

Group & Health Advanced Exam

Case Study

Spring 2019

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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 that 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 US. 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 2017 and December 2018 with paid data through December 2018. These exhibits are various steps in the reserve calculation process.

Exhibit 1 - Monthly Claims Experience (\$ in Thousands)																			
Quantum Legacy III - Individual																			
	Paid Month																		
	Jul-2017	Aug-2017	Sep-2017	Oct-2017	Nov-2017	Dec-2017	Jan-2018	Feb-2018	Mar-2018	Apr-2018	May-2018	Jun-2018	Jul-2018	Aug-2018	Sep-2018	Oct-2018	Nov-2018	Dec-2018	Total
Incurred Month	Jul-2017	31	725	590	217	152	38	23	20	24	11	10	2	-	-	-	-	-	1,843
	Aug-2017	-	54	652	749	246	80	17	16	12	19	14	7	5	-	-	-	-	1,871
	Sep-2017	-	-	56	763	965	338	74	33	34	14	9	3	4	5	-	-	-	2,298
	Oct-2017	-	-	-	44	755	920	287	31	61	44	12	3	2	8	18	-	-	2,185
	Nov-2017	-	-	-	-	43	844	1,035	214	160	67	14	19	9	19	8	4	-	2,436
	Dec-2017	-	-	-	-	-	44	685	631	204	71	15	10	1	5	5	10	2	1,683
	Jan-2018	-	-	-	-	-	-	31	625	591	258	290	23	8	7	39	6	1	1,888
	Feb-2018	-	-	-	-	-	-	-	35	910	750	183	79	28	31	86	18	2	2,132
	Mar-2018	-	-	-	-	-	-	-	-	19	810	521	156	50	15	16	33	2	1,629
	Apr-2018	-	-	-	-	-	-	-	-	-	34	367	383	226	137	29	50	13	1,252
	May-2018	-	-	-	-	-	-	-	-	-	-	23	432	432	405	133	32	17	1,489
	Jun-2018	-	-	-	-	-	-	-	-	-	-	-	29	306	306	338	138	188	1,321
	Jul-2018	-	-	-	-	-	-	-	-	-	-	-	-	43	349	375	283	76	1,166
	Aug-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	42	451	453	200	1,230
	Sep-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73	527	568	1,400
	Oct-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	304	778
Nov-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	640	
Dec-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	299	
Total	31	779	1,298	1,773	2,161	2,264	2,152	1,605	2,015	2,078	1,458	1,146	1,114	1,329	1,571	1,583	1,422	1,761	27,540

Exhibit 1 (continued) - Monthly Claims Experience (\$ in Thousands)																				
HMO - Individual (ACA - Compliant)																				
		Paid Month																		
		Jul-2017	Aug-2017	Sep-2017	Oct-2017	Nov-2017	Dec-2017	Jan-2018	Feb-2018	Mar-2018	Apr-2018	May-2018	Jun-2018	Jul-2018	Aug-2018	Sep-2018	Oct-2018	Nov-2018	Dec-2018	Total
Incurred Month	Jul-2017	15	362	337	115	56	21	10	10	7	6	16	1	-	-	-	-	-	-	956
	Aug-2017	-	32	427	364	177	50	15	12	7	15	13	3	1	-	-	-	-	-	1,116
	Sep-2017	-	-	21	276	389	128	30	14	9	6	4	4	1	5	-	-	-	-	887
	Oct-2017	-	-	-	13	240	301	94	9	23	16	6	1	1	3	4	-	-	-	711
	Nov-2017	-	-	-	-	14	312	354	67	74	27	6	7	4	11	5	2	-	-	883
	Dec-2017	-	-	-	-	-	17	331	312	100	17	7	5	3	1	4	7	1	-	805
	Jan-2018	-	-	-	-	-	-	14	304	295	125	162	11	3	4	21	4	1	5	949
	Feb-2018	-	-	-	-	-	-	-	13	297	277	67	15	7	3	9	10	1	4	703
	Mar-2018	-	-	-	-	-	-	-	-	11	450	292	84	25	7	6	14	8	3	900
	Apr-2018	-	-	-	-	-	-	-	-	-	18	220	244	151	113	16	33	16	10	821
	May-2018	-	-	-	-	-	-	-	-	-	-	13	244	253	257	73	12	11	10	873
	Jun-2018	-	-	-	-	-	-	-	-	-	-	-	19	183	213	237	103	140	8	903
	Jul-2018	-	-	-	-	-	-	-	-	-	-	-	-	28	246	280	208	58	28	848
	Aug-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	28	327	356	156	50	917
	Sep-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	329	356	154	881
	Oct-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	205	339	562
	Nov-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	882	952
	Dec-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	470	470
		Total	15	394	785	768	876	829	848	741	823	957	806	638	660	891	1,024	1,096	1,023	1,963

Exhibit 1 (continued) - Monthly Claims Experience (\$ in Thousands)																				
PPO - Individual (ACA-Compliant)																				
		Paid Month																		
		Jul-2017	Aug-2017	Sep-2017	Oct-2017	Nov-2017	Dec-2017	Jan-2018	Feb-2018	Mar-2018	Apr-2018	May-2018	Jun-2018	Jul-2018	Aug-2018	Sep-2018	Oct-2018	Nov-2018	Dec-2018	Total
Incurred Month	Jul-2017	7	155	145	49	24	9	4	4	3	2	7	-	-	-	-	-	-	-	409
	Aug-2017	-	14	187	160	78	22	6	5	3	7	6	2	1	-	-	-	-	-	491
	Sep-2017	-	-	9	118	167	55	13	6	4	2	2	2	2	2	-	-	-	-	382
	Oct-2017	-	-	-	5	100	125	39	4	9	7	2	-	-	1	2	-	-	-	294
	Nov-2017	-	-	-	-	6	128	146	28	30	11	2	3	1	4	2	1	-	-	362
	Dec-2017	-	-	-	-	-	8	143	135	43	7	3	2	1	-	2	3	-	-	347
	Jan-2018	-	-	-	-	-	-	6	129	125	53	69	5	1	2	9	2	-	-	403
	Feb-2018	-	-	-	-	-	-	-	5	122	114	28	6	3	1	4	4	-	-	289
	Mar-2018	-	-	-	-	-	-	-	-	5	186	120	35	10	3	2	6	3	1	371
	Apr-2018	-	-	-	-	-	-	-	-	-	8	96	106	66	49	7	14	7	4	357
	May-2018	-	-	-	-	-	-	-	-	-	-	5	104	107	109	31	5	5	4	370
	Jun-2018	-	-	-	-	-	-	-	-	-	-	-	8	81	95	105	46	62	3	400
	Jul-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	12	108	123	91	25	371
	Aug-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	141	153	67	395
	Sep-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	140	152	376
	Oct-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	90	246
	Nov-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	203
	Dec-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102
Total		7	169	341	332	375	347	357	316	344	397	340	273	285	386	446	473	426	554	6,168

Exhibit 2 – Monthly Claims Experience				
PPO - Individual (ACA-Compliant)				
		Paid Claims Through Dec 2018	Enrollment	Paid PMPM
Incurring Month	Jul-2017	409,000	1,980	206.57
	Aug-2017	491,000	1,980	247.98
	Sep-2017	382,000	1,860	205.38
	Oct-2017	294,000	1,620	181.48
	Nov-2017	362,000	1,620	223.46
	Dec-2017	347,000	1,620	214.20
	Jan-2018	403,000	1,620	248.77
	Feb-2018	289,000	2,040	141.67
	Mar-2018	371,000	2,100	176.67
	Apr-2018	357,000	2,040	175.00
	May-2018	370,000	2,040	181.37
	Jun-2018	400,000	2,100	190.48
	Jul-2018	371,000	2,100	176.67
Aug-2018	395,000	2,100	188.10	
Sep-2018	376,000	2,280	164.91	
Oct-2018	246,000	2,280	107.89	
Nov-2018	203,000	2,400	84.58	
Dec-2018	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-2017	11,100	4,000	1,980
Aug-2017	11,700	3,800	1,980
Sep-2017	11,400	3,750	1,860
Oct-2017	11,400	3,750	1,620
Nov-2017	11,400	3,750	1,620
Dec-2017	11,400	4,050	1,620
Jan-2018	11,800	4,100	1,620
Feb-2018	11,800	4,050	2,040
Mar-2018	12,000	4,100	2,100
Apr-2018	12,000	4,150	2,040
May-2018	12,700	4,200	2,040
Jun-2018	12,700	4,150	2,100
Jul-2018	11,700	4,450	2,100
Aug-2018	11,900	4,450	2,100
Sep-2018	12,100	4,600	2,280
Oct-2018	12,300	4,850	2,280
Nov-2018	12,300	4,850	2,400
Dec-2018	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-17	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-17	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-17	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-17	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-17	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-17	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-18	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-18	1.7%	42.2%	75.8%	80.9%	86.5%	88.0%	91.1%	98.8%	99.8%	99.9%	100.0%	
	Mar-18	0.6%	48.3%	73.9%	87.6%	90.5%	92.0%	94.6%	97.3%	99.7%	100.0%		
	Apr-18	4.0%	41.1%	59.2%	75.5%	92.3%	94.8%	98.0%	99.8%	100.0%			
	May-18	3.0%	41.3%	70.5%	86.5%	97.0%	98.7%	99.3%	100.0%				

Exhibit 4 (continued) - 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-17	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-17	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-17	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-17	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-17	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-17	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-18	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-18	1.7%	44.5%	79.7%	90.8%	93.7%	95.0%	95.4%	97.8%	99.1%	99.2%	100.0%	
	Mar-18	1.5%	51.7%	85.8%	93.8%	96.7%	97.6%	97.9%	99.5%	99.6%	100.0%		
	Apr-18	2.2%	27.5%	63.0%	81.8%	89.6%	92.0%	96.8%	98.5%	100.0%			
	May-18	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
Jul-17	12.039	1.655	1.299	1.090	1.114	1.013	1.004	1.027	1.014	1.116	1.003
Aug-17	12.231	2.112	1.199	1.200	1.015	1.013	1.020	1.002	1.026	1.037	1.057
Sep-17	23.283	1.894	1.191	1.190	1.020	1.021	1.014	1.011	1.028	1.044	1.037
Oct-17	5.845	1.593	1.171	1.183	1.025	1.031	1.013	1.001	1.014	1.070	1.078
Nov-17	11.674	2.469	1.806	1.033	1.086	1.004	1.050	1.001	1.109	1.026	1.071
Dec-17	12.605	1.516	1.163	1.117	1.093	1.022	1.002	1.004	1.032	1.056	1.005
Jan-18	14.917	1.581	1.121	1.240	1.022	1.004	1.031	1.025	1.026	1.019	1.048
Feb-18	17.920	1.936	1.173	1.115	1.014	1.022	1.124	1.029	1.024	1.031	-
Mar-18	42.812	1.940	1.152	1.011	1.017	1.004	1.005	1.009	1.005	-	-
Apr-18	7.140	2.985	1.104	1.174	1.021	1.031	1.009	1.008	-	-	-
May-18	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, 2019
 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		Cesarean Section	
Service Category	2017	2018	2017	2018	2017	2018
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	2017	2018	2017	2018	2017	2018
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, 2019
 Subject: 2019 Hospital Utilization Projection

We are projecting the following 2019 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, 2019
Subject: 2020 Bundle Targets

We are targeting the following changes in our professional and medical equipment provider contracts for 2020:

Exhibit 6B	
Professional services increase from 2019	2%
Medical equipment and supplies increase from 2019	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 2017 for the chronic member population:

Exhibit 7 - Chronic Member Baseline Data (2017)			
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, 2019
 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, 2019
 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, 2019
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, 2019
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 1/1/2019 to 12/31/2021

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, 2019 – December 31, 2021. 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 1/1/2019</i>	<i>Per Diem Rate Effective 1/1/2020</i>	<i>Per Diem Rate Effective 1/1/2021</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 1/1/2019</i>	<i>Effective 1/1/2020</i>	<i>Effective 1/1/2021</i>	<i>Effective 1/1/2019</i>	<i>Effective 1/1/2020</i>	<i>Effective 1/1/2021</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, Royal 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>1/1/2019</i>	<i>\$250,000</i>	<i>60%</i>
<i>1/1/2020</i>	<i>\$275,000</i>	<i>60%</i>
<i>1/1/2021</i>	<i>\$300,000</i>	<i>60%</i>

Outpatient Services

Outpatient Surgical Case Rates

<i>Outpatient Services</i>	<i>Case Rate Effective 1/1/2019</i>	<i>Case Rate Effective 1/1/2020</i>	<i>Case Rate Effective 1/1/2021</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 1/1/2019</i>	<i>Rate Effective 1/1/2020</i>	<i>Rate Effective 1/1/2021</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 1/1/2019 to 12/31/2020

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, 2019 – December 31, 2020. 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 1/1/2019</i>	<i>Per Diem Rate Effective 1/1/2020</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:

1. 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.
2. 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>1/1/2019</i>	\$150,000	50%
<i>1/1/2020</i>	\$175,000	50%
<i>1/1/2021</i>	\$200,000	50%

Outpatient Services

Outpatient Surgical Rates

<i>Rate Effective 1/1/2019</i>	<i>Rate Effective 1/1/2020</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 28, 2019
Subject: Cost Reduction Initiatives

We are considering several ways to improve our quality performance metrics and reduce cost. We would appreciate your insights as to how these will impact our bottom line – especially as it relates to shared savings under the MSSP.

The proposals are outlined below.

- Initiative 1 – Implementation of a disease management program. The program will cost SACO \$5,000,000 annually, but will reduce total patient costs by 3% in each of the first two years the program is in effect. The program will move SACO's relative quality rating up 5 percentiles for each of the first three years the program is in effect.
- Initiative 2 – Hiring of additional nursing staff that will allow SACO to permanently reduce billed charges for professional services from the current level by 2%.
- Initiative 3 – Additional training and IT support for our physicians such that average risk scores for our current population will increase 5% in Year 1, 2% in Year 2, and 1.5% in Year 3 due to more efficient diagnosis coding.
- Initiative 4 – Adoption by our physicians of a cutting-edge procedure that costs \$100,000 to perform but reduces costs for these patients by \$50,000 annually.
- Initiative 5 – Improved clerical and IT support that will allow our physicians to submit requests for procedure authorizations more efficiently. It will reduce the waiting time between when the procedure is recommend for a patient and when it is performed by one month.

If you need anything else, don't hesitate to ask.

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

****SACO Email 2****

From: Madeleine Swann <MSwann@SACO.com>
To: You <JB007@Skyfall.com>
Sent: March 15, 2019
Subject: MACRA

We are reviewing how MACRA impacts our clinicians' payment rates. We received the following table from CMS that defines the Threshold Scores required for Incentive Payments for Significant Participation in Advanced APMs:

Performance Year	2018	2019	2020	2021
Percentage of Payments through an Advanced APM	25%	50%	50%	75%
Percentage of Patients through an Advanced APM	20%	35%	35%	50%

Wanted to make sure you had this information as it will be an important component of our strategy.

Thanks,
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. Tables 11 & 12 are the newest tables created by the internal team, and Tables 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	7	52.24	56.50	43	7	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	7	42.23	46.70	36	7	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	7	43.66	48.10	37	7	55.10	59.30	45	7	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	7	55.54	59.42	46	7	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	7	46.52	50.90	39	7	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	7	47.95	52.30	40	7	56.42	59.66	48	7	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	7	49.38	53.70	41	7	56.86	59.78	49	7	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	7	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 2018, Moonraker’s employee census includes 12,250 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	2016	2017	2018
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	2016	2017	2018
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, 2018
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, 2018
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, 2019
Subject: Claims Experience

Hi James,

You requested our group's claim experience. This is the paid claims data for incurred months January 2017 through July 2018. The paid claims have been paid through December 2018.

Exhibit 18 - Claims Experience			
Incurred Month	Paid Claims	Members	Paid Claims PMPM
Jan-2017	\$7,410,000	11,875	\$624.00
Feb-2017	\$7,849,375	11,875	\$661.00
Mar-2017	\$7,540,625	11,875	\$635.00
Apr-2017	\$7,647,500	11,875	\$644.00
May-2017	\$7,386,250	11,875	\$622.00
Jun-2017	\$6,745,000	11,875	\$568.00
Jul-2017	\$7,540,625	11,875	\$635.00
Aug-2017	\$5,011,250	11,875	\$422.00
Sep-2017	\$7,101,250	11,875	\$598.00
Oct-2017	\$7,635,625	11,875	\$643.00
Nov-2017	\$6,032,500	11,875	\$508.00
Dec-2017	\$6,721,250	11,875	\$566.00
Jan-2018	\$7,288,750	12,250	\$595.00
Feb-2018	\$7,533,750	12,250	\$615.00
Mar-2018	\$6,921,250	12,250	\$565.00
Apr-2018	\$7,227,500	12,250	\$590.00
May-2018	\$6,860,000	12,250	\$560.00
Jun-2018	\$6,676,250	12,250	\$545.00
Jul-2018	\$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*	\$500 per member / \$1,500 per family	\$500 per member / \$1,500 per family	\$3,000 per member / \$6,000 per family
Member Coinsurance	10%	30%	0%
Out-of-Pocket Limit	\$2,500 per member / \$7,500 per family	\$4,000 per member / \$12,000 per family	\$3,000 per member / \$6,000 per family
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 pair 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	Filled at pharmacy: \$10 preferred generic*; 20% preferred brand* including specialty brand* Filled by mail order: \$5 preferred generic*; 15% preferred brand* including specialty brand*	Filled 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 employs 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 2018 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 2018.

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.