefits:
  - Provides protection for mitigating risk at a certain level
  - Promotes effective plan management of costs
  - Guarantees cost threshold for three years
  - Promotes wellness plan for actives
  - Requires aggressive cost management

Conclusion on Claims Fluctuation Reserve for Risk Mitigation

- Challenge:
  – In first year(s), financial outlay to create reserve

- BHR recommends creating a claims fluctuation reserve for the following reasons:
  – Tested methodology for other large groups, popular among state entities
  – Aligns with best practices for other groups our size
  – Money stays with the state
  – No tie to a specific vendor
  – Offers protection for adverse claim years at an acceptable confidence level for the State

- BHR will continue to pursue and monitor the benefits of a Guaranteed Health Cost strategy in future as a potential risk mitigation strategy