SL Advisor 3.0 - *Stop-Loss Optimization and Decision Support Tool*

Inputs

Client Name		Employee Count	744	Plan Annual Maximum	None
Contract Start Date	7/1/2017	Member Count	1,239	Projected Plan PEPY (Mature)	$7,863
Contract End Date	6/30/2018	# of Simulations	10,000	Aggregate Claim Factor	125%

			Individual Stop-Loss (ISL)					Aggregate Stop-Loss (ASL)			Claim/Laser Comparison			
Options	Contract Basis ISL	Deductible	Quoted Premium (PEPM) Enter Renewal Premiums Only [1]	Aggregating Deductible	Maximum Reimbursement	Number of Lasers	Sum of Laser Deductibles	Aggregate Attachment Point (PEPM) [1]	Quoted Premium (PEPM) Enter Renewal Premiums Only [1]	Maximum Reimbursement	Number of Known Claims	Claim 1 Size	Claim 2 Size	Claim 3 Size
Renewal - UHC - $150K	Paid	$150,000	$69.60	$0	Unlimited	0	$0	$790.22	$3.37	$1,000,000	0	$0	$0	$0
Option 2 - SunLife - $150K	15/12	$150,000	$60.93	$0	Unlimited	0	$0	$791.64	$4.32	$1,000,000	0	$0	$0	$0
Option 3 - Optum - $150K	24/12	$150,000	$62.21	$0	Unlimited	0	$0	$826.61	$2.85	$1,000,000	0	$0	$0	$0
Option 4 - SwissRe - $150K	24/12	$150,000	$58.31	$0	Unlimited	0	$0	$767.58	$2.84	$1,000,000	0	$0	$0	$0
Option 6 - Sun Life - $200K	15/12	$200,000	$46.08	$0	Unlimited	0	$0	$826.46	$4.50	$1,000,000	0	$0	$0	$0
Option 7 - Optum - $200K	24/12	$200,000	$49.86	$0	Unlimited	0	$0	$833.39	$2.85	$1,000,000	0	$0	$0	$0
Option 8 - SwissRe - $200K	24/12	$200,000	$40.72	$0	Unlimited	0	$0	$822.19	$3.00	$1,000,000	0	$0	$0	$0
Option 10 - SunLife - $250K	15/12	$250,000	$33.75	$0	Unlimited	0	$0	$852.39	$4.68	$1,000,000	0	$0	$0	$0
Option 11 - Optum - $250K	24/12	$250,000	$41.62	$0	Unlimited	0	$0	$840.16	$2.85	$1,000,000	0	$0	$0	$0
Option 12 - SwissRe - $250K	24/12	$250,000	$28.80	$0	Unlimited	0	$0	$848.80	$3.41	$1,000,000	0	$0	$0	$0

[1] Actual rates by tier have been converted to composite rates for purposes of the model inputs.

Methodology

A Monte Carlo simulation model to project 10000 scenarios of paid claims both in aggregate as well as claims above the specific deductible was used. The average of those 10000 trials and the min/max and percentiles are shown above. This methodology allows a plan sponsor to see the variance around the mean in analyzing the various quote options.

The simulation starts with a claim probability distribution that represents annual claims for over 1 million members.

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Individual Stop-Loss (ISL) Analysis

Client Name	
Contract Start Date	7/1/2017
Contract End Date	6/30/2018
Aggregate Claim Factor	125%

Employee Count	744
Member Count	1,239
Projected Plan PEPY (Mature)	$7,863

	Without Stop-Loss	Renewal - UHC - $150K	Option 2 - SunLife - $150K	Option 3 - Optum - $150K	Option 4 - SwissRe - $150K	Option 6 - Sun Life - $200K	Option 7 - Optum - $200K	Option 8 - SwissRe - $200K	Option 10 - SunLife - $250K	Option 11 - Optum - $250K	Option 12 - SwissRe - $250K
		$150,000	$150,000	$150,000	$150,000	$200,000	$200,000	$200,000	$250,000	$250,000	$250,000
		Paid	15/12	24/12	24/12	15/12	24/12	24/12	15/12	24/12	24/12
Expected Costs											
Average Expected Claims (<ISL Specific) - Simulated	$5,847,076	$5,338,093	$5,109,435	$5,290,096	$5,290,096	$5,245,001	$5,435,987	$5,435,987	$5,316,676	$5,515,921	$5,515,921
Median Expected Claims (<ISL Specific) - Simulated	$5,755,570	$5,320,586	$5,091,202	$5,272,333	$5,272,333	$5,223,591	$5,415,569	$5,415,569	$5,294,282	$5,492,516	$5,492,516
ISL Premium	$0	$621,389	$543,983	$555,411	$520,592	$411,402	$445,150	$363,548	$301,320	$371,583	$257,126
ASL Premium	$0	$30,087	$38,569	$25,445	$25,356	$40,176	$25,445	$26,784	$41,783	$25,445	$30,444
Total Expected Costs (Non-Admin)	$5,755,570	$5,972,062	$5,673,754	$5,853,189	$5,818,280	$5,675,169	$5,886,164	$5,805,901	$5,637,385	$5,889,544	$5,780,087
Optimal Solution											
Probability of Win		0.00%	0.00%	0.00%	31.96%	0.00%	0.00%	3.81%	0.00%	0.00%	64.23%
Probability of reimbursements > premium [1]		27%	28%	31%	34%	24%	25%	34%	30%	21%	33%
Premium (Savings)/Increase		$0	($77,406)	($65,978)	($100,797)	($209,987)	($176,239)	($257,841)	($320,069)	($249,805)	($364,262)
Expected Claims Above Current Deductible Level		$0	($229,384)	($48,253)	($48,253)	($96,995)	$94,983	$94,983	($26,304)	$171,930	$171,930
Number of Claims Exceeding Specific Deductible											
50th Percentile		3.0	3.0	3.0	3.0	2.0	2.0	2.0	1.0	1.0	1.0
Minimum		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25th Percentile		2.0	2.0	2.0	2.0	1.0	1.0	1.0	0.0	0.0	0.0
75th Percentile		5.0	4.0	5.0	5.0	3.0	3.0	3.0	2.0	2.0	2.0
Maximum in 10000 trials		13.0	13.0	13.0	13.0	9.0	9.0	9.0	7.0	7.0	7.0
Total Dollar Amount of Claims Exceeding Specific Deductible & Aggregating Specific Deductible											
50th Percentile		$358,948	$314,075	$350,457	$350,457	$176,222	$198,971	$198,971	$123,895	$138,656	$138,656
Minimum		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
25th Percentile		$164,623	$134,400	$158,412	$158,412	$31,644	$49,074	$49,074	$0	$0	$0
75th Percentile		$669,839	$600,521	$654,523	$654,523	$409,508	$442,189	$442,189	$319,328	$341,804	$341,804
Maximum in 10000 trials		$4,472,694	$4,231,234	$4,421,967	$4,421,967	$4,046,664	$4,230,111	$4,230,111	$3,896,664	$4,080,111	$4,080,111

[1] Target range is 35-45%.

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Aggregate Stop-Loss (ASL) Analysis

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	Renewal - UHC - $150K	Option 2 - SunLife - $150K	Option 3 - Optum - $150K	Option 4 - SwissRe - $150K	Option 6 - Sun Life - $200K	Option 7 - Optum - $200K	Option 8 - SwissRe - $200K	Option 10 - SunLife - $250K	Option 11 - Optum - $250K	Option 12 - SwissRe - $250K
	$150,000	$150,000	$150,000	$150,000	$200,000	$200,000	$200,000	$250,000	$250,000	$250,000
Annual Expected Claims (per Underwriter)	$5,644,067	$5,654,210	$5,903,979	$5,482,363	$5,902,908	$5,952,405	$5,872,410	$6,088,110	$6,000,759	$6,062,469
Annual Maximum Liability	$7,055,084	$7,067,762	$7,379,974	$6,852,954	$7,378,635	$7,440,506	$7,340,512	$7,610,138	$7,500,948	$7,578,086
Annual Expected Claims (simulated)	$5,338,093	$5,109,435	$5,290,096	$5,290,096	$5,245,001	$5,435,987	$5,435,987	$5,316,676	$5,515,921	$5,515,921
Percentiles (x% of the time claims are less than maximum liability) 10%	$4,712,595	$4,506,257	$4,669,210	$4,669,210	$4,591,349	$4,763,524	$4,763,524	$4,628,224	$4,806,505	$4,806,505
25%	$4,998,959	$4,782,375	$4,953,396	$4,953,396	$4,879,582	$5,061,232	$5,061,232	$4,926,885	$5,115,041	$5,115,041
50%	$5,320,586	$5,091,202	$5,272,333	$5,272,333	$5,223,591	$5,415,569	$5,415,569	$5,294,282	$5,492,516	$5,492,516
75%	$5,662,537	$5,425,403	$5,613,487	$5,613,487	$5,587,740	$5,790,442	$5,790,442	$5,674,106	$5,884,113	$5,884,113
90%	$5,981,093	$5,730,474	$5,927,915	$5,927,915	$5,928,436	$6,139,727	$6,139,727	$6,041,723	$6,261,689	$6,261,689
100%	$7,055,084	$7,067,762	$7,379,974	$6,884,413	$7,378,635	$7,440,506	$7,340,512	$7,610,138	$7,500,948	$7,578,086
Aggregate Attachment Point (PEPM)	$790.22	$791.64	$826.61	$767.58	$826.46	$833.39	$822.19	$852.39	$840.16	$848.80
Probability of an Aggregate Claim	0.07%	0.02%	0.02%	0.09%	0.03%	0.04%	0.07%	0.02%	0.08%	0.05%