



Case Study

SPRING 2017

Group & Health Advanced Exam

EXAM GHADV

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Case Study – Group & Health Advanced Exam

Introduction

In this case study, you are the President at the Skyfall Actuarial Consulting firm (Skyfall or Firm). The case study will outline the characteristics of the Firm and provide details regarding the various current clients and prospective clients of Skyfall.

All numbers found in this case study are for illustrative purposes only and are not representative of true costs or actual relationships. Any similarities with actual company results are coincidental. Plan design and plan limitations for a given plan year may not be in compliance with current year guidance, regulations, or laws.

Firm Description

Skyfall is a medium-sized consulting firm that was founded in 1965 in London, Texas and provides actuarial services to life and health insurance companies, state and federal regulatory agencies, and employers. The Firm's staff consists of over 50 actuaries, who are located in the United States. The firm employs several actuarial students, who assist in daily tasks and client management. Skyfall is committed to the development and training of future actuaries, and this can be seen in the level of training and types of projects that actuarial students assist with.

The Firm's areas of expertise include:

- Individual and Small Group Major Medical Plans
- Large Group Major Medical Plans
- Medicare Advantage and Part D Plans
- Medicaid Plans
- Retiree Health Benefit Plans
- Group Disability Plans
- Individual and Small Group Dental Plans
- Large Group Dental Plans
- Group Life
- Group Long-Term Care.

The corporate goal is to provide affordable and quality actuarial services to its clients to ensure that they have the tools to be successful in their business endeavors. Skyfall aims to build long-lasting client relationships and strives to provide excellent services for its clients. Due to its size, the Firm caters to individual client's unique needs and aims to exceed the client's expectations.

Skyfall's Clients

Quantum Health Insurance Company (Quantum)

Quantum Health Insurance Company provides individual and small group coverage to its policyholders. Since its inception in 1975, Quantum has provided health care services to individuals and small groups and actively seeks to improve the overall health of its members. Skyfall's services include the development and pricing of its products, regulatory compliance guidance, and valuation services.

Individual and Small Group Major Medical Plans

Quantum is actively selling individual and small group health insurance products in most states in the U.S. Quantum offers various benefit plan design structures; some of which are compliant with the Affordable Care Act (ACA). The products are sold through brokers and agents.

Quantum offers several types of major medical plans, such as HMOs, PPOs, and High Deductible Health Plans (HDHP), and some are still available for new business, while others are not. The closed block (no longer actively sold) is called Quantum Legacy III. The products that are actively being sold are the HMO and PPO products that are ACA-compliant.

Skyfall has been the opining actuary for Quantum and has been calculating the reserves for all blocks of business. The following exhibits are various tables used in the last reserve calculation exercise. The Company provided the paid claims data incurred between July 2015 and December 2016 with paid data through December 2016. These exhibits are various steps in the reserve calculation process.

Exhibit 1 - Monthly Claims Experience																				
Quantum Legacy III - Individual																				
		Paid Month																	Total	
		Jul-2015	Aug-2015	Sep-2015	Oct-2015	Nov-2015	Dec-2015	Jan-2016	Feb-2016	Mar-2016	Apr-2016	May-2016	Jun-2016	Jul-2016	Aug-2016	Sep-2016	Oct-2016	Nov-2016		Dec-2016
Incurred Month	Jul-2015	31,000	725,000	590,000	217,000	152,000	38,000	23,000	20,000	24,000	11,000	152,000	10,000	2,000	0	0	0	0	0	1,843,000
	Aug-2015	0	54,000	652,000	749,000	246,000	80,000	17,000	16,000	12,000	19,000	14,000	7,000	5,000	0	0	0	0	0	1,871,000
	Sep-2015	0	0	56,000	763,000	965,000	338,000	74,000	33,000	34,000	14,000	9,000	3,000	4,000	5,000	0	0	0	0	2,298,000
	Oct-2015	0	0	0	44,000	755,000	920,000	287,000	31,000	61,000	44,000	12,000	3,000	2,000	8,000	18,000	0	0	0	2,185,000
	Nov-2015	0	0	0	0	43,000	844,000	1,035,000	214,000	160,000	67,000	14,000	19,000	9,000	19,000	8,000	4,000	0	0	2,436,000
	Dec-2015	0	0	0	0	0	44,000	685,000	631,000	204,000	71,000	15,000	10,000	1,000	5,000	5,000	10,000	2,000	0	1,683,000
	Jan-2016	0	0	0	0	0	0	31,000	625,000	591,000	258,000	290,000	23,000	8,000	7,000	39,000	6,000	1,000	9,000	1,888,000
	Feb-2016	0	0	0	0	0	0	0	35,000	910,000	750,000	183,000	79,000	28,000	31,000	86,000	18,000	2,000	10,000	2,132,000
	Mar-2016	0	0	0	0	0	0	0	0	19,000	810,000	521,000	156,000	50,000	15,000	16,000	33,000	2,000	7,000	1,629,000
	Apr-2016	0	0	0	0	0	0	0	0	0	34,000	367,000	383,000	226,000	137,000	29,000	50,000	13,000	13,000	1,252,000
	May-2016	0	0	0	0	0	0	0	0	0	0	23,000	432,000	432,000	405,000	133,000	32,000	17,000	15,000	1,489,000
	Jun-2016	0	0	0	0	0	0	0	0	0	0	0	29,000	306,000	306,000	338,000	138,000	188,000	16,000	1,321,000
	Jul-2016	0	0	0	0	0	0	0	0	0	0	0	0	43,000	349,000	375,000	283,000	76,000	40,000	1,166,000
Aug-2016	0	0	0	0	0	0	0	0	0	0	0	0	0	42,000	451,000	453,000	200,000	84,000	1,230,000	
Sep-2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73,000	527,000	568,000	232,000	1,400,000	
Oct-2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29,000	304,000	445,000	778,000	
Nov-2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49,000	591,000	640,000	
Dec-2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	299,000	299,000	
Total		31,000	779,000	1,298,000	1,773,000	2,161,000	2,264,000	2,152,000	1,605,000	2,015,000	2,078,000	1,458,000	1,146,000	1,114,000	1,329,000	1,571,000	1,583,000	1,422,000	1,761,000	27,540,000

Exhibit 1 (con't) - Monthly Claims Experience																				
HMO - Individual (ACA - Compliant)																				
		Paid Month																	Total	
		Jul-2015	Aug-2015	Sep-2015	Oct-2015	Nov-2015	Dec-2015	Jan-2016	Feb-2016	Mar-2016	Apr-2016	May-2016	Jun-2016	Jul-2016	Aug-2016	Sep-2016	Oct-2016	Nov-2016		Dec-2016
Incurred Month	Jul-2015	15,000	362,000	337,000	115,000	56,000	21,000	10,000	10,000	7,000	6,000	16,000	1,000	0	0	0	0	0	0	956,000
	Aug-2015	0	32,000	427,000	364,000	177,000	50,000	15,000	12,000	7,000	15,000	13,000	3,000	1,000	0	0	0	0	0	1,116,000
	Sep-2015	0	0	21,000	276,000	389,000	128,000	30,000	14,000	9,000	6,000	4,000	4,000	1,000	5,000	0	0	0	0	887,000
	Oct-2015	0	0	0	13,000	240,000	301,000	94,000	9,000	23,000	16,000	6,000	1,000	1,000	3,000	4,000	0	0	0	711,000
	Nov-2015	0	0	0	0	14,000	312,000	354,000	67,000	74,000	27,000	6,000	7,000	4,000	11,000	5,000	2,000	0	0	883,000
	Dec-2015	0	0	0	0	0	17,000	331,000	312,000	100,000	17,000	7,000	5,000	3,000	1,000	4,000	7,000	1,000	0	805,000
	Jan-2016	0	0	0	0	0	0	14,000	304,000	295,000	125,000	162,000	11,000	3,000	4,000	21,000	4,000	1,000	5,000	949,000
	Feb-2016	0	0	0	0	0	0	0	13,000	297,000	277,000	67,000	15,000	7,000	3,000	9,000	10,000	1,000	4,000	703,000
	Mar-2016	0	0	0	0	0	0	0	0	11,000	450,000	292,000	84,000	25,000	7,000	6,000	14,000	8,000	3,000	900,000
	Apr-2016	0	0	0	0	0	0	0	0	0	18,000	220,000	244,000	151,000	113,000	16,000	33,000	16,000	10,000	821,000
	May-2016	0	0	0	0	0	0	0	0	0	0	13,000	244,000	253,000	257,000	73,000	12,000	11,000	10,000	873,000
	Jun-2016	0	0	0	0	0	0	0	0	0	0	0	19,000	183,000	213,000	237,000	103,000	140,000	8,000	903,000
	Jul-2016	0	0	0	0	0	0	0	0	0	0	0	0	28,000	246,000	280,000	208,000	58,000	28,000	848,000
Aug-2016	0	0	0	0	0	0	0	0	0	0	0	0	0	28,000	327,000	356,000	156,000	50,000	917,000	
Sep-2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42,000	329,000	356,000	154,000	881,000	
Oct-2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18,000	205,000	339,000	562,000	
Nov-2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70,000	882,000	952,000	
Dec-2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	470,000	470,000	
Total		15,000	394,000	785,000	768,000	876,000	829,000	848,000	741,000	823,000	957,000	806,000	638,000	660,000	891,000	1,024,000	1,096,000	1,023,000	1,963,000	15,137,000

Exhibit 1 (con't) - Monthly Claims Experience																				
PPO - Individual (ACA-Compliant)																				
		Paid Month														Total				
		Jul-2015	Aug-2015	Sep-2015	Oct-2015	Nov-2015	Dec-2015	Jan-2016	Feb-2016	Mar-2016	Apr-2016	May-2016	Jun-2016				Jul-2016	Aug-2016	Sep-2016	Oct-2016
Incurred Month	Jul-2015	7,000	155,000	145,000	49,000	24,000	9,000	4,000	4,000	3,000	2,000	7,000	0	0	0	0	0	0	0	409,000
	Aug-2015	0	14,000	187,000	160,000	78,000	22,000	6,000	5,000	3,000	7,000	6,000	2,000	1,000	0	0	0	0	0	491,000
	Sep-2015	0	0	9,000	118,000	167,000	55,000	13,000	6,000	4,000	2,000	2,000	2,000	2,000	2,000	0	0	0	0	382,000
	Oct-2015	0	0	0	5,000	100,000	125,000	39,000	4,000	9,000	7,000	2,000	0	0	1,000	2,000	0	0	0	294,000
	Nov-2015	0	0	0	0	6,000	128,000	146,000	28,000	30,000	11,000	2,000	3,000	1,000	4,000	2,000	1,000	0	0	362,000
	Dec-2015	0	0	0	0	0	8,000	143,000	135,000	43,000	7,000	3,000	2,000	1,000	0	2,000	3,000	0	0	347,000
	Jan-2016	0	0	0	0	0	0	6,000	129,000	125,000	53,000	69,000	5,000	1,000	2,000	9,000	2,000	0	2,000	403,000
	Feb-2016	0	0	0	0	0	0	0	5,000	122,000	114,000	28,000	6,000	3,000	1,000	4,000	4,000	0	2,000	289,000
	Mar-2016	0	0	0	0	0	0	0	0	5,000	186,000	120,000	35,000	10,000	3,000	2,000	6,000	3,000	1,000	371,000
	Apr-2016	0	0	0	0	0	0	0	0	0	8,000	96,000	106,000	66,000	49,000	7,000	14,000	7,000	4,000	357,000
	May-2016	0	0	0	0	0	0	0	0	0	0	5,000	104,000	107,000	109,000	31,000	5,000	5,000	4,000	370,000
	Jun-2016	0	0	0	0	0	0	0	0	0	0	0	8,000	81,000	95,000	105,000	46,000	62,000	3,000	400,000
	Jul-2016	0	0	0	0	0	0	0	0	0	0	0	0	0	12,000	108,000	123,000	91,000	25,000	371,000
Aug-2016	0	0	0	0	0	0	0	0	0	0	0	0	0	12,000	141,000	153,000	67,000	22,000	395,000	
Sep-2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18,000	140,000	152,000	66,000	376,000	
Oct-2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,000	90,000	148,000	246,000	
Nov-2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15,000	188,000	203,000	
Dec-2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102,000	102,000	
	Total	7,000	169,000	341,000	332,000	375,000	347,000	357,000	316,000	344,000	397,000	340,000	273,000	285,000	386,000	446,000	473,000	426,000	554,000	6,168,000

Exhibit 2 – Monthly Claims Experience				
PPO - Individual (ACA-Compliant)				
		Paid Claims Through Dec 2016	Enrollment	Paid PMPM
Incurring Month	Jul-2015	409,000	1,980	206.57
	Aug-2015	491,000	1,980	247.98
	Sep-2015	382,000	1,860	205.38
	Oct-2015	294,000	1,620	181.48
	Nov-2015	362,000	1,620	223.46
	Dec-2015	347,000	1,620	214.20
	Jan-2016	403,000	1,620	248.77
	Feb-2016	289,000	2,040	141.67
	Mar-2016	371,000	2,100	176.67
	Apr-2016	357,000	2,040	175.00
	May-2016	370,000	2,040	181.37
	Jun-2016	400,000	2,100	190.48
	Jul-2016	371,000	2,100	176.67
	Aug-2016	395,000	2,100	188.10
	Sep-2016	376,000	2,280	164.91
	Oct-2016	246,000	2,280	107.89
	Nov-2016	203,000	2,400	84.58
	Dec-2016	102,000	2,640	38.64
	Total		6,168,000	

Exhibit 3 - Enrollment - Individual			
Month	Quantum Legacy III	HMO (ACA -Compliant)	PPO (ACA - Compliant)
Jul-2015	11,100	4,000	1,980
Aug-2015	11,700	3,800	1,980
Sep-2015	11,400	3,750	1,860
Oct-2015	11,400	3,750	1,620
Nov-2015	11,400	3,750	1,620
Dec-2015	11,400	4,050	1,620
Jan-2016	11,800	4,100	1,620
Feb-2016	11,800	4,050	2,040
Mar-2016	12,000	4,100	2,100
Apr-2016	12,000	4,150	2,040
May-2016	12,700	4,200	2,040
Jun-2016	12,700	4,150	2,100
Jul-2016	11,700	4,450	2,100
Aug-2016	11,900	4,450	2,100
Sep-2016	12,100	4,600	2,280
Oct-2016	12,300	4,850	2,280
Nov-2016	12,300	4,850	2,400
Dec-2016	12,500	4,600	2,640

Exhibit 4 - Percent of Ultimate Losses by Lag Month													
Quantum Legacy III - Small Group													
		Lag Month											
		1	2	3	4	5	6	7	8	9	10	11	12
Incurred Month	Jul-15	1.6%	46.5%	69.4%	80.4%	91.0%	92.4%	93.4%	94.4%	96.3%	96.9%	99.9%	100.0%
	Aug-15	3.6%	35.6%	83.5%	92.2%	95.3%	96.4%	96.9%	97.7%	97.7%	99.3%	99.8%	100.0%
	Sep-15	2.6%	44.7%	78.3%	87.9%	91.6%	93.3%	96.6%	97.3%	97.9%	98.9%	99.2%	100.0%
	Oct-15	2.9%	44.5%	79.0%	95.9%	94.6%	95.7%	97.1%	98.0%	98.2%	98.6%	99.3%	100.0%
	Nov-15	2.9%	39.7%	85.6%	90.4%	94.8%	96.2%	96.6%	97.5%	98.0%	98.5%	99.4%	100.0%
	Dec-15	4.1%	45.1%	73.9%	88.0%	95.7%	96.7%	97.1%	97.4%	98.0%	98.9%	99.9%	100.0%
	Jan-16	2.7%	41.6%	71.1%	83.6%	94.7%	96.4%	97.0%	97.9%	99.0%	99.4%	99.4%	100.0%
	Feb-16	1.7%	42.2%	75.8%	80.9%	86.5%	88.0%	91.1%	98.8%	99.8%	99.9%	100.0%	
	Mar-16	0.6%	48.3%	73.9%	87.6%	90.5%	92.0%	94.6%	97.3%	99.7%	100.0%		
	Apr-16	4.0%	41.1%	59.2%	75.5%	92.3%	94.8%	98.0%	99.8%	100.0%			
May-16	3.0%	41.3%	70.5%	86.5%	97.0%	98.7%	99.3%	100.0%					

Exhibit 4 (con't) - Percent of Ultimate Losses by Lag Month													
HMO - Small Group (ACA-Compliant)													
		Lag Month											
		1	2	3	4	5	6	7	8	9	10	11	12
Incurred Month	Jul-15	1.7%	37.5%	74.0%	86.2%	93.1%	96.1%	97.3%	98.4%	99.1%	99.8%	99.9%	100.0%
	Aug-15	2.5%	38.5%	72.7%	88.9%	94.8%	95.9%	97.1%	97.8%	99.5%	99.7%	99.9%	100.0%
	Sep-15	2.3%	30.6%	76.0%	93.2%	96.6%	98.0%	98.6%	99.2%	99.5%	99.5%	99.9%	100.0%
	Oct-15	1.9%	32.9%	78.0%	89.1%	92.7%	96.3%	98.6%	99.1%	99.2%	99.3%	99.5%	100.0%
	Nov-15	1.3%	35.0%	76.3%	84.1%	92.8%	96.7%	97.3%	98.4%	98.7%	99.3%	99.5%	100.0%
	Dec-15	2.0%	42.6%	83.6%	94.6%	97.3%	98.6%	99.4%	99.3%	99.4%	99.4%	99.9%	100.0%
	Jan-16	1.2%	31.6%	62.8%	76.8%	95.0%	96.0%	96.4%	96.6%	99.1%	99.4%	99.5%	100.0%
	Feb-16	1.7%	44.5%	79.7%	90.8%	93.7%	95.0%	95.4%	97.8%	99.1%	99.2%	100.0%	
	Mar-16	1.5%	51.7%	85.8%	93.8%	96.7%	97.6%	97.9%	99.5%	99.6%	100.0%		
	Apr-16	2.2%	27.5%	63.0%	81.8%	89.6%	92.0%	96.8%	98.5%	100.0%			
May-16	1.3%	26.6%	55.8%	87.0%	95.6%	97.1%	98.8%	100.0%					

Exhibit 5 - Age-to-Age Factors												
PPO - Small Group (ACA-Compliant)												
Incurred Month	Lag Month											
	1	2	3	4	5	6	7	8	9	10	11	12
Jul-15	12.039	1.655	1.299	1.090	1.114	1.013	1.004	1.027	1.014	1.116	1.003	-
Aug-15	12.231	2.112	1.199	1.200	1.015	1.013	1.020	1.002	1.026	1.037	1.057	-
Sep-15	23.283	1.894	1.191	1.190	1.020	1.021	1.014	1.011	1.028	1.044	1.037	-
Oct-15	5.845	1.593	1.171	1.183	1.025	1.031	1.013	1.001	1.014	1.070	1.078	-
Nov-15	11.674	2.469	1.806	1.033	1.086	1.004	1.050	1.001	1.109	1.026	1.071	-
Dec-15	12.605	1.516	1.163	1.117	1.093	1.022	1.002	1.004	1.032	1.056	1.005	-
Jan-16	14.917	1.581	1.121	1.240	1.022	1.004	1.031	1.025	1.026	1.019	1.048	-
Feb-16	17.920	1.936	1.173	1.115	1.014	1.022	1.124	1.029	1.024	1.031	-	-
Mar-16	42.812	1.940	1.152	1.011	1.017	1.004	1.005	1.009	1.005	-	-	-
Apr-16	7.140	2.985	1.104	1.174	1.021	1.031	1.009	1.008	-	-	-	-
May-16	5.167	1.936	1.301	1.106	1.258	1.046	1.009	-	-	-	-	-

Quantum Email 1

From: Dominic Greene <DGreene@quantum.com>
 To: You <JB007@Skyfall.com>
 Sent: January 17, 2017
 Subject: Provider Reimbursements

We are in discussions with a number of our providers about establishing innovative provider reimbursement arrangements.

I had my team pull together some costs for common procedures by service type:

Exhibit 6 - Procedure Costs						
	Knee Replacement		Hip Replacement		Cesearan Section	
Service Category	2015	2016	2015	2016	2015	2016
Facility	\$17,250.00	\$18,450.00	\$13,450.00	\$14,500.00	\$7,100.00	\$7,400.00
Medical Supplies and Equipment	\$8,750.00	\$9,000.00	\$5,480.00	\$6,450.00	\$2,100.00	\$2,200.00
Professional	\$9,250.00	\$10,000.00	\$8,750.00	\$9,200.00	\$3,000.00	\$3,150.00

Exhibit 6 - Procedure Costs (con't)						
	Colonoscopy		Appendectomy		Cardiac Stent	
Service Category	2015	2016	2015	2016	2015	2016
Facility	\$950.00	\$1,100.00	\$7,500.00	\$7,950.00	\$10,500.00	\$11,750.00
Medical Supplies and Equipment	\$300.00	\$300.00	\$1,500.00	\$1,740.00	\$6,000.00	\$6,500.00
Professional	\$685.00	\$700.00	\$1,100.00	\$1,150.00	\$4,500.00	\$4,750.00

Dominic

Quantum Email 2

From: Dominic Greene <DGreene@quantum.com>
 To: You <JB007@Skyfall.com>
 Sent: January 20, 2017
 Subject: 2017 Hospital Utilization Projection

We are projecting the following 2017 cost and utilization details for three hospitals in our provider network:

Exhibit 6A				
Procedure	Category	Hospital A	Hospital B	Hospital C
Knee Replacement	Admissions	13	16	23
	Average length of stay	3.1	3.5	3.2
	Average billed charges per day	\$10,000	\$14,000	\$13,000
	Average allowed per day	\$5,515	\$5,600	\$5,755
Hip Replacement	Admissions	15	20	10
	Average length of stay	3.1	3	3.3
	Average billed charges per day	\$10,000	\$8,000	\$15,000
	Average allowed per day	\$4,600	\$4,900	\$4,400
Cesarean Section	Admissions	50	35	40
	Average length of stay	3.2	3.1	3.4
	Average billed charges per day	\$4,800	\$3,000	\$4,000
	Average allowed per day	\$2,400	\$2,500	\$2,000
Colonoscopy	Visits	80	90	100
	Average billed charges per visit	\$1,700	\$1,800	\$1,900
	Average allowed per visit	\$1,200	\$900	\$1,100
Appendectomy	Admissions	48	62	50
	Average length of stay	1.5	1.9	1.8
	Average billed charges per day	\$6,000	\$7,000	\$8,000
	Average allowed per day	\$4,100	\$4,400	\$5,100
Cardiac Stent	Admissions	20	16	18
	Average length of stay	3.5	2.9	3.2
	Average billed charges per day	\$4,500	\$4,000	\$8,000
	Average allowed per day	\$3,500	\$3,900	\$3,700

Dominic

Quantum Email 3

From: Dominic Greene <DGreene@quantum.com>
To: You <JB007@Skyfall.com>
Sent: January 25, 2017
Subject: 2018 Bundle Targets

We are targeting the following changes in our professional and medical equipment provider contracts for 2018:

Exhibit 6B	
Professional services increase from 2017	2%
Medical equipment and supplies increase from 2017	2%

We are also pursuing bundled contracts for select services. Proposed bundled payment rates are:

Exhibit 6C	
Knee Replacement	\$38,200 per bundle
Hip Replacement	\$31,000 per bundle
Cesarean Section	\$15,000 per bundle
Colonoscopy	\$2,100 per bundle
Appendectomy	\$11,000 per bundle
Cardiac Stent	\$23,000 per bundle

Let me know if you have any questions – Dominic

Casino Royale Health & Life Insurance Company (Royale Health)

Large Group Products/Administrative Services Only

Royale Health, incorporated in 1980, offers coverage options for large group employers, including fully insured options and administrative services only (ASO) options. Health coverage plan options offered by Royale Health include medical and prescription plans, which are marketed primarily through agents and brokers. Royale Health has been successful in establishing its own preferred provider networks in the Midwestern states and has the second largest market share in the large group market of the Midwest Region. The medical plan portfolio includes PPO plans and qualified high deductible health plans (HDHP), which can be combined with a Health Savings Account (HSA). Royale Health also administers Health Reimbursement Arrangements (HRA) offered by employers. Royale Health's Board is considering a proposition for incorporating a managed care business division that can leverage its fast growing provider networks to offer competitively priced HMO, POS, and PPO plans.

Rates for large groups are experience rated on either a prospective or retrospective basis. Royale Health's underwriting department will, at its discretion, consider retrospective experience rating for groups with more than 2,000 enrolled members.

For its self-funded groups, Royale Health also provides stop loss coverage as an option for these groups to mitigate their risks. Groups can choose between specific and aggregate stop loss or, most commonly, choose a combination of both.

Royale Health has various disease management programs through third-parties and a few programs maintained in house. Executive management is determining whether or not to continue the in-house programs. Staff has pulled together the following baseline data for 2015 for the chronic member population:

Exhibit 7 - Chronic Member Baseline Data (2015)			
Chronic Grouping	Terminating	Continuing	Newly Identified
Average Cost (PMPM)	\$875.00	\$765.00	\$680.00
Member Months	45,000	120,000	60,000

****Royale Health Email 1****

From: Le Chiffre <lechiffre@RoyaleHealth.com>
 To: You <JB007@Skyfall.com>
 Sent: March 9, 2017
 Subject: FW: DM Study

Here is the email we received from our disease management TPA. Please review and provide your advice.

Thanks,
 Le Chiffre

From: Vesper Lynd <VLynd@holdemdm.com>
 To: Le Chiffre <lechiffre@RoyaleHealth.com>
 Sent: March 8, 2017
 Subject: DM Study

Hello!! We are very excited to share with you the most recent data for the disease management program we have implemented. We have include the baseline data and first year for the most common chronic illnesses as well as all chronic illnesses and the indexed population. Please let me know if you need more data. Call with questions!

Exhibit 8 - Holdem DM Program Study						
	<u>Baseline Data</u>					
	HIV	Transplants	Cancer	Heart Failure	All Chronic	Indexed
Member Months	14,000	9,000	6,000	10,000	200,000	650,000
Admissions	560	540	1,890	7,050	14,000	
Claims PMPM	\$700.00	\$1,000.00	\$2,100.00	\$2,500.00	\$325.00	\$150.00
	<u>Intervention Period - Year 1</u>					
	HIV	Transplants	Cancer	Heart Failure	All Chronic	Indexed
Member Months	16,200	11,025	6,075	11,925	225,000	700,000
Admissions	610	620	1,820	8,360	15,500	
Claims PMPM	\$728.00	\$1,060.00	\$2,280.00	\$2,550.00	\$330.00	\$160.00

Thank you again so much for trusting us with your disease management needs.

Thanks,
 Vesper
 HoldEm DM

****Royale Health Email 2****

From: Le Chiffre <lechiffre@RoyaleHealth.com>
To: You <JB007@Skyfall.com>
Sent: February 17, 2017
Subject: Propensity Study

Here are the results from a matched and unmatched study on the heart failure disease management program. We would like your input and feedback on these results.

Exhibit 9 - Population Utilization Statistics						
	<u>Unmatched</u>			<u>Propensity Matched</u>		
	Heart Failure	Indexed	P-Value	Heart Failure	Indexed	P-Value
Admit/1000	200	203	0.0975	202	207	0.0003
Cost per Admit	\$12,000	\$12,250	0.0303	\$12,125	\$12,750	0.0000
Heart Failure Admit/1000	135	131	0.5983	136	140	0.0185
Cost per Heart Failure Admit	\$16,000	\$16,500	0.0340	\$16,350	\$17,250	0.0000
Compliance Heart Meds	0.65	0.63	0.4860	0.68	0.64	0.0234

Thanks,
Le Chiffre

****Royale Health Email 3****

From: Le Chiffre <lechiffre@RoyaleHealth.com>
To: You <JB007@Skyfall.com>
Sent: April 9, 2017
Subject: Provider Contract

We are actively working with one of our biggest providers in the area, Lynd Hospital System, to renew our reimbursement arrangements with them. There have been a lot of changes to the current contract. I would like your review. I have attached the proposed provider contract for the Lynd Hospital System.

We are also working with Montenegro Hospital, but their contract is not as complex. I will attach it as well.

Thanks,
Le Chiffre

Lynd Hospital System Contract – Effective 1/1/2017 to 12/31/2019

This Contract is between C. Royale Health & Life Insurance Company (Royale Health) and Lynd Hospital System (Lynd Hospital). The effective dates of this contract are January 1, 2017 – December 31, 2019. Below are the details of the reimbursement arrangements between the two parties.

Inpatient Services

Acute Inpatient Per Diem Rates

<i>Acute Inpatient Services</i>	<i>Per Diem Rate Effective 1/1/2017</i>	<i>Per Diem Rate Effective 1/1/2018</i>	<i>Per Diem Rate Effective 1/1/2019</i>
<i>Medical/Surgical/Pediatrics</i>	\$5,000	\$5,250	\$5,600
<i>ICU/CCU</i>	\$6,000	\$6,360	\$6,650
<i>NICU – Level I</i>	\$1,000	\$1,100	\$1,150
<i>NICU – Level II</i>	\$3,000	\$3,100	\$3,200
<i>NICU – Level III</i>	\$5,000	\$5,000	\$5,000
<i>NICU – Level IV</i>	\$6,000	\$6,150	\$6,200

Acute Inpatient Case Rates

<i>Acute Inpatient Services</i>	<i>Covered Days</i>	<i>Case Rates</i>			<i>Per Diem in excess of Covered Days</i>		
		<i>Effective 1/1/2017</i>	<i>Effective 1/1/2018</i>	<i>Effective 1/1/2019</i>	<i>Effective 1/1/2017</i>	<i>Effective 1/1/2018</i>	<i>Effective 1/1/2019</i>
<i>Maternity – Normal Delivery</i>	3	\$8,000	\$8,100	\$8,300	\$2,600	\$2,700	\$2,800
<i>Maternity – C-Section</i>	5	\$12,000	\$12,200	\$12,400	\$2,400	\$2,500	\$2,500
<i>Coronary Surgery</i>	10	\$60,000	\$61,200	\$62,350	\$6,000	\$6,100	\$6,200
<i>Bariatric Surgery</i>	4	\$24,000	\$24,700	\$25,700	\$6,000	\$6,100	\$6,200
<i>Kidney Transplants</i>	<i>Entire Stay</i>	\$100,000	\$102,500	\$107,000	N/A	N/A	N/A

For Acute Inpatient Services that exceed the number of Covered Days as noted in the chart above, Royale Health shall pay Lynd Hospital at the applicable Per Diem Rate for all days that exceed the Covered Days.

Stop Loss Coverage – Inpatient Services

This Stop Loss Coverage is only applicable to services that are paid outside of the Case Rate section above. If Billed Charges for Acute Inpatient Services during a single admission exceed the Attachment Level (as defined below), Royal Health shall pay Lynd Hospital as follows:

1. For Inpatient Services provided up to and including the date the Attachment Level is reached, Royale Health shall pay Lynd Hospital at the applicable Per Diem Rate and
2. Royale Health shall pay Lynd Hospital at the rate equal to Billed Charges multiplied by the Stop Loss Percentage, for all Billed Charges provided during the admission that exceed the Attachment Level. Such payment shall be in lieu of the Per Diem Rate otherwise payable to Lynd Hospital.
3. For purposes of this Stop Loss payment provision, the “Attachment Level” and “Stop Loss Percentage” shall be the amounts set forth in the table below:

<i>Effective Date</i>	<i>Attachment Level</i>	<i>Stop Loss Percentage</i>
<i>1/1/2017</i>	<i>\$250,000</i>	<i>60%</i>
<i>1/1/2018</i>	<i>\$275,000</i>	<i>60%</i>
<i>1/1/2019</i>	<i>\$300,000</i>	<i>60%</i>

Outpatient Services

Outpatient Surgical Case Rates

<i>Outpatient Services</i>	<i>Case Rate Effective 1/1/2017</i>	<i>Case Rate Effective 1/1/2018</i>	<i>Case Rate Effective 1/1/2019</i>
<i>Cardiac Catheterization</i>	<i>\$6,000</i>	<i>\$6,150</i>	<i>\$6,300</i>
<i>Lithotripsy</i>	<i>\$5,500</i>	<i>\$5,600</i>	<i>\$5,750</i>
<i>Colonoscopy</i>	<i>\$4,000</i>	<i>\$4,500</i>	<i>\$5,000</i>
<i>Tonsillectomy</i>	<i>\$5,400</i>	<i>\$5,450</i>	<i>\$5,450</i>

Other Outpatient Surgical Rates

<i>Rate Effective 1/1/2017</i>	<i>Rate Effective 1/1/2018</i>	<i>Rate Effective 1/1/2019</i>
<i>50% of Billed Charges, not to exceed \$6,000 per visit</i>	<i>50% of Billed Charges, not to exceed \$6,500 per visit</i>	<i>50% of Billed Charges, not to exceed \$7,000 per visit</i>

Montenegro Hospital Contract – Effective 1/1/2017 to 12/31/2018

This Contract is between C. Royale Health & Life Insurance Company (Royale Health) and Montenegro Hospital (Montenegro). The effective dates of this contract are January 1, 2017 – December 31, 2018. Below are the details of the reimbursement arrangements between the two parties.

Inpatient Services

Acute Inpatient Per Diem Rates

<i>Acute Inpatient Services</i>	<i>Per Diem Rate Effective 1/1/2017</i>	<i>Per Diem Rate Effective 1/1/2018</i>
<i>Medical/Surgical/Pediatrics</i>	\$6,000	\$6,100
<i>ICU/CCU</i>	\$7,000	\$7,400
<i>NICU – Level I</i>	\$2,000	\$2,000
<i>NICU – Level II</i>	\$4,000	\$4,000
<i>NICU – Level III</i>	\$6,000	\$6,200
<i>NICU – Level IV</i>	\$7,000	\$7,500

Stop Loss Coverage – Inpatient Services

This Stop Loss Coverage is only applicable to services that are paid on a per diem rate. If Billed Charges for Acute Inpatient Services during a single admission exceed the Attachment Level (as defined below), Royal Health shall pay Montenegro Hospital as follows:

- Royale Health shall pay Montenegro Hospital at the rate equal to Billed Charges multiplied by the Stop Loss Percentage for all Billed Charges provided during the admission.
- The Stop Loss Percentage applies to the total amount of Billed Charges including both charges below and above the Attachment Level. Such payment shall be in lieu of the Per Diem Rate otherwise payable to Montenegro Hospital.

<i>Effective Date</i>	<i>Attachment Level</i>	<i>Stop Loss Percentage</i>
<i>1/1/2017</i>	\$150,000	50%
<i>1/1/2018</i>	\$175,000	50%
<i>1/1/2019</i>	\$200,000	50%

Outpatient Services

Outpatient Surgical Rates

<i>Rate Effective 1/1/2017</i>	<i>Rate Effective 1/1/2018</i>
<i>50% of Billed Charges, not to exceed \$9,000 per visit</i>	<i>50% of Billed Charges, not to exceed \$10,000 per visit</i>

Spectre Accountable Care Organization (SACO)

Accountable Care Organization

Spectre Accountable Care Organization is a provider group that joined together to provide high quality care to their patients. SACO is comprised of several groups of primary care and specialist physicians who have a common goal to provide comprehensive, coordinated health care. The providers focus on their relationship with the patients to ensure that they have a positive experience and improved health outcomes.

SACO is participating in the Medicare Shared Savings Program (MSSP).

SACO Email 1

From: Madeleine Swann <MSwann@SACO.com>
To: You <JB007@Skyfall.com>
Sent: February 2, 2017
Subject: Medicare Shared Savings

We are analyzing the shared savings arrangements with CMS. We have been meeting the quality performance measures to qualify and have been working to reduce costs.

In the table below, you can see what our benchmarks were over the last two years:

Exhibit 10 - Benchmarks		
	2015	2016
Benchmarks	\$955.00	\$1,010.00

I'm not sure what other information you need, but I had Mr. Hinx pull these benchmarks. If you need anything else, don't hesitate to ask.

Thanks again,
Madeleine Swann
Chief Financial Officer
Spectre Accountable Care Organization

The Thunderball Corporation (Thunderball)

The Thunderball Corporation is a large insurance company operating in the United States and Canada. The corporate vision is to be a comprehensive provider of long term insurance products. Thunderball seeks to offer competitive products earning reasonable return for stockholders while growing at a financially sustainable rate. Thunderball offers Group Long-Term Disability, Group Life, and Group and Individual Long-Term Care.

Long-Term Disability

Thunderball has experienced steady growth in Long-Term Disability sales. The following tables show the reserve factors for various ages and durations. Exhibits 11 & 12 are the newest tables created by the internal team, and Exhibits 13 & 14 are the tables that have been used for many years.

Exhibit 11 - Claim Reserve Factors											
\$3,000 Indexed Gross Monthly Benefit to Age 65, Reserves per \$1 Benefit, No Diagnosis, Three Month Elimination Period, 24 Month Own Occupation Period, 5.0% Discount Rate											
Age	Duration (Months)	Male	Female	Age	Duration (Months)	Male	Female	Age	Duration (Months)	Male	Female
27	4	24.70	27.90	35	4	34.22	37.74	43	4	40.68	42.48
27	9	42.20	46.40	35	9	53.96	58.00	43	9	59.66	61.74
27	18	60.60	64.90	35	18	71.40	77.06	43	18	74.16	78.54
27	27	70.10	74.50	35	27	79.62	86.02	43	27	80.02	85.24
27	48	100.60	105.20	35	48	103.08	111.04	43	48	94.04	100.74
27	60	106.10	110.20	35	60	106.26	114.04	43	60	94.24	100.78
28	4	25.89	29.13	36	4	35.41	38.97	44	4	41.36	42.86
28	9	43.67	47.85	36	9	55.43	59.45	44	9	60.12	61.88
28	18	61.95	66.42	36	18	72.75	78.58	44	18	74.17	78.28
28	27	71.29	75.94	36	27	80.81	87.46	44	27	79.69	84.63
28	48	100.91	105.93	36	48	103.39	111.77	44	48	92.43	98.78
28	60	106.12	110.68	36	60	106.28	114.52	44	60	92.23	98.41
29	4	27.08	30.36	37	4	36.60	40.20	45	4	42.04	43.24
29	9	45.14	49.30	37	9	56.90	60.90	45	9	60.58	62.02
29	18	63.30	67.94	37	18	74.10	80.10	45	18	74.18	78.02
29	27	72.48	77.38	37	27	82.00	88.90	45	27	79.36	84.02
29	48	101.22	106.66	37	48	103.70	112.50	45	48	90.82	96.82
29	60	106.14	111.16	37	60	106.30	115.00	45	60	90.22	96.04
30	4	28.27	31.59	38	4	37.28	40.58	46	4	42.72	43.62
30	9	46.61	50.75	38	9	57.36	61.04	46	9	61.04	62.16
30	18	64.65	69.46	38	18	74.11	79.84	46	18	74.19	77.76
30	27	73.67	78.82	38	27	81.67	88.29	46	27	79.03	83.41
30	48	101.53	107.39	38	48	102.09	110.54	46	48	89.21	94.86
30	60	106.16	111.64	38	60	104.29	112.63	46	60	88.21	93.67
31	4	29.46	32.82	39	4	37.96	40.96	47	4	43.40	44.00
31	9	48.08	52.20	39	9	57.82	61.18	47	9	61.50	62.30
31	18	66.00	70.98	39	18	74.12	79.58	47	18	74.20	77.50
31	27	74.86	80.26	39	27	81.34	87.68	47	27	78.70	82.80
31	48	101.84	108.12	39	48	100.48	108.58	47	48	87.60	92.90
31	60	106.18	112.12	39	60	102.28	110.26	47	60	86.20	91.30
32	4	30.65	34.05	40	4	38.64	41.34	48	4	42.58	42.95
32	9	49.55	53.65	40	9	58.28	61.32	48	9	59.79	60.36
32	18	67.35	72.50	40	18	74.13	79.32	48	18	71.50	74.47
32	27	76.05	81.70	40	27	81.01	87.07	48	27	75.32	79.03
32	48	102.15	108.85	40	48	98.87	106.62	48	48	82.39	87.22
32	60	106.20	112.60	40	60	100.27	107.89	48	60	80.29	84.91
33	4	31.84	35.28	41	4	39.32	41.72	49	4	41.76	41.90
33	9	51.02	55.10	41	9	58.74	61.46	49	9	58.08	58.42
33	18	68.70	74.02	41	18	74.14	79.06	49	18	68.80	71.44
33	27	77.24	83.14	41	27	80.68	86.46	49	27	71.94	75.26
33	48	102.46	109.58	41	48	97.26	104.66	49	48	77.18	81.54
33	60	106.22	113.08	41	60	98.26	105.52	49	60	74.38	78.52
34	4	33.03	36.51	42	4	40.00	42.10	50	4	40.94	40.85
34	9	52.49	56.55	42	9	59.20	61.60	50	9	56.37	56.48
34	18	70.05	75.54	42	18	74.15	78.80	50	18	66.10	68.41
34	27	78.43	84.58	42	27	80.35	85.85	50	27	68.56	71.49
34	48	102.77	110.31	42	48	95.65	102.70	50	48	71.97	75.86
34	60	106.24	113.56	42	60	96.25	103.15	50	60	68.47	72.13

Exhibit 12 - Claim Reserve Factors											
\$3,000 Indexed Gross Monthly Benefit to Age 65, Reserves per \$1 Benefit, No Diagnosis, Six Month Elimination Period, 24 Month Own Occupation Period, 5.0% Discount Rate											
Age	Duration (Months)	Male	Female	Age	Duration (Months)	Male	Female	Age	Duration (Months)	Male	Female
27	7	40.80	45.30	35	4	52.24	56.50	43	4	57.74	60.02
27	9	45.80	50.20	35	9	57.40	61.80	43	9	62.46	65.00
27	18	62.30	66.80	35	18	72.94	78.72	43	18	75.30	79.84
27	27	74.60	79.20	35	27	83.40	90.16	43	27	82.54	88.10
27	48	100.60	105.20	35	48	103.08	111.04	43	48	94.04	100.74
27	60	106.10	110.20	35	60	106.26	114.04	43	60	94.24	100.78
28	4	42.23	46.70	36	4	53.67	57.90	44	7	58.18	60.14
28	9	47.25	51.65	36	9	58.85	63.25	44	9	62.82	65.05
28	18	63.63	68.29	36	18	74.27	80.21	44	18	75.25	79.53
28	27	75.70	80.57	36	27	84.50	91.53	44	27	82.03	87.30
28	48	100.91	105.93	36	48	103.39	111.77	44	48	92.43	98.78
28	60	106.12	110.68	36	60	106.28	114.52	44	60	92.23	98.41
29	4	43.66	48.10	37	7	55.10	59.30	45	4	58.62	60.26
29	9	48.70	53.10	37	9	60.30	64.70	45	9	63.18	65.10
29	18	64.96	69.78	37	18	75.60	81.70	45	18	75.20	79.22
29	27	76.80	81.94	37	27	85.60	92.90	45	27	81.52	86.50
29	48	101.22	106.66	37	48	103.70	112.50	45	48	90.82	96.82
29	60	106.14	111.16	37	60	106.30	115.00	45	60	90.22	96.04
30	7	45.09	49.50	38	4	55.54	59.42	46	4	59.06	60.38
30	9	50.15	54.55	38	9	60.66	64.75	46	9	63.54	65.15
30	18	66.29	71.27	38	18	75.55	81.39	46	18	75.15	78.91
30	27	77.90	83.31	38	27	85.09	92.10	46	27	81.01	85.70
30	48	101.53	107.39	38	48	102.09	110.54	46	48	89.21	94.86
30	60	106.16	111.64	38	60	104.29	112.63	46	60	88.21	93.67
31	4	46.52	50.90	39	4	55.98	59.54	47	7	59.50	60.50
31	9	51.60	56.00	39	9	61.02	64.80	47	9	63.90	65.20
31	18	67.62	72.76	39	18	75.50	81.08	47	18	75.10	78.60
31	27	79.00	84.68	39	27	84.58	91.30	47	27	80.50	84.90
31	48	101.84	108.12	39	48	100.48	108.58	47	48	87.60	92.90
31	60	106.18	112.12	39	60	102.28	110.26	47	60	86.20	91.30
32	4	47.95	52.30	40	7	56.42	59.66	48	4	57.91	58.67
32	9	53.05	57.45	40	9	61.38	64.85	48	9	62.05	63.10
32	18	68.95	74.25	40	18	75.45	80.77	48	18	72.35	75.50
32	27	80.10	86.05	40	27	84.07	90.50	48	27	76.85	80.85
32	48	102.15	108.85	40	48	98.87	106.62	48	48	82.39	87.22
32	60	106.20	112.60	40	60	100.27	107.89	48	60	80.29	84.91
33	4	49.38	53.70	41	4	56.86	59.78	49	4	56.32	56.84
33	9	54.50	58.90	41	9	61.74	64.90	49	9	60.20	61.00
33	18	70.28	75.74	41	18	75.40	80.46	49	18	69.60	72.40
33	27	81.20	87.42	41	27	83.56	89.70	49	27	73.20	76.80
33	48	102.46	109.58	41	48	97.26	104.66	49	48	77.18	81.54
33	60	106.22	113.08	41	60	98.26	105.52	49	60	74.38	78.52
34	7	50.81	55.10	42	4	57.30	59.90	50	7	54.73	55.01
34	9	55.95	60.35	42	9	62.10	64.95	50	9	58.35	58.90
34	18	71.61	77.23	42	18	75.35	80.15	50	18	66.85	69.30
34	27	82.30	88.79	42	27	83.05	88.90	50	27	69.55	72.75
34	48	102.77	110.31	42	48	95.65	102.70	50	48	71.97	75.86
34	60	106.24	113.56	42	60	96.25	103.15	50	60	68.47	72.13

Exhibit 13 - Claim Reserve Factors											
\$3,000 Indexed Gross Monthly Benefit to Age 65, Reserves per \$1 Benefit, No Diagnosis, Three Month Elimination Period, 24 Month Own Occupation Period, 5.0% Discount Rate											
Age	Duration (Months)	Male	Female	Age	Duration (Months)	Male	Female	Age	Duration (Months)	Male	Female
27	7	44.40	47.20	35	7	52.80	55.52	43	7	58.50	60.54
27	9	68.70	76.00	35	9	76.22	82.72	43	9	78.52	83.32
27	18	95.00	110.80	35	18	98.28	111.12	43	18	94.36	103.40
27	27	108.30	127.50	35	27	109.34	124.62	43	27	101.26	111.72
27	48	127.50	146.40	35	48	121.34	136.00	43	48	105.34	114.92
27	60	133.70	151.10	35	60	123.54	137.10	43	60	103.96	112.72
28	7	45.45	48.24	36	7	53.85	56.56	44	7	59.10	61.03
28	9	69.64	76.84	36	9	77.16	83.56	44	9	78.59	83.14
28	18	95.41	110.84	36	18	98.69	111.16	44	18	93.57	102.10
28	27	108.43	127.14	36	27	109.47	124.26	44	27	99.87	109.69
28	48	126.73	145.10	36	48	120.57	134.70	44	48	102.93	111.84
28	60	132.43	149.35	36	60	122.27	135.35	44	60	101.12	109.24
29	7	46.50	49.28	37	7	54.90	57.60	45	7	59.70	61.52
29	9	70.58	77.68	37	9	78.10	84.40	45	9	78.66	82.96
29	18	95.82	110.88	37	18	99.10	111.20	45	18	92.78	100.80
29	27	108.56	126.78	37	27	109.60	123.90	45	27	98.48	107.66
29	48	125.96	143.80	37	48	119.80	133.40	45	48	100.52	108.76
29	60	131.16	147.60	37	60	121.00	133.60	45	60	98.28	105.76
30	7	47.55	50.32	38	7	55.50	58.09	46	7	60.30	62.01
30	9	71.52	78.52	38	9	78.17	84.22	46	9	78.73	82.78
30	18	96.23	110.92	38	18	98.31	109.90	46	18	91.99	99.50
30	27	108.69	126.42	38	27	108.21	121.87	46	27	97.09	105.63
30	48	125.19	142.50	38	48	117.39	130.32	46	48	98.11	105.68
30	60	129.89	145.85	38	60	118.16	130.12	46	60	95.44	102.28
31	7	48.60	51.36	39	7	56.10	58.58	47	7	60.90	62.50
31	9	72.46	79.36	39	9	78.24	84.04	47	9	78.80	82.60
31	18	96.64	110.96	39	18	97.52	108.60	47	18	91.20	98.20
31	27	108.82	126.06	39	27	106.82	119.84	47	27	95.70	103.60
31	48	124.42	141.20	39	48	114.98	127.24	47	48	95.70	102.60
31	60	128.62	144.10	39	60	115.32	126.64	47	60	92.60	98.80
32	7	49.65	52.40	40	7	56.70	59.07	48	7	59.59	61.03
32	9	73.40	80.20	40	9	78.31	83.86	48	9	76.27	79.76
32	18	97.05	111.00	40	18	96.73	107.30	48	18	87.38	93.83
32	27	108.95	125.70	40	27	105.43	117.81	48	27	91.06	98.32
32	48	123.65	139.90	40	48	112.57	124.16	48	48	89.77	96.07
32	60	127.35	142.35	40	60	112.48	123.16	48	60	86.09	91.72
33	7	50.70	53.44	41	7	57.30	59.56	49	7	58.28	59.56
33	9	74.34	81.04	41	9	78.38	83.68	49	9	73.74	76.92
33	18	97.46	111.04	41	18	95.94	106.00	49	18	83.56	89.46
33	27	109.08	125.34	41	27	104.04	115.78	49	27	86.42	93.04
33	48	122.88	138.60	41	48	110.16	121.08	49	48	83.84	89.54
33	60	126.08	140.60	41	60	109.64	119.68	49	60	79.58	84.64
34	7	51.75	54.48	42	7	57.90	60.05	50	7	56.97	58.09
34	9	75.28	81.88	42	9	78.45	83.50	50	9	71.21	74.08
34	18	97.87	111.08	42	18	95.15	104.70	50	18	79.74	85.09
34	27	109.21	124.98	42	27	102.65	113.75	50	27	81.78	87.76
34	48	122.11	137.30	42	48	107.75	118.00	50	48	77.91	83.01
34	60	124.81	138.85	42	60	106.80	116.20	50	60	73.07	77.56

Exhibit 14 - Claim Reserve Factors											
\$3,000 Indexed Gross Monthly Benefit to Age 65, Reserves per \$1 Benefit, No Diagnosis, Six Month Elimination Period, 24 Month Own Occupation Period, 5.0% Discount Rate											
Age	Duration (Months)	Male	Female	Age	Duration (Months)	Male	Female	Age	Duration (Months)	Male	Female
27	7	67.80	74.40	35	7	76.44	82.48	43	7	78.36	82.70
27	9	74.40	82.90	35	9	82.16	89.62	43	9	82.78	88.18
27	18	96.90	113.10	35	18	100.02	113.18	43	18	95.58	104.80
27	27	111.60	130.90	35	27	111.76	126.98	43	27	102.50	112.80
27	48	127.50	146.40	35	48	121.34	136.00	43	48	105.34	114.92
27	60	133.70	151.10	35	60	123.54	137.10	43	60	103.96	112.72
28	7	68.88	75.41	36	7	77.52	83.49	44	7	78.32	82.40
28	9	75.37	83.74	36	9	83.13	90.46	44	9	82.56	87.66
28	18	97.29	113.11	36	18	100.41	113.19	44	18	94.71	103.40
28	27	111.62	130.41	36	27	111.78	126.49	44	27	100.95	110.60
28	48	126.73	145.10	36	48	120.57	134.70	44	48	102.93	111.84
28	60	132.43	149.35	36	60	122.27	135.35	44	60	101.12	109.24
29	7	69.96	76.42	37	7	78.60	84.50	45	7	78.28	82.10
29	9	76.34	84.58	37	9	84.10	91.30	45	9	82.34	87.14
29	18	97.68	113.12	37	18	100.80	113.20	45	18	93.84	102.00
29	27	111.64	129.92	37	27	111.80	126.00	45	27	99.40	108.40
29	48	125.96	143.80	37	48	119.80	133.40	45	48	100.52	108.76
29	60	131.16	147.60	37	60	121.00	133.60	45	60	98.28	105.76
30	7	71.04	77.43	38	7	78.56	84.20	46	7	78.24	81.80
30	9	77.31	85.42	38	9	83.88	90.78	46	9	82.12	86.62
30	18	98.07	113.13	38	18	99.93	111.80	46	18	92.97	100.60
30	27	111.66	129.43	38	27	110.25	123.80	46	27	97.85	106.20
30	48	125.19	142.50	38	48	117.39	130.32	46	48	98.11	105.68
30	60	129.89	145.85	38	60	118.16	130.12	46	60	95.44	102.28
31	7	72.12	78.44	39	7	78.52	83.90	47	7	78.20	81.50
31	9	78.28	86.26	39	9	83.66	90.26	47	9	81.90	86.10
31	18	98.46	113.14	39	18	99.06	110.40	47	18	92.10	99.20
31	27	111.68	128.94	39	27	108.70	121.60	47	27	96.30	104.00
31	48	124.42	141.20	39	48	114.98	127.24	47	48	95.70	102.60
31	60	128.62	144.10	39	60	115.32	126.64	47	60	92.60	98.80
32	7	73.20	79.45	40	7	78.48	83.60	48	7	75.68	78.68
32	9	79.25	87.10	40	9	83.44	89.74	48	9	79.06	82.91
32	18	98.85	113.15	40	18	98.19	109.00	48	18	88.19	94.73
32	27	111.70	128.45	40	27	107.15	119.40	48	27	91.44	98.51
32	48	123.65	139.90	40	48	112.57	124.16	48	48	89.77	96.07
32	60	127.35	142.35	40	60	112.48	123.16	48	60	86.09	91.72
33	7	74.28	80.46	41	7	78.44	83.30	49	7	73.16	75.86
33	9	80.22	87.94	41	9	83.22	89.22	49	9	76.22	79.72
33	18	99.24	113.16	41	18	97.32	107.60	49	18	84.28	90.26
33	27	111.72	127.96	41	27	105.60	117.20	49	27	86.58	93.02
33	48	122.88	138.60	41	48	110.16	121.08	49	48	83.84	89.54
33	60	126.08	140.60	41	60	109.64	119.68	49	60	79.58	84.64
34	7	75.36	81.47	42	7	78.40	83.00	50	7	70.64	73.04
34	9	81.19	88.78	42	9	83.00	88.70	50	9	73.38	76.53
34	18	99.63	113.17	42	18	96.45	106.20	50	18	80.37	85.79
34	27	111.74	127.47	42	27	104.05	115.00	50	27	81.72	87.53
34	48	122.11	137.30	42	48	107.75	118.00	50	48	77.91	83.01
34	60	124.81	138.85	42	60	106.80	116.20	50	60	73.07	77.56

Moonraker Energy (Moonraker)

Moonraker Energy is a large company that has a network of laboratories and offices to support energy industries. Moonraker offers a broad range of consulting engagements including strategies for improving efficiencies in manufacturing and logistics, testing, inspection, and certification of a wide variety of products.

As of 2015, Moonraker’s employee census includes 11,875 full-time (working 30 hours or more) and 700 part-time employees. Exhibit 15 shows a census of the full-time employees by risk cohort for the last 3 years. Moonraker plans to expand its core services to pharmaceutical and biotech industries. Moonraker is actively hiring research chemists, inspectors, and biostatisticians to expand its market reach.

Exhibit 15 - Membership by Cohort			
Cohort	2014	2015	2016
Low Risk	8,625	8,750	8,925
Medium Risk	2,300	2,450	2,600
High Risk	575	675	725
Total	11,500	11,875	12,250

The Company has also analyzed the claim costs of the full-time employees by risk cohort. Moonraker is interested in getting Skyfall’s help with analyzing the potential savings to them if they implement a disease management program.

Exhibit 16 - Claim Costs by Cohort			
Cohort	2014	2015	2016
Low Risk	\$ 525.00	\$ 546.00	\$ 560.00
Medium Risk	\$ 615.00	\$ 645.75	\$ 679.00
High Risk	\$ 700.00	\$ 742.00	\$ 787.00

Due to its statistically credible size, Moonraker’s health insurance plans are 100% experience rated. Moonraker currently offers two fully-insured group health plan options to its full-time employees. Employees have the option of a PPO plan with different cost-sharing for in and out of network and a high deductible health plan (HDHP). Exhibit 19 shows the plans available to their employees.

The newly appointed Benefit Director is exploring if it is advantageous to replace the fully-insured plans with a self-insured plan and an ASO arrangement. Possible self-insured plan options include mirroring the fully insured benefit models or adapting it to meet the specific needs of employees through a customized suite of benefit and product options. As part of this discussion, the Benefit Director understands that, in order to mitigate risk, Moonraker should consider obtaining stop loss coverage if they determine to proceed with the ASO arrangement.

****Moonraker Email 1****

From: Hugo Drax <hugo@Moonraker.com>
To: You <JB007@Skyfall.com>
Sent: December 30, 2016
Subject: FW: Large Claims

We are still thinking hard about switching to a self-insured plan, but there is so much to consider. CFO Sir Frederick Gray is highly concerned with the additional risk that an ASO arrangement brings. We reached out to Royale Health, per your recommendation, to get more information about their stop loss coverage options. See the email below for more information.

I'll be in touch soon.

Thanks ----- Hugo

From: Le Chiffre <lechiffre@RoyaleHealth.com>
To: Hugo Drax <hugo@Moonraker.com>
Sent: December 29, 2016
Subject: Large Claims

Mr. Drax,

We have always appreciated your business with us. We are always excited to grow with our employer groups as they seek to provide better and more affordable health care options to its employees. We have pulled the following large claimant information from your recent experience. There have been 9 larger claims. This should give you a better idea about the stop loss plan design you are considering.

Exhibit 17 - Total Annual Claims	
Claimant	Total Claims
Claimant J	\$125,000
Claimant A	\$500,000
Claimant M	\$185,000
Claimant E	\$135,000
Claimant S	\$300,000
Claimant B	\$150,000
Claimant O	\$160,000
Claimant N	\$275,000
Claimant D	\$195,000

We look forward to moving things along.

Le Chiffre, Royale Health & Life Insurance Company
lechiffre@RoyaleHealth.com

****Moonraker Email 2****

From: Hugo Drax <hugo@Moonraker.com>
To: You <JB007@Skyfall.com>
Sent: January 7, 2017
Subject: Claims Experience

Hi James,

You requested our group's claim experience. This is the paid claims data for incurred months January 2015 through July 2016. The paid claims have been paid through December 2016.

Exhibit 18 - Claims Experience			
Incurred Month	Paid Claims	Members	Paid Claims PMPM
Jan-2015	\$7,410,000	11,875	\$624.00
Feb-2015	\$7,849,375	11,875	\$661.00
Mar-2015	\$7,540,625	11,875	\$635.00
Apr-2015	\$7,647,500	11,875	\$644.00
May-2015	\$7,386,250	11,875	\$622.00
Jun-2015	\$6,745,000	11,875	\$568.00
Jul-2015	\$7,540,625	11,875	\$635.00
Aug-2015	\$5,011,250	11,875	\$422.00
Sep-2015	\$7,101,250	11,875	\$598.00
Oct-2015	\$7,635,625	11,875	\$643.00
Nov-2015	\$6,032,500	11,875	\$508.00
Dec-2015	\$6,721,250	11,875	\$566.00
Jan-2016	\$7,288,750	12,250	\$595.00
Feb-2016	\$7,533,750	12,250	\$615.00
Mar-2016	\$6,921,250	12,250	\$565.00
Apr-2016	\$7,227,500	12,250	\$590.00
May-2016	\$6,860,000	12,250	\$560.00
Jun-2016	\$6,676,250	12,250	\$545.00
Jul-2016	\$7,043,750	12,250	\$575.00

Let me know if you have any questions.

Thanks,

Hugo
Moonraker Energy

Exhibit 19 - Medical Benefits			
	<u>PPO</u>		<u>HDHP</u>
	<i>In-Network</i>	<i>Out-of-Network</i>	<i>Benefits</i>
Annual Deductible Deductible does not apply to services denoted with *	\$500 per member or \$1,500 per family	\$500 per member or \$1,500 per family	\$3,000 per member or \$6,000 per family
Member Coinsurance	10%	30%	0%
Out-of-Pocket Limit	\$2,500 per member or \$7,500 per family	\$4,000 per member or \$12,000 per family	\$3,000 per member or \$6,000 per family
Benefits			
Office Visits	\$25 copay per visit	30% coinsurance	0% coinsurance after deductible
Preventative Care Services	Covered in Full *	Covered in Full *	Covered in Full *
Maternity Care Routine outpatient prenatal and postpartum visits	Covered in Full *	Covered in Full *	Covered in Full *
Chiropractic/Manipulative Therapy 10 visits per calendar year	10% coinsurance	30% coinsurance	0% coinsurance after deductible
Acupuncture 12 visits per calendar year	10% coinsurance	30% coinsurance	0% coinsurance after deductible
Emergency care	\$150 copay + 10% coinsurance	\$100 copay + 10% coinsurance	0% coinsurance after deductible
Skilled Nursing 60 days per calendar year	10% coinsurance	30% coinsurance	0% coinsurance after deductible \$10,000 Calendar Year Maximum
Adult Vision 1 routine exam per year; annual hardware allowance	\$10 primary/ \$10 specialty copay per visit \$100 toward glasses or contact lenses*	\$10 primary/ \$10 specialty copay per visit \$100 toward glasses or contact lenses*	\$20 primary/ \$20 specialty copay per visit \$100 toward glasses or contact lenses*
Pediatric Vision 1 routine exam per year; Hardware - 1 paid of lenses and frames or contacts per year	Covered in Full *	Covered in Full *	Covered in Full *
Pediatric Dental Preventative and restorative services	Preventative services covered in full * Other services subject to dental deductible and coinsurance	Preventative services covered in full * Other services subject to dental deductible and coinsurance	Preventative services covered in full * Other services subject to dental deductible and coinsurance
Prescription Drugs Cost per 30-day supply	Filed at pharmacy: \$10 preferred generic*; 20% preferred brand* including specialty brand* Filed by mail order: \$5 preferred generic*; 15% preferred brand* including specialty brand*	Filed at pharmacy: 20% coinsurance; including specialty brand*	0% coinsurance after deductible

* Deductible does not apply to services denoted with *

Dr. No's Herbal Tea (Dr. No's)

Dr. No's Herbal Tea is a startup firm, co-founded by Dr. No and Dr. Honey in 2009. Dr. No's currently has 10,000 employees. Due to the increasing popularity of its organic spiced herbal tea products, Dr. No's has significantly increased its employee size over the last several years to meet its growing operational and marketing needs.

Dr. No's started offering a fully insured managed care health plan, with generous disease management programs for chronic illnesses (such as diabetes, asthma), to its employees in 2012. Dr. No's provides all employees with a subsidy of \$100 PEPM towards the 2016 health insurance premium shown below:

Exhibit 20 - Premium PEPM			
Single	EE + Spouse	EE + Children	Family
\$351	\$705	\$452	\$857

The chart below shows the number of members by each chronic illness for 2016.

Exhibit 21 - Chronic Illnesses	
Chronic Illness	Number of Members
Diabetes	520
Coronary Artery Disease	240
Congestive Heart Failure	90
COPD/Asthma	560
Cancer	130
Mental Health/ Substance Abuse	1,440
Metabolic Disorder	1,400
Musculoskeletal	470

Dr. No's is considering various disease management and other cost savings methods for their chronically ill employees.