

# Case Study

**SPRING/FALL 2020**

Group & Health Design & Pricing  
EXAM

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## Case Study – Group & Health, Design & Pricing

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### 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.

Additionally, Skyfall has a location in London, Ontario, which provides actuarial services to clients, employers and insurance carriers in Canada. The Canadian office consists of over 25 actuaries who are located throughout Canada.

Skyfall employs roughly 50 actuarial students between the two locations. These students 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
- Medicare Supplement Plans
- Retiree Health Benefit Plans
- Group Disability Plans
- Individual and Small Group Dental Plans
- Large Group Dental Plans
- Group Life
- Group Long-Term Care
- Cafeteria Plans/ Flexible Benefits.

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 each client's unique needs and aims to exceed the client's expectations.

Below is a list of some of Skyfall's current and prospective clients.

## 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 actively participates in the Health Insurance Marketplace and SHOP Marketplace in most states in the US. Quantum offers all metal tier options: Bronze, Silver, Gold, and Platinum as well as Catastrophic plans. Similar products are also available off of the Exchanges and sold through brokers and agents.

Prior to the Affordable Care Act (ACA), Quantum offered major medical plans, such as HMOs, PPOs, and High Deductible Health Plans (HDHP). These plans are not ACA-compliant and are now classified as grandfathered plans. These grandfathered plans, originally marketed and sold to individuals and small groups, are no longer available for new business. The grandfathered plan block is called Quantum Legacy III.

Exhibit 1 shows a sample of the plan designs Quantum has in its portfolio of grandfathered plans and exchange plans. The first chart of Exhibit 1 shows the most sold grandfathered plan design for each year. The remainder of Exhibit 1 includes the product offerings available through the Health Insurance Marketplaces, SHOP Marketplaces, and off exchange. Key email correspondence between Quantum and Skyfall with detailed exhibits are also included.

<b>Exhibit 1 - Benefit Summary (Grandfathered Plans)</b>			
<b>Quantum Legacy III Individual and Small Group</b>			
<b>Benefit Category*</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Deductible	\$500 IN/ \$1,000 OON	\$1,000 IN/ \$2,000 OON	\$1,500 IN/ \$3,000 OON
General Coinsurance	10% IN/ 30% OON	20% IN/ 40% OON	20% IN/ 40% OON
Maximum Out-of-Pocket	\$2,200 IN/ \$4,400 OON	\$3,000 IN/ \$6,000 OON	\$3,500 IN/ \$7,000 OON
PCP	\$25 IN/ Ded + Coins OON	\$30 IN/ Ded + Coins OON	\$30 IN/ Ded + Coins OON
Specialist	\$50 IN/ Ded + Coins OON	\$60 IN/ Ded + Coins OON	\$60 IN/ Ded + Coins OON
Prescription Drugs (Generic/Preferred Brand/Non-Preferred Brand/Specialty)	\$5/\$40/\$60/\$100 IN/ All Tiers 30% Coins OON	\$10/\$50/\$75/\$150 IN/ All Tiers 40% Coins OON	\$10/\$50/\$75/20% IN/ All Tiers 40% Coins OON

\*All other benefits are subject to Deductible and Coinsurance

\*\*IN = In-Network Benefits, OON = Out-of-Network Benefits

<b>Exhibit 1 (con't) - Benefit Summary (Exchange Plans)</b>			
<b>Benefit Category</b>	<b>Quantum HealthEdge</b>	<b>Quantum Health Direct</b>	<b>Quantum Health Plus</b>
Deductible	\$7,000 IN/ \$14,000 OON	\$5,500 IN/ \$11,000 OON	\$4,000 IN/ \$8,000 OON
General Coinsurance	0% IN/ 25% OON	20% IN/ 40% OON	20% IN/ 40% OON
Maximum Out-of-Pocket	\$7,000 IN/ \$14,000 OON	\$7,250 IN/ \$14,700 OON	\$7,450 IN/ \$14,700 OON
PCP	Deductible + Coinsurance	Deductible + Coinsurance	\$35 IN/ Ded + Coins OON
Specialist	Deductible + Coinsurance	Deductible + Coinsurance	\$55 IN/ Ded + Coins OON
Inpatient Services	Deductible + Coinsurance	Deductible + Coinsurance	Deductible + Coinsurance
Outpatient Facility	Deductible + Coinsurance	Deductible + Coinsurance	Deductible + Coinsurance
Outpatient Surgical	Deductible + Coinsurance	Deductible + Coinsurance	Deductible + Coinsurance
Emergency	Deductible + Coinsurance	Deductible + Coinsurance	Deductible + Coinsurance
Labs, X-Ray, Advanced Imaging	Deductible + Coinsurance	Deductible + Coinsurance	Deductible + Coinsurance
Prescription Drugs (Generic/Preferred Brand/Non-Preferred Brand/Specialty)	Deductible + Coinsurance	Deductible + Coinsurance	\$10/\$50/\$100/\$150 IN 50% All Tiers OON

<b>Exhibit 1 (con't) - Benefit Summary (Exchange Plans)</b>		
<b>Benefit Category</b>	<b>Quantum Health Premium</b>	<b>Quantum Health Complete</b>
Deductible	\$1,750 IN/ \$3,500 OON	\$2,000 IN/ \$2,500 OON
General Coinsurance	20% IN/ 40% OON	20% IN/ 40% OON
Maximum Out-of-Pocket	\$4,000 IN/ \$8000 OON	\$2,000 IN/ \$8,000 OON
PCP	\$10 IN/ Ded + Coins OON	\$15 IN/ Ded + Coins OON
Specialist	\$60 IN/ Ded + Coins OON	\$35 IN/ Ded + Coins OON
Inpatient Services	Deductible + Coinsurance	Deductible + Coinsurance
Outpatient Facility	Deductible + Coinsurance	Deductible + Coinsurance
Outpatient Surgical	Deductible + Coinsurance	Deductible + Coinsurance
Emergency	Deductible + Coinsurance	Deductible + Coinsurance
Labs, X-Ray, Advanced Imaging	Deductible + Coinsurance	Deductible + Coinsurance
Prescription Drugs (Generic/Preferred Brand/Non-Preferred Brand/Specialty)	\$10/\$35/\$75/\$150 IN 50% All Tiers OON	\$5/\$25/\$75/35% Coins IN 30% All Tiers OON

\*\*Quantum Email 1\*\*

From: Dominic Greene <DGreene@quantum.com>  
 To: You <JB007@Skyfall.com>  
 Sent: March 2nd, 2020  
 Subject: Quantum Experience Exhibits

As discussed in our call, here are several exhibits that we have updated recently for our legacy products (includes the plan designs seen in Exhibit 1 as well as others) and the currently issued Exchange products for the individual market. As we are looking toward future pricing needs, we hope these exhibits will be helpful.

Additionally, there have been a lot of discussions about reinsurance. To help in calculating different scenarios, we are providing some continuance tables that should help as we explore all our options here.

Thank you,  
 Dominic Greene  
 President  
 Quantum Health Insurance Company

Enclosures:

Exhibit 2 - Quantum Health Individual Claims Continuance Probability Distribution							
Claims Dollar Interval		2017		2018		2019	
		Cumulative Frequency	Cumulative Annual Cost	Cumulative Frequency	Cumulative Annual Cost	Cumulative Frequency	Cumulative Annual Cost
\$0.00	\$0.00	1.00	\$4,300	1.00	\$3,500	1.00	\$3,700
\$0.01	\$2,500.00	0.91	\$4,300	0.90	\$3,500	0.93	\$3,700
\$2,500.01	\$5,000.00	0.47	\$4,000	0.42	\$3,300	0.32	\$3,500
\$5,000.01	\$7,500.00	0.30	\$3,700	0.29	\$3,100	0.23	\$3,300
\$7,500.01	\$10,000.00	0.25	\$3,500	0.23	\$2,900	0.17	\$2,900
\$10,000.01	\$15,000.00	0.19	\$3,300	0.18	\$2,800	0.14	\$2,800
\$15,000.01	\$20,000.00	0.15	\$3,000	0.14	\$2,500	0.10	\$2,500
\$20,000.01	\$30,000.00	0.10	\$2,800	0.11	\$2,300	0.09	\$2,300
\$30,000.01	\$40,000.00	0.07	\$2,300	0.07	\$2,000	0.05	\$1,800
\$40,000.01	\$50,000.00	0.04	\$2,000	0.05	\$1,800	0.04	\$1,800
\$50,000.01	\$75,000.00	0.03	\$1,900	0.04	\$1,700	0.03	\$1,500
\$75,000.01	\$100,000.00	0.02	\$1,500	0.02	\$1,300	0.02	\$1,300
\$100,000.01	\$250,000.00	0.01	\$1,200	0.01	\$1,000	0.01	\$1,000
\$250,000.01+		0.00	\$600	0.00	\$500	0.00	\$400

Exhibit 3 - Individual Utilization and Cost per Service						
Service Category	2017		2018		2019	
	Utilization /1,000	Allowed Cost	Utilization /1,000	Allowed Cost	Utilization /1,000	Allowed Cost
Inpatient	150	\$4,300.00	160	\$4,450.00	170	\$4,425.00
Outpatient	900	\$1,320.00	966	\$1,360.00	1,015	\$1,380.00
Physician	11,650	\$85.00	12,014	\$89.00	12,340	\$90.00
Rx	7,510	\$50.00	7,889	\$51.00	8,209	\$53.00

<b>Exhibit 4 - Monthly Experience</b>				
<b>Quantum Legacy III - Individual</b>				
Calendar Month	Members	Premiums	Incurred Claims	Loss Ratio
1-2017	7,896	2,308,948	2,727,060	118.1%
2-2017	8,055	2,376,987	2,305,355	97.0%
3-2017	8,077	2,377,052	2,013,934	84.7%
4-2017	8,504	2,395,695	1,980,865	82.7%
5-2017	8,516	2,402,690	2,644,293	110.1%
6-2017	8,672	2,412,340	2,687,159	111.4%
7-2017	8,881	2,416,038	1,425,978	59.0%
8-2017	8,975	2,469,789	2,493,046	100.9%
9-2017	9,323	2,562,306	2,452,640	95.7%
10-2017	9,455	2,573,594	2,470,458	96.0%
11-2017	9,700	2,698,180	2,129,643	78.9%
12-2017	9,796	3,028,317	2,607,637	86.1%
1-2018	9,833	3,127,177	2,957,608	94.6%
2-2018	9,515	2,854,636	2,467,525	86.4%
3-2018	9,473	2,839,725	2,798,587	98.6%
4-2018	9,358	2,806,420	1,967,551	70.1%
5-2018	9,123	2,692,078	1,902,958	70.7%
6-2018	8,845	2,621,356	1,439,505	54.9%
7-2018	8,741	2,611,980	1,841,738	70.5%
8-2018	8,532	2,609,085	1,872,887	71.8%
9-2018	8,530	2,595,166	2,297,758	88.5%
10-2018	8,415	2,542,347	2,185,568	86.0%
11-2018	8,114	2,513,110	2,435,339	96.9%
12-2018	7,919	2,484,546	1,782,739	71.8%
1-2019	4,926	1,724,350	1,888,421	109.5%
2-2019	4,742	1,648,085	1,132,959	68.7%
3-2019	4,719	1,617,855	1,629,605	100.7%
4-2019	4,692	1,611,003	1,255,126	77.9%
5-2019	4,633	1,609,329	1,492,868	92.8%
6-2019	4,495	1,604,901	1,329,293	82.8%
7-2019	4,484	1,582,986	1,179,047	74.5%
8-2019	4,205	1,552,740	1,246,276	80.3%
9-2019	4,179	1,493,549	1,485,512	99.5%
10-2019	4,038	1,493,368	1,049,021	70.2%
11-2019	3,968	1,434,833	1,056,524	73.6%
12-2019	3,917	1,406,997	1,115,118	79.3%
2017 Total	105,850	30,021,936	27,938,068	93.1%
2018 Total	106,398	32,297,626	25,949,763	80.3%
2019 Total	52,998	18,779,996	15,859,770	84.5%
Total	265,246	81,099,558	69,747,601	86.0%

<b>Exhibit 4 (con't) - Monthly Experience</b>				
<b>HMO - Individual</b>				
Calendar Month	Members	Premiums	Incurred Claims	Loss Ratio
1-2018	4,756	1,313,398	1,242,180	94.6%
2-2018	4,821	1,353,369	1,169,842	86.4%
3-2018	4,966	1,407,304	1,475,630	104.9%
4-2018	5,011	1,437,196	1,007,603	70.1%
5-2018	5,108	1,486,992	1,051,115	70.7%
6-2018	5,217	1,543,190	955,458	61.9%
7-2018	5,379	1,602,454	1,129,909	70.5%
8-2018	5,365	1,592,353	1,143,044	71.8%
9-2018	5,417	1,607,610	1,423,377	88.5%
10-2018	5,493	1,622,780	1,395,048	86.0%
11-2018	5,529	1,633,481	1,256,235	76.9%
12-2018	5,536	1,656,942	1,122,218	67.7%
1-2019	5,564	1,671,920	1,712,584	102.4%
2-2019	5,540	1,622,609	1,735,664	107.0%
3-2019	5,726	1,676,295	1,473,069	87.9%
4-2019	5,927	1,683,622	1,321,601	78.5%
5-2019	6,120	1,868,722	1,765,844	94.5%
6-2019	6,100	1,843,985	1,610,824	87.4%
7-2019	6,297	1,934,695	1,477,412	76.4%
8-2019	6,365	1,940,690	1,696,640	87.4%
9-2019	6,469	1,984,589	2,012,484	101.4%
10-2019	6,505	1,984,241	1,359,332	68.5%
11-2019	6,588	2,005,483	1,504,076	75.0%
12-2019	6,854	2,419,834	1,830,674	75.7%
Total	136,653	40,893,756	33,871,863	82.8%



<b>Exhibit 4 (con't) - Monthly Experience</b>				
<b>PPO - Individual</b>				
Calendar Month	Members	Premiums	Incurred Claims	Loss Ratio
1-2018	1,475	425,464	435,862	102.4%
2-2018	1,504	437,902	449,573	102.7%
3-2018	1,493	434,361	394,721	90.9%
4-2018	1,497	439,309	359,854	81.9%
5-2018	1,506	440,116	414,950	94.3%
6-2018	1,524	445,118	453,525	101.9%
7-2018	1,546	452,713	274,508	60.6%
8-2018	1,558	456,807	468,906	102.6%
9-2018	1,550	453,270	414,260	91.4%
10-2018	1,574	459,934	400,301	87.0%
11-2018	1,588	466,030	359,677	77.2%
12-2018	1,584	466,325	372,686	79.9%
1-2019	1,595	474,771	447,793	94.3%
2-2019	1,621	470,308	473,346	100.6%
3-2019	1,645	477,046	476,930	100.0%
4-2019	1,644	462,601	393,892	85.1%
5-2019	1,678	507,551	451,551	89.0%
6-2019	1,766	528,827	465,463	88.0%
7-2019	1,794	546,004	418,600	76.7%
8-2019	1,775	536,106	466,422	87.0%
9-2019	1,877	570,417	577,881	101.3%
10-2019	1,899	573,809	406,465	70.8%
11-2019	1,878	566,312	449,824	79.4%
12-2019	1,981	692,821	545,377	78.7%
<b>Total</b>	<b>39,552</b>	<b>11,783,922</b>	<b>10,372,367</b>	<b>88.0%</b>

<b>Exhibit 4 (con't) - Monthly Experience</b>				
<b>Total - Individual (HMO &amp; PPO)</b>				
<b>Calendar Month</b>	<b>Members</b>	<b>Premiums</b>	<b>Incurred Claims</b>	<b>Loss Ratio</b>
1-2018	6,231	1,738,862	1,678,042	96.5%
2-2018	6,325	1,791,272	1,619,414	90.4%
3-2018	6,459	1,841,664	1,870,352	101.6%
4-2018	6,508	1,876,505	1,367,457	72.9%
5-2018	6,614	1,927,108	1,466,065	76.1%
6-2018	6,741	1,988,308	1,408,983	70.9%
7-2018	6,925	2,055,167	1,404,417	68.3%
8-2018	6,923	2,049,160	1,611,950	78.7%
9-2018	6,967	2,060,881	1,837,637	89.2%
10-2018	7,067	2,082,715	1,795,349	86.2%
11-2018	7,117	2,099,511	1,615,912	77.0%
12-2018	7,120	2,123,267	1,494,904	70.4%
1-2019	7,159	2,146,691	2,160,377	100.6%
2-2019	7,161	2,092,917	2,209,010	105.5%
3-2019	7,371	2,153,341	1,949,999	90.6%
4-2019	7,571	2,146,223	1,715,493	79.9%
5-2019	7,798	2,376,273	2,217,395	93.3%
6-2019	7,866	2,372,812	2,076,287	87.5%
7-2019	8,091	2,480,699	1,896,012	76.4%
8-2019	8,140	2,476,796	2,163,062	87.3%
9-2019	8,346	2,555,006	2,590,365	101.4%
10-2019	8,404	2,558,050	1,765,797	69.0%
11-2019	8,466	2,571,795	1,953,900	76.0%
12-2019	8,835	3,112,655	2,376,051	76.3%
<b>Total</b>	<b>176,205</b>	<b>52,677,678</b>	<b>44,244,230</b>	<b>84.0%</b>

\*\*Quantum Email 2\*\*

From: Strawberry Fields <SFields@quantum.com>  
 To: You <JB007@Skyfall.com>  
 Sent: March 12th, 2020  
 Subject: More Quantum Experience Exhibits

Dominic requested that I send you similar experience exhibits for the small group market. I was not sure what all you needed. So, I have included a fair amount of details here for the small group market. If I missed something, please let me know.

Thanks!!!! S.F.

Small Group Pricing - Actuarial  
 Quantum Health Insurance Company

Enclosures:

Exhibit 5 - Quantum Health Small Group Claims Continuance Probability Distribution							
Claims Dollar Interval		2017		2018		2019	
		Cumulative Frequency	Cumulative Annual Cost	Cumulative Frequency	Cumulative Annual Cost	Cumulative Frequency	Cumulative Annual Cost
\$0.00	\$0.00	1.00	\$4,400	1.00	\$4,700	1.00	\$5,000
\$0.01	\$2,500.00	0.92	\$4,400	0.88	\$4,700	0.93	\$5,000
\$2,500.01	\$5,000.00	0.46	\$4,100	0.44	\$4,400	0.33	\$4,700
\$5,000.01	\$7,500.00	0.31	\$3,800	0.29	\$4,200	0.22	\$4,500
\$7,500.01	\$10,000.00	0.25	\$3,600	0.23	\$3,900	0.17	\$3,900
\$10,000.01	\$15,000.00	0.19	\$3,400	0.19	\$3,800	0.14	\$3,800
\$15,000.01	\$20,000.00	0.17	\$3,100	0.13	\$3,400	0.10	\$3,400
\$20,000.01	\$30,000.00	0.09	\$2,900	0.11	\$3,100	0.08	\$3,100
\$30,000.01	\$40,000.00	0.08	\$2,400	0.07	\$2,700	0.03	\$2,400
\$40,000.01	\$50,000.00	0.03	\$2,000	0.04	\$2,400	0.05	\$2,400
\$50,000.01	\$75,000.00	0.04	\$1,900	0.03	\$2,300	0.02	\$2,000
\$75,000.01	\$100,000.00	0.02	\$1,500	0.04	\$1,700	0.01	\$1,800
\$100,000.01	\$250,000.00	0.01	\$1,200	0.01	\$1,300	0.00	\$1,400
\$250,000.01+		0.01	\$600	0.00	\$700	0.01	\$500

Exhibit 6 - Small Group Utilization and Cost per Service						
Service Category	2017		2018		2019	
	Utilization/ 1,000	Allowed Cost	Utilization/ 1,000	Allowed Cost	Utilization/ 1,000	Allowed Cost
Inpatient	250	\$3,590.00	263	\$3,560.00	281	\$3,550.00
Outpatient	1,170	\$1,380.00	1,250	\$1,410.00	1,325	\$1,435.00
Physician	14,500	\$85.00	14,950	\$87.00	15,360	\$88.00
Rx	9,530	\$69.00	9,940	\$70.00	10,520	\$71.00

<b>Exhibit 7 - Monthly Experience</b>				
<b>Quantum Legacy III - Small Group</b>				
Calendar Month	Members	Premiums	Incurred Claims	Loss Ratio
1-2017	5,107	1,483,448	1,106,163	74.6%
2-2017	5,178	1,508,919	1,516,147	100.5%
3-2017	5,838	1,710,264	1,872,736	109.5%
4-2017	5,798	1,714,651	1,137,072	66.3%
5-2017	5,981	1,783,034	1,242,488	69.7%
6-2017	6,031	1,805,447	1,175,904	65.1%
7-2017	5,999	1,815,089	1,244,004	68.5%
8-2017	6,169	1,870,761	1,268,556	67.8%
9-2017	6,051	1,847,254	1,214,498	65.7%
10-2017	6,043	1,857,291	1,419,278	76.4%
11-2017	5,976	1,848,841	1,562,616	84.5%
12-2017	5,896	1,831,581	1,603,904	87.6%
1-2018	5,913	1,834,676	1,982,137	108.0%
2-2018	5,935	1,847,569	1,829,711	99.0%
3-2018	5,659	1,826,889	1,225,415	67.1%
4-2018	5,566	1,792,647	1,335,881	74.5%
5-2018	5,358	1,732,352	1,529,595	88.3%
6-2018	5,323	1,726,199	1,307,705	75.8%
7-2018	5,392	1,752,999	1,662,432	94.8%
8-2018	5,163	1,692,462	1,244,213	73.5%
9-2018	5,000	1,650,000	1,457,773	88.3%
10-2018	4,934	1,639,458	1,269,054	77.4%
11-2018	4,851	1,620,707	1,142,181	70.5%
12-2018	4,813	1,617,934	1,564,836	96.7%
1-2019	4,627	1,156,267	709,103	61.3%
2-2019	4,538	1,168,461	1,153,891	98.8%
3-2019	4,532	1,178,689	1,219,417	103.5%
4-2019	4,523	1,180,709	890,609	75.4%
5-2019	4,485	1,194,370	991,462	83.0%
6-2019	4,482	1,202,050	1,142,704	95.1%
7-2019	4,422	1,232,984	977,430	79.3%
8-2019	4,378	1,277,086	1,326,278	103.9%
9-2019	4,348	1,257,562	1,058,223	84.1%
10-2019	4,231	1,262,044	1,286,328	101.9%
11-2019	3,884	1,305,971	1,259,644	96.5%
12-2019	3,830	1,330,917	1,439,982	108.2%
2017 Total	70,064	21,076,580	16,363,366	77.6%
2018 Total	63,904	20,733,892	17,550,933	84.6%
2019 Total	52,280	14,747,110	13,455,071	91.2%
Total	186,248	56,557,582	47,369,370	83.8%

<b>Exhibit 7 (con't) - Monthly Experience</b>				
<b>HMO - Small Group</b>				
Calendar Month	Members	Premiums	Incurred Claims	Loss Ratio
1-2018	3,268	876,334	804,913	91.9%
2-2018	3,307	896,787	911,135	101.6%
3-2018	3,355	919,265	849,861	92.5%
4-2018	3,391	938,959	728,820	77.6%
5-2018	3,482	965,700	785,693	81.4%
6-2018	3,460	965,855	602,307	62.4%
7-2018	3,511	983,688	747,308	76.0%
8-2018	3,573	1,012,091	713,929	70.5%
9-2018	3,601	1,031,222	873,342	84.7%
10-2018	3,637	1,043,510	697,169	66.8%
11-2018	3,652	1,053,702	749,077	71.1%
12-2018	3,670	1,063,100	890,559	83.8%
1-2019	3,709	1,077,568	1,039,701	96.5%
2-2019	3,693	1,076,273	727,356	67.6%
3-2019	3,817	1,118,398	833,351	74.5%
4-2019	3,951	1,168,634	1,026,324	87.8%
5-2019	4,080	1,216,416	912,189	75.0%
6-2019	4,067	1,217,503	707,406	58.1%
7-2019	4,198	1,270,169	927,410	73.0%
8-2019	4,243	1,286,799	862,712	67.0%
9-2019	4,313	1,316,683	888,239	67.5%
10-2019	4,337	1,332,857	1,027,073	77.1%
11-2019	4,392	1,358,787	1,233,459	90.8%
12-2019	4,569	1,419,454	1,178,101	83.0%
<b>Total</b>	<b>91,277</b>	<b>26,609,753</b>	<b>20,717,433</b>	<b>77.9%</b>

<b>Exhibit 7 (con't) - Monthly Experience</b>				
<b>PPO - Small Group</b>				
Calendar Month	Members	Premiums	Incurred Claims	Loss Ratio
1-2018	1,665	465,587	373,702	80.3%
2-2018	1,671	470,278	507,025	107.8%
3-2018	1,688	482,019	564,720	117.2%
4-2018	1,704	486,782	298,661	61.4%
5-2018	1,705	489,699	354,908	72.5%
6-2018	1,722	497,272	315,337	63.4%
7-2018	1,733	499,760	336,015	67.2%
8-2018	1,758	511,295	360,132	70.4%
9-2018	1,766	517,551	337,224	65.2%
10-2018	1,779	525,619	427,186	81.3%
11-2018	1,779	531,045	430,718	81.1%
12-2018	1,788	535,942	513,888	95.9%
1-2019	1,814	543,068	406,715	74.9%
2-2019	1,919	580,575	600,567	103.4%
3-2019	1,921	582,599	335,520	57.6%
4-2019	1,981	604,894	416,739	68.9%
5-2019	2,071	636,580	400,022	62.8%
6-2019	2,112	653,390	480,400	73.5%
7-2019	2,174	675,224	383,458	56.8%
8-2019	2,082	645,946	552,819	85.6%
9-2019	2,140	666,265	479,039	71.9%
10-2019	2,172	701,155	614,218	87.6%
11-2019	2,134	687,468	718,762	104.6%
12-2019	2,231	721,361	775,905	107.6%
<b>Total</b>	<b>45,509</b>	<b>13,711,376</b>	<b>10,983,680</b>	<b>80.1%</b>

<b>Exhibit 7 (con't) - Monthly Experience</b>				
<b>Total - Small Group (HMO &amp; PPO)</b>				
Calendar Month	Members	Premiums	Incurred Claims	Loss Ratio
1-2018	4,933	1,341,922	1,178,615	87.8%
2-2018	4,978	1,367,064	1,418,160	103.7%
3-2018	5,043	1,401,284	1,414,581	100.9%
4-2018	5,095	1,425,741	1,027,481	72.1%
5-2018	5,187	1,455,399	1,140,602	78.4%
6-2018	5,182	1,463,127	917,644	62.7%
7-2018	5,244	1,483,448	1,083,323	73.0%
8-2018	5,331	1,523,386	1,074,061	70.5%
9-2018	5,367	1,548,772	1,210,566	78.2%
10-2018	5,416	1,569,129	1,124,355	71.7%
11-2018	5,431	1,584,748	1,179,795	74.4%
12-2018	5,458	1,599,042	1,404,446	87.8%
1-2019	5,523	1,620,636	1,446,416	89.2%
2-2019	5,612	1,656,848	1,327,923	80.1%
3-2019	5,739	1,700,997	1,168,871	68.7%
4-2019	5,933	1,773,528	1,443,063	81.4%
5-2019	6,151	1,852,996	1,312,211	70.8%
6-2019	6,179	1,870,893	1,187,806	63.5%
7-2019	6,372	1,945,393	1,310,868	67.4%
8-2019	6,325	1,932,745	1,415,531	73.2%
9-2019	6,453	1,982,948	1,367,278	69.0%
10-2019	6,509	2,034,012	1,641,291	80.7%
11-2019	6,526	2,046,255	1,952,221	95.4%
12-2019	6,800	2,140,815	1,954,006	91.3%
<b>Total</b>	<b>136,786</b>	<b>40,321,129</b>	<b>31,701,113</b>	<b>78.6%</b>

\*\*Quantum Email 3\*\*

From: Dominic Greene <DGreene@quantum.com>  
 To: You <JB007@Skyfall.com>  
 Sent: March 20th, 2020  
 Subject: Rx Data

Here is some Rx data that is applicable to both individual and small group markets.

Dominic  
 Enclosures:

<b>Exhibit 8 - Rx Information</b>				
		2017	2018	2019
Average Wholesale Price	Generic	\$45.00	\$50.00	\$55.00
	Preferred Brand	\$200.00	\$190.00	\$205.00
	Non-Preferred Brand	\$235.00	\$245.00	\$250.00
	Specialty	\$2,585.00	\$2,675.00	\$2,700.00
Discounts	Generic	70%	75%	75%
	Preferred Brand	15%	20%	25%
	Non-Preferred Brand	10%	12%	15%
	Specialty	8%	8%	10%
Dispensing Fees	Generic	\$1.50	\$1.50	\$2.00
	Preferred Brand	\$1.50	\$1.50	\$2.00
	Non-Preferred Brand	\$1.50	\$1.50	\$2.00
	Specialty	\$1.50	\$1.50	\$2.00



**\*\*Quantum Email 4\*\***

From: Dominic Greene <DGreene@quantum.com>  
 To: You <JB007@Skyfall.com>  
 Sent: March 27, 2020  
 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:

<b>Exhibit 9 - Procedure Costs</b>						
<b>Service Category</b>	<b>Knee Replacement</b>		<b>Hip Replacement</b>		<b>Cesearan Section</b>	
	<b>2018</b>	<b>2019</b>	<b>2018</b>	<b>2019</b>	<b>2018</b>	<b>2019</b>
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

<b>Exhibit 9 - Procedure Costs (con't)</b>						
<b>Service Category</b>	<b>Colonoscopy</b>		<b>Appendectomy</b>		<b>Cardiac Stent</b>	
	<b>2018</b>	<b>2019</b>	<b>2018</b>	<b>2019</b>	<b>2018</b>	<b>2019</b>
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 5\*\*

From: Dominic Greene <DGreene@quantum.com>  
 To: You <JB007@Skyfall.com>  
 Sent: April 4, 2020  
 Subject: 2020 Hospital Utilization Projection

We are projecting the following 2020 cost and utilization details for three hospitals in our provider network:

Exhibit 10A				
Procedure	Category	Hospital A	Hospital B	Hospital C
<b>Knee Replacement</b>	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
<b>Hip Replacement</b>	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
<b>Cesarean Section</b>	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
<b>Colonoscopy</b>	Visits	80	90	100
	Average billed charges per visit	\$1,700	\$1,800	\$1,900
	Average allowed per visit	\$1,200	\$900	\$1,100
<b>Appendectomy</b>	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
<b>Cardiac Stent</b>	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 6\*\***

From: Dominic Greene <DGreene@quantum.com>  
To: You <JB007@Skyfall.com>  
Sent: April 14, 2020  
Subject: 2021 Bundle Targets

We are targeting the following changes in our professional and medical equipment provider contracts for 2021:

<b>Exhibit 10B</b>	
Professional services increase from 2020	2.0%
Medical equipment and supplies increase from 2020	3.5%

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

<b>Exhibit 10C</b>	
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

\*\*Quantum Email 7\*\*

From: Dominic Greene <DGreene@quantum.com>  
To: You <JB007@Skyfall.com>  
Sent: April 30, 2020  
Subject: Value Based Pharmacy Initiative

We've been inspired by the Value Based Pharmacy Initiative launched by Green Shield Canada and are exploring the possibility of implementing a similar arrangement for our pharmacy network. We're still working through the details, but our current vision is to assign a star rating to each pharmacy based on medication-use quality measures (to be determined). See below for more details on our proposed methodology.

### **Star Rating Methodology**

For each medication-use quality measure for each pharmacy, we intend to assign a star rating based on a table of thresholds. Here's a sample table:

<b>Measure</b>	<b>1 Star</b>	<b>2 Star</b>	<b>3 Star</b>	<b>4 Star</b>	<b>5 Star</b>	<b>Weight</b>
Measure #1	< 15%	15%-40%	40%-65%	65%-90%	> 90%	Single
Measure #2	< 10%	10%-30%	30%-70%	70%-95%	> 95%	Double
Measure #3	< 20%	20%-40%	40%-60%	60%-80%	> 80%	Single

Once each measure's star rating is determined for a pharmacy, the pharmacy's overall star rating would be a weighted-average based on the "Weight" provided in the table above. I think an example may be helpful:

Measure #1 = 55%

Measure #2 = 85%

Measure #3 = 90%

The star rating for each measure would be:

Measure #1 = 3 stars

Measure #2 = 4 stars (double-weighted)

Measure #3 = 5 stars

The pharmacy's overall star rating would be a weighted-average:  $\frac{3+4+4+5}{1+2+1} = 4.0$

Our opinion is that pharmacies with 4.5 to 5.0 stars would be classified as "high performing".

Make sense? Thoughts?

-Dominic

## 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.

Royale Health witnessed material enrollment gains in the HDHP/HSA market in 2019, increasing from 42% of its total enrollment in 2018 to 61% in 2019. They are currently analyzing if its current pricing model needs to be recalibrated to reflect induced demand utilization factors that are closer to what their experience shows.

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 enrollees.

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.

The manual rates (claim costs) PMPM for large groups are provided in Exhibit 2. The manual rate adjustment factors include industry factors, demographic factors (based on age and gender), and HSA/HRA deductible funding factors (Exhibit 4). The HSA/HRA deductible funding factor accounts for the anticipated increase in utilization of services due to “first dollar” coverage provided when an employer group funds a portion of the plan deductible.

Each group is charged a pooling charge of 8.5% for large claims exceeding an attachment point of \$100,000. The calendar year trend factors used to project historical experience of the group to the proposed rating period are shown in Exhibit 3.

Non-claim expenses used in development of premium, expressed as a percent of premium, follow:

<b>Exhibit 1 - Non-Claim Expenses (2020)</b>	
General Administration	7.2%
Profit Margin	3.0%
Premium Tax	1.8%
ACA Health Insurer Tax	2.0%
Broker Load	1.5%

<b>Exhibit 2 - Manual Claim Costs PMPM (Q1 2020)</b>		
<b>Plan</b>	<b>Product Type</b>	<b>Manual Rate</b>
PPO500	PPO	\$399.50
PPO1000	PPO	\$370.15
PPO2000	PPO	\$320.20
HDHP2500	HDHP	\$260.25
HDHP3000	HDHP	\$238.50
HDHP3500	HDHP	\$215.20

<b>Exhibit 3 - Calendar Year Trend Factors</b>		
<b>Calendar Year</b>	<b>Allowed Medical Trend</b>	<b>Allowed Pharmacy Trend</b>
2018	10.90%	4.50%
2019	6.70%	8.10%
2020+	5.50%	9.20%

<b>Exhibit 4 - HSA/HRA Deductible: Employer Funding Adjustment Factors</b>		
<b>Single Deductible</b>	<b>25%-75% Funding</b>	<b>76%-100% Funding</b>
\$2,000	1.30%	2.70%
\$2,250	1.40%	2.80%
\$2,500	1.50%	2.90%
\$2,750	1.80%	3.60%
\$3,000	2.20%	4.40%
\$3,250	2.60%	5.20%
\$3,500	3.10%	5.90%
\$4,000	3.10%	5.90%

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

From: Le Chiffre <lechiffre@RoyaleHealth.com>  
To: You <JB007@Skyfall.com>  
Sent: April 9, 2020  
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 1/1/2020 to 12/31/2022**

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, 2020 – December 31, 2022. Below are the details of the reimbursement arrangements between the two parties.

#### ***Inpatient Services***

##### ***Acute Inpatient Per Diem Rates***

<b><i>Acute Inpatient Services</i></b>	<b><i>Per Diem Rate Effective 1/1/2020</i></b>	<b><i>Per Diem Rate Effective 1/1/2021</i></b>	<b><i>Per Diem Rate Effective 1/1/2022</i></b>
<b><i>Medical/Surgical/Pediatrics</i></b>	\$5,000	\$5,250	\$5,600
<b><i>ICU/CCU</i></b>	\$6,000	\$6,360	\$6,650
<b><i>NICU – Level I</i></b>	\$1,000	\$1,100	\$1,150
<b><i>NICU – Level II</i></b>	\$3,000	\$3,100	\$3,200
<b><i>NICU – Level III</i></b>	\$5,000	\$5,000	\$5,000
<b><i>NICU – Level IV</i></b>	\$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 1/1/2020</i>	<i>Effective 1/1/2021</i>	<i>Effective 1/1/2022</i>	<i>Effective 1/1/2020</i>	<i>Effective 1/1/2021</i>	<i>Effective 1/1/2022</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>1/1/2020</i>	<i>\$250,000</i>	<i>60%</i>
<i>1/1/2021</i>	<i>\$275,000</i>	<i>60%</i>
<i>1/1/2022</i>	<i>\$300,000</i>	<i>60%</i>



**Outpatient Services**

*Outpatient Surgical Case Rates*

<b>Outpatient Services</b>	<b>Case Rate Effective 1/1/2020</b>	<b>Case Rate Effective 1/1/2021</b>	<b>Case Rate Effective 1/1/2022</b>
<b>Cardiac Catheterization</b>	\$6,000	\$6,150	\$6,300
<b>Lithotripsy</b>	\$5,500	\$5,600	\$5,750
<b>Colonoscopy</b>	\$4,000	\$4,500	\$5,000
<b>Tonsillectomy</b>	\$5,400	\$5,450	\$5,450

*Other Outpatient Surgical Rates*

<b>Rate Effective 1/1/2020</b>	<b>Rate Effective 1/1/2021</b>	<b>Rate Effective 1/1/2022</b>
50% of Billed Charges, not to exceed \$6,000 per visit	50% of Billed Charges, not to exceed \$6,500 per visit	50% of Billed Charges, not to exceed \$7,000 per visit

**Montenegro Hospital Contract – Effective 1/1/2020 to 12/31/2021**

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, 2020 – 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 1/1/2020</i>	<i>Per Diem Rate Effective 1/1/2021</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>1/1/2020</i>	\$150,000	50%
<i>1/1/2021</i>	\$175,000	50%
<i>1/1/2022</i>	\$200,000	50%

***Outpatient Services***

*Outpatient Surgical Rates*

<b><i>Rate Effective 1/1/2020</i></b>	<b><i>Rate Effective 1/1/2021</i></b>
<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>

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

From: Le Chiffre <lechiffre@RoyaleHealth.com>  
 To: You <JB007@Skyfall.com>  
 Sent: March 21, 2020  
 Subject: Medical Renewal

The renewal of Abeesee Company, one of our important clients, is due on July 1<sup>st</sup>. I have attached the past experience of its PPO500 plan for your review.

Thanks,  
 Le Chiffre

	<i>Jan 1, 2017 – Dec 31, 2017</i>	<i>Jan 1, 2018 – Dec 31, 2018</i>	<i>Jan 1, 2019 – Dec 31, 2019</i>
Paid Premium Per Member Per Month (PMPM)	\$275	\$300	\$325
Average Number of Insured Members	4,106	4,118	4,378
Paid Premiums (in \$000)	\$13,550	\$14,825	\$17,075
Paid Claims (in \$000)	\$11,125	\$12,750	\$13,950
IBNR Balance at end of period (in \$000)	\$125	\$625	\$1,300
Pooled Premiums (in \$000)	\$1,152	\$1,260	\$1,451
Pooled Claims (in \$000)	\$275	\$550	\$625

<i>Additional information</i>	
Paid Premium PMPM from Jan 1, 2019 to Dec 31, 2019	\$325.00
Pooled Premium PMPM from Jan 1, 2019 to Dec 31, 2019	\$30.25
Pooled Premium PMPM from Jan 1, 2020 to Dec 31, 2020	\$33.00
Expected number of insured members for the period from Jan 1, 2020 to Dec 31, 2020	4,450

## Goldfinger Insurance Company (GIC)

Goldfinger Insurance Company provides Medicare Advantage Plans and Part D Plans (MAPD), Medicaid, Medicare Supplement, and CHIP plans to the applicable target groups. GIC is domiciled in Fort Knox, Kentucky.

### Medicare Supplement

GIC offers the standardized Medicare Supplement benefits for Plans A, B, C, D, and F but requires the use of a select network of providers. Premiums for the Medicare Supplement product are issued on an attained age basis and vary by age, plan type, geographic area, smoking status, and gender. GIC recently implemented the Medicare Supplement program in 2017, and total membership in the Medicare Supplement program is currently only 800 members, all in Kentucky.

Skyfall provides actuarial support for GIC's Medicare supplement products and aids in pricing development, profit studies, and rate revisions, as necessary. The following is a selection from the email correspondence between Goldfinger and Skyfall regarding the emerging Medicare Supplement experience.

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**\*\*Goldfinger Email 1\*\***

From: Jill Masterson <JMasterson@goldfingeric.com>  
To: You <JB007@Skyfall.com>  
Sent: February 25th, 2020  
Subject: Medicare Supplement

Hello again, thank you for your help in reviewing the 2017-2019 experience for our Medicare Supplement products and projecting future experience. I have attached the earned premium and incurred claims for all plans combined. This reflects experience from 1/1/2017 through 12/31/2019.

I believe you already have the monthly rates used for all plans, but I've included the smoking and area factors we are currently using. Last year, we discussed using smoking status factors that vary by age but decided to go with a simplified approach. Please note that the attached rates are Area 1 rates which make up the majority of our membership.

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

Thanks again,  
Jill Masterson  
Chief Financial Officer  
Goldfinger Insurance Company

Enclosures:

<b>Exhibit 1 - Goldfinger Medicare Supplement Experience: 1/1/2017 - 12/31/2019</b>				
Calendar Year	Earned Premium	Incurred Claims	Loss Ratio	Policy Count at end of Period
2017	998,416	672,932	67.4%	712
2018	1,084,103	771,881	71.2%	768
2019	1,140,035	849,326	74.5%	800

<b>Exhibit 2 - Area Factors</b>				
		2017	2018	2019
Area	Factor	Members	Members	Members
Area 1	1.00	465	501	517
Area 2	0.97	67	72	67
Area 3	1.02	114	122	130
Area 4	1.04	66	73	86

<b>Exhibit 3 - Gender Factors</b>				
		2017	2018	2019
Gender	Factor	Members	Members	Members
Male	1.045	332	347	361
Female	0.970	380	421	439

## Your Eyes and Smiles Insurance Company (Your Eyes)

Your Eyes and Smiles Insurance Company, a leading provider of dental and vision benefits, offers managed care and indemnity programs. Since 1995, this private insurance company has offered innovative programs designed to control costs and provide quality vision and dental care. Your Eyes has been one of the early pioneers whose marketing methods underscored the impact of oral health on overall wellness. In early 2012, Your Eyes started adopting an accountable care approach to contract with dental providers that focus on various performance measures and has become one of the first dental carriers to earn URAC accreditation as a demonstration of its commitment to quality care. In tandem with its recent growth, Your Eyes' business strategy includes increasing its investment in mobile apps and online tools, such as cost estimator and assessment tools, which would enable its customers to engage with the company on a 24/7 basis.

Your Eyes' vision care network is comprised of independent ophthalmologists, optometrists, and retail chain locations nationwide. They cover well over 1.5 million members for vision benefits, primarily through employer-sponsored coverage.

The goal of Milos Columbo, the newly appointed CEO, is to expand its presence in the individual market. While the health insurance challenges faced by the underinsured and uninsured is rightfully grabbing national attention in recent years, Milos believes that dental health is receiving a lot less time and attention although its effects can be just as critical to overall health. Incidentally, his sister, Melina, co-authored a widely acclaimed 2008 study published in the *American Journal of Public Health*, showing positive association between oral health and heart health. With more than half of the US population lacking even basic dental insurance coverage, Milos' business goal is to push the boundaries of traditional dental care insurance using cost-effective strategies. Under his leadership, Your Eyes is in the process of revamping its product suites to better suit the individual market.

Dental plan options currently offered include DHMO and PPO product suites sold to over 2.5 million enrollees primarily in the employer group market. The DHMO plans require enrollees to select a participating (network) dentist and have no deductibles or waiting period. DHMO plan options can be tailored to meet a group's needs, ranging from a plan that has no enrollee cost sharing for Class I, II, and III services to plans that cover Class I services at no enrollee charge. The higher priced PPO plans give access to dental care both inside and outside of its networks by simply paying a discounted fee for service.

Your Eyes has two dental provider networks: a Tight network with high discount levels and limited provider participation and a Broad network with greater provider participation but average discount levels. Network providers have agreed to accept these network allowances as payment in full for Your Eyes' covered members. In addition, a 90<sup>th</sup> percentile payment mechanism is offered with no specific provider network. Exhibit 3 shows the provider discount and penetration for the PPO plans varying by the associated network option.

The cost sharing provisions for the Your Eyes’ highest selling dental PPO50 plan are outlined below:

<b>Exhibit 1 -Dental PPO50 Plan Benefits</b>	
<b><u>Deductible per Member per Benefit Year</u></b>	
Preferred Provider	
Class I Services	None
Class II and Class III Services	\$50
Non-Preferred Provider	
Class I Services	\$20
Class II and Class III Services	\$75
<b><u>Annual Maximum per Member</u></b>	
Annual Maximum per Member	\$1,500
<b><u>Waiting Period</u></b>	
Class I and Class II Services	None
Class III Services	12 Months

<b>Exhibit 2 -Dental Network Member Coinsurance</b>		
	<b>Preferred Provider Member Coinsurance</b>	<b>Non-Preferred Provider Member Coinsurance</b>
Class I	0%	20%
Class II	10%	40%
Class III	40%	70%

<b>Exhibit 3 -Provider Discount</b>		
<b>Network</b>	<b>Discount</b>	<b>Penetration</b>
Tight	35%	40%
Broad	20%	65%
90 <sup>th</sup> Percentile	5%	N/A



A claims analyst has provided the following claims extract for calendar year 2019 claims:

<b>Exhibit 4 - Claims Extract</b>					
<b>Member</b>	<b>Incurred Date</b>	<b>Network</b>	<b>Provider</b>	<b>Procedure</b>	<b>Billed Charges</b>
1	3/22/2019	Preferred	Tight	Oral Evaluation	80
1	11/29/2019	Preferred	Tight	Extraction	600
2	7/20/2019	Preferred	Broad	Fluoride Treatment	50
3	5/22/2019	Preferred	Broad	Periodontics	750
3	7/24/2019	Preferred	Broad	Root Canal	1000
3	10/2/2019	Preferred	Broad	Crown	1400
3	10/4/2019	Preferred	Broad	Bridges	1600
4	1/26/2019	Non-Preferred	90th	Fluoride Treatment	50
4	12/14/2019	Non-Preferred	90th	Restoration	250
5	1/12/2019	Preferred	Broad	Oral Surgery	800
6	4/25/2019	Preferred	Broad	Fluoride Treatment	50
7	3/8/2019	Preferred	Tight	Orthodontic Care	5000
8	7/27/2019	Preferred	Broad	Oral Surgery	150
8	7/27/2019	Preferred	Broad	Anesthesia	300
8	12/5/2019	Preferred	Broad	Denture Repair	1000
9	6/1/2019	Preferred	Broad	Onlays	1100

The claims analyst has also provided expected cost and utilization in Exhibits 5 and 6:

<b>Exhibit 5 – 2019 Expected Claims</b>		
<b>Range of Claims</b>	<b>Percent Insureds</b>	<b>2019 Expected Claim Cost</b>
\$0	15.0%	\$0.00
\$0.01-\$50	25.0%	\$19.05
\$50.01 - \$150	30.0%	\$66.67
\$150.01-\$500	20.0%	\$238.10
\$500.01-\$1500	9.5%	\$761.90
>\$ 1,500.01	0.5%	\$1904.76

<b>Exhibit 6 – Tight Network Services</b>		
<b>Class</b>	<b>Tight Network: 2019 Annual Services per 1,000 Members</b>	<b>Tight Network: 2019 Avg Cost per Service</b>
Class I	4,500	\$75
Class II	1,500	\$238
Class III	500	\$2,500

Since 2016, Your Eyes has offered pediatric dental benefits as a stand-alone-dental-plan carrier in both individual and SHOP Exchanges. Despite material investments on advertising campaigns and expansion of its network of pediatric dentists, they have not been able to gain significant market share in the pediatric dental market. The CFO envisions that an actuarially sound business strategy is needed to expand its market share from 4,500 pediatric enrollees in 2019 to 25,000 in 2021.

## 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).

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\*\*SACO Email 1\*\*

From: Madeleine Swann <MSwann@SACO.com>  
To: You <JB007@Skyfall.com>  
Sent: February 2, 2020  
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 three years:

<b>Exhibit 1 - Benchmarks</b>			
	2018	2019	2020
Benchmarks	\$955.00	\$1,010.00	\$1,110.00

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. They are also considering expanding into the Critical Illness insurance market but have hesitations given their lack of critical illness experience data.

### Long-Term Disability

Thunderball has experienced steady growth in Long-Term Disability sales. Exhibit 1 lists the incidence rates by gender. Exhibits 2a and 2b list the death and recovery rates<sup>1</sup> assumed for males in the LTD plans with 3 month elimination period and 6 month elimination period respectively.

<b>Exhibit 1 - Claim Reserve Table for Open Claim per \$100 of Monthly Benefit</b>			
		Elimination Period = 3 months	Elimination Period = 6 months
Sex	Age	Claim Incident Rate (per 1000 lives)	Claim Incident Rate (per 1000 lives)
F	under 30	1.0	0.5
F	30-39	1.6	1.0
F	40-49	2.5	2.1
F	50-59	3.0	2.6
F	60-64	4.0	3.7
F	65-66	5.0	4.8
M	under 30	1.0	0.5
M	30-39	1.4	1.0
M	40-49	2.6	2.1
M	50-59	3.4	3.0
M	60-64	4.5	4.2
M	65-66	5.5	5.3

<sup>1</sup> Earlier durations (usually until 24 months) are typically listed more granular by month. Assume annualized rates for the sake of simplicity.

Exhibit 2a - Death & Recovery - Males (3-month elimination period)									
Duration of Disablement	Age at Disablement								
	22	27	32	37	42	47	52	57	62
1st year	0.51	0.47	0.44	0.42	0.40	0.37	0.34	0.30	0.28
2nd year	0.48	0.45	0.40	0.35	0.31	0.25	0.21	0.15	0.15
3rd year	0.37	0.34	0.28	0.22	0.18	0.15	0.13	0.11	0.08
4th year	0.25	0.21	0.17	0.15	0.12	0.11	0.09	0.08	0.07
5th year	0.16	0.15	0.12	0.10	0.09	0.09	0.09	0.08	0.09
6th year	0.09	0.08	0.07	0.06	0.06	0.06	0.06	0.05	0.06
7th year	0.06	0.05	0.05	0.05	0.05	0.05	0.06	0.07	0.06
8th year	0.05	0.04	0.04	0.05	0.05	0.05	0.06	0.07	0.08
9th year	0.04	0.04	0.04	0.05	0.05	0.05	0.06	0.07	0.08
10th year	0.04	0.04	0.04	0.05	0.05	0.05	0.06	0.07	0.08
11th year	0.04	0.04	0.04	0.05	0.05	0.05	0.06	0.07	0.08
12th year	0.04	0.04	0.04	0.05	0.06	0.06	0.07	0.08	0.09
13th year	0.04	0.04	0.04	0.05	0.06	0.06	0.07	0.09	0.11
14th year	0.04	0.04	0.04	0.05	0.06	0.06	0.07	0.09	0.13
15th year	0.04	0.04	0.04	0.05	0.06	0.06	0.07	0.11	0.15
16th year	0.04	0.04	0.04	0.05	0.06	0.08	0.11	0.13	0.16
17th year	0.04	0.04	0.04	0.05	0.06	0.08	0.11	0.15	0.17
18th year	0.04	0.04	0.04	0.05	0.06	0.09	0.11	0.16	0.19
19th year	0.04	0.04	0.04	0.05	0.06	0.09	0.11	0.17	0.20
20th year	0.04	0.04	0.04	0.05	0.06	0.09	0.12	0.17	0.26
21st year	0.04	0.04	0.04	0.05	0.06	0.09	0.12	0.19	0.29
22nd year	0.04	0.04	0.04	0.05	0.06	0.09	0.12	0.21	0.31
23rd year	0.04	0.04	0.05	0.05	0.06	0.10	0.15	0.23	0.34
24th year	0.04	0.04	0.05	0.05	0.06	0.12	0.16	0.25	0.35
25th year	0.04	0.04	0.05	0.06	0.08	0.12	0.16	0.27	0.36
26th year	0.04	0.04	0.05	0.06	0.08	0.13	0.16	0.27	0.38
27th year	0.04	0.04	0.05	0.06	0.08	0.13	0.16	0.27	0.41
28th year	0.05	0.05	0.06	0.09	0.11	0.19	0.23	0.25	0.42
29th year	0.05	0.05	0.06	0.09	0.11	0.19	0.23	0.27	0.43
30th year	0.05	0.05	0.06	0.09	0.11	0.19	0.23	0.27	0.45
31st year	0.05	0.05	0.06	0.09	0.11	0.21	0.27	0.31	0.46
32nd year	0.05	0.05	0.06	0.09	0.11	0.21	0.27	0.34	0.46
33rd year	0.05	0.05	0.06	0.09	0.13	0.23	0.28	0.35	0.48
34th year	0.07	0.07	0.08	0.10	0.13	0.25	0.31	0.36	0.50
35th year	0.07	0.07	0.08	0.10	0.13	0.26	0.33	0.40	0.52
36th year	0.08	0.08	0.08	0.12	0.15	0.26	0.35	0.45	0.55
37th year	0.08	0.08	0.08	0.12	0.15	0.27	0.37	0.49	0.60
38th year	0.08	0.08	0.08	0.12	0.19	0.27	0.40	0.55	0.65

Exhibit 2b - Death & Recovery - Males (6-month elimination period)									
Duration of Disablement	Age at Disablement								
	22	27	32	37	42	47	52	57	62
1st year	0.40	0.36	0.33	0.31	0.25	0.22	0.19	0.15	0.10
2nd year	0.37	0.34	0.29	0.24	0.20	0.14	0.10	0.08	0.08
3rd year	0.22	0.19	0.17	0.17	0.13	0.12	0.10	0.08	0.08
4th year	0.16	0.12	0.10	0.09	0.08	0.07	0.07	0.06	0.06
5th year	0.14	0.08	0.08	0.07	0.07	0.07	0.06	0.06	0.06
6th year	0.07	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.06
7th year	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.06
8th year	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.06
9th year	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.07
10th year	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.07
11th year	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.07
12th year	0.02	0.03	0.03	0.03	0.04	0.03	0.04	0.05	0.07
13th year	0.02	0.03	0.03	0.03	0.04	0.04	0.04	0.07	0.08
14th year	0.02	0.03	0.03	0.03	0.04	0.04	0.04	0.07	0.09
15th year	0.02	0.02	0.02	0.03	0.04	0.04	0.05	0.07	0.11
16th year	0.02	0.02	0.02	0.03	0.04	0.05	0.08	0.10	0.12
17th year	0.02	0.02	0.02	0.04	0.04	0.05	0.08	0.11	0.13
18th year	0.02	0.02	0.02	0.04	0.04	0.05	0.08	0.12	0.15
19th year	0.02	0.02	0.02	0.04	0.04	0.05	0.08	0.12	0.16
20th year	0.02	0.02	0.02	0.04	0.04	0.05	0.12	0.17	0.22
21st year	0.02	0.02	0.02	0.04	0.05	0.05	0.12	0.19	0.25
22nd year	0.02	0.02	0.02	0.04	0.05	0.05	0.12	0.20	0.27
23rd year	0.02	0.02	0.03	0.04	0.05	0.06	0.13	0.22	0.28
24th year	0.02	0.02	0.03	0.04	0.05	0.06	0.15	0.23	0.28
25th year	0.02	0.02	0.03	0.04	0.05	0.06	0.15	0.25	0.29
26th year	0.02	0.02	0.03	0.05	0.06	0.06	0.15	0.25	0.31
27th year	0.02	0.02	0.03	0.05	0.06	0.07	0.16	0.25	0.33
28th year	0.03	0.03	0.04	0.05	0.06	0.07	0.21	0.25	0.33
29th year	0.03	0.03	0.04	0.05	0.06	0.07	0.22	0.27	0.35
30th year	0.03	0.03	0.04	0.05	0.06	0.08	0.22	0.27	0.35
31st year	0.03	0.03	0.04	0.06	0.07	0.09	0.22	0.27	0.37
32nd year	0.03	0.03	0.04	0.06	0.07	0.11	0.17	0.28	0.38
33rd year	0.03	0.03	0.04	0.06	0.07	0.13	0.17	0.29	0.38
34th year	0.05	0.05	0.06	0.06	0.07	0.13	0.21	0.29	0.38
35th year	0.05	0.05	0.06	0.07	0.08	0.14	0.22	0.30	0.39
36th year	0.06	0.06	0.06	0.07	0.09	0.14	0.23	0.30	0.40
37th year	0.06	0.06	0.06	0.07	0.11	0.15	0.23	0.30	0.40
38th year	0.06	0.06	0.06	0.07	0.12	0.15	0.25	0.34	0.41

### **Long-Term Care**

Thunderball expanded into Long-Term Care (LTC) in late 1980's. Initially, Thunderball offered only group coverage. After a few years, experience with individual coverage conversion quickly convinced management that Thunderball should also sell direct individual coverage. Today, all LTC policies are administered together whether issued through a group or directly to individuals. Thunderball offers 3 plans with different elimination periods and benefit periods with monthly premiums. The benefits and claim costs are seen below:

<b>Exhibit 3 - Benefits</b>		
Benefit Level	Elimination Period (Months)	Benefit Period (Years)
1	3	2
2	6	5
3	12	Lifetime

<b>Exhibit 4 - Policy Data</b>						
Policy #	Annualized Premium	Benefit Period	Elimination Period	Daily Benefit	Issue Year	Issue Age
1	2,136.25	2 Years	3 Months	70.00	1990	58
2	4,448.89	2 Years	3 Months	90.00	1991	70
3	3,923.56	Lifetime	12 Months	90.00	1994	65
4	878.35	5 Years	6 Months	100.00	1995	52
5	2,059.50	2 Years	3 Months	100.00	1996	64
6	719.18	5 Years	6 Months	100.00	1998	57
7	778.51	Lifetime	12 Months	70.00	1999	57
8	4,974.12	Lifetime	12 Months	90.00	2000	75
9	2,144.93	5 Years	6 Months	120.00	2001	65
10	1,513.92	Lifetime	12 Months	180.00	2002	45
11	1,265.04	2 Years	3 Months	120.00	2003	65
12	7,760.27	2 Years	3 Months	190.00	2004	82
13	5,530.56	5 Years	6 Months	120.00	2005	70
14	2,703.54	Lifetime	12 Months	140.00	2006	52

Exhibit 5 - Claim Costs per \$100 Daily Benefit						
Attained Age	Benefit Level 1		Benefit Level 2		Benefit Level 3	
	Male	Female	Male	Female	Male	Female
<40	58.40	73.00	121.67	165.91	243.34	663.64
41	59.57	73.73	124.10	167.57	244.56	670.28
42	60.76	74.47	126.58	169.25	245.78	676.98
43	61.98	75.21	129.13	170.93	247.01	683.75
44	63.22	75.96	131.71	172.64	248.25	690.59
45	64.48	76.72	134.33	174.36	249.49	697.50
46	65.77	77.49	137.02	176.11	250.74	704.48
47	67.09	78.26	139.77	177.86	251.99	711.52
48	68.43	79.04	142.56	179.64	253.25	718.64
49	69.80	79.83	145.42	181.43	254.52	725.83
50	71.20	80.63	148.33	183.25	255.79	733.09
51	72.62	81.44	151.29	185.09	257.07	740.42
52	74.07	82.25	154.31	186.93	258.36	747.82
53	75.55	83.07	157.40	188.80	259.65	755.30
54	77.06	83.90	160.54	190.68	260.95	762.85
55	78.60	84.74	163.75	192.59	262.25	770.48
56	80.17	85.59	167.02	194.52	267.23	778.18
57	81.77	86.45	170.35	196.48	272.56	785.96
58	83.41	87.31	173.77	198.43	278.03	793.82
59	85.08	88.18	177.25	200.41	283.60	801.76
60	89.33	89.94	178.66	195.52	285.86	809.78
61	93.80	92.64	187.60	201.39	300.16	817.88
62	98.49	96.35	196.98	209.46	315.17	830.15
63	103.41	100.20	206.82	217.83	330.91	842.60
64	108.58	104.21	217.16	226.54	347.46	855.24
65	119.44	109.42	229.69	237.87	356.02	868.07
66	137.36	114.89	264.15	249.76	409.43	885.43
67	164.83	132.12	305.24	287.22	473.12	903.14
68	206.04	151.94	381.56	330.30	591.42	921.20
69	267.85	174.73	496.02	379.85	768.83	944.23
70	361.60	200.94	645.71	436.83	968.57	967.84
71	488.16	231.08	871.71	481.42	1,307.57	992.04
72	659.02	265.74	1,176.82	553.63	1,765.23	1,016.84
73	889.68	318.89	1,533.93	664.35	2,300.90	1,042.26
74	1,156.58	398.61	1,994.10	830.44	2,991.15	1,328.70
75	1,503.55	518.19	2,505.92	1,079.56	3,633.58	1,727.30
76	1,879.44	699.56	3,132.40	1,399.12	4,541.98	2,238.59
77	2,255.33	944.41	3,758.88	1,888.82	5,199.28	3,022.11
78	2,593.63	1,274.95	4,183.27	2,549.90	5,856.58	3,952.35
79	2,852.99	1,657.44	4,457.80	3,314.88	6,240.92	5,138.06
80	2,995.64	2,154.67	4,538.85	4,309.34	6,242.76	6,679.48



### **Group Life**

Thunderball offers group life coverage for employers to provide to their employees. Below are the monthly manual claim rates per \$1,000 of coverage.

<b>Exhibit 6 - Monthly Manual Claim Rate per \$1,000 of coverage</b>		
Age	Male	Female
20-25	0.61	0.32
26-30	0.78	0.35
31-35	0.87	0.45
36-40	0.98	0.63
41-45	1.39	0.90
46-50	2.16	1.25
51-55	3.64	1.95
56-60	6.41	3.46
61-65	11.65	6.80

### 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.

Moonraker’s current employee census includes 11,875 full-time (working 30 hours or more) and 700 part-time employees. Exhibit 1 shows a census of the full-time employees. 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.

<b>Exhibit 1 - Census</b>			
Sex	Age	# Full Time Employees	Average Annual Salary
F	<25	23	\$26,000
F	25-29	178	42,000
F	30-34	950	51,000
F	35-39	1,128	59,000
F	40-44	1,425	68,000
F	45-49	831	74,000
F	50-54	207	79,000
F	55-59	40	84,000
F	60-64	22	89,000
M	<25	47	31,000
M	25-29	237	45,000
M	30-34	1,068	56,000
M	35-39	1,425	63,500
M	40-44	1,900	71,000
M	45-49	1,425	76,000
M	50-54	593	82,000
M	55-59	356	89,000
M	60-64	20	98,000
Total		11,875	

Moonraker offers a group disability plan for all of its employees.

<b>Exhibit 3 - Group Disability Plan Benefits</b>		
Description	Plan 1	Plan 2
Monthly Benefit	50% of Monthly Salary	80% of Monthly Salary
Monthly Maximum Benefit	\$3,500	\$5,000
Elimination/Waiting Period	3 Months	3 Months
Cost of Living Adjustment	0%	3%
Premium Cost Sharing	100% Employer Paid	80% Employer Paid

At no additional cost, Moonraker offers a group term life insurance benefit equal to the annual salary and Accidental Death and Dismemberment benefit equal to twice the annual salary. Employees are provided the option to buy supplemental life insurance with a coverage level of 2.0, 3.0, or 4.0 times the annual salary.

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 6 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, 2019  
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

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From: Le Chiffre <lechiffre@RoyaleHealth.com>  
To: Hugo Drax <hugo@Moonraker.com>  
Sent: December 29, 2019  
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 their 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.

<b>Exhibit 4 - Total Annual Claims</b>	
<b>Claimant</b>	<b>Total Claims</b>
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, 2020  
Subject: Claims Experience

Hi James,

You requested our group's claim experience. This is the paid claims data for incurred months January 2018 through July 2019. The paid claims have been paid through December 2019.

<b>Exhibit 5 - Claims Experience</b>			
<b>Incurred Month</b>	<b>Paid Claims</b>	<b>Members</b>	<b>Paid Claims PMPM</b>
Jan-2018	\$7,410,000	11,875	\$624.00
Feb-2018	\$7,849,375	11,875	\$661.00
Mar-2018	\$7,540,625	11,875	\$635.00
Apr-2018	\$7,647,500	11,875	\$644.00
May-2018	\$7,386,250	11,875	\$622.00
Jun-2018	\$6,745,000	11,875	\$568.00
Jul-2018	\$7,540,625	11,875	\$635.00
Aug-2018	\$5,011,250	11,875	\$422.00
Sep-2018	\$7,101,250	11,875	\$598.00
Oct-2018	\$7,635,625	11,875	\$643.00
Nov-2018	\$6,032,500	11,875	\$508.00
Dec-2018	\$6,721,250	11,875	\$566.00
Jan-2019	\$7,288,750	12,250	\$595.00
Feb-2019	\$7,533,750	12,250	\$615.00
Mar-2019	\$6,921,250	12,250	\$565.00
Apr-2019	\$7,227,500	12,250	\$590.00
May-2019	\$6,860,000	12,250	\$560.00
Jun-2019	\$6,676,250	12,250	\$545.00
Jul-2019	\$7,043,750	12,250	\$575.00

Let me know if you have any questions.

Thanks,

Hugo  
Moonraker Energy

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

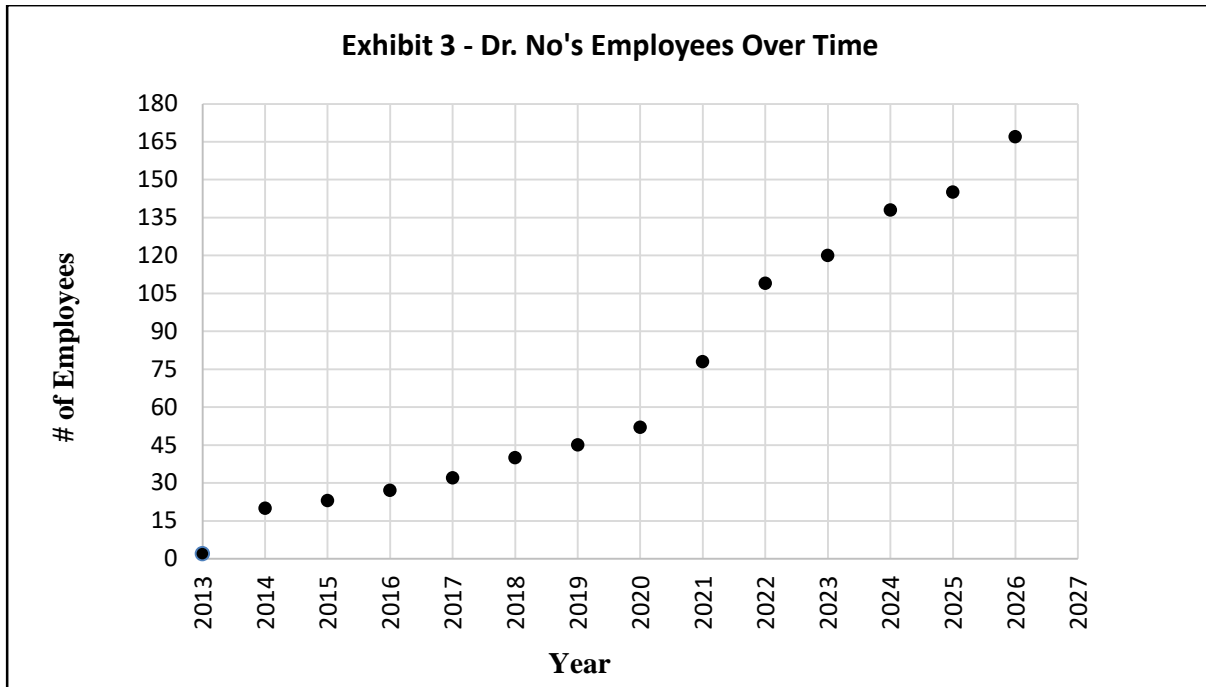
Dr. No's Herbal Tea is a startup firm, co-founded by Dr. No and Dr. Honey in 2013. Dr. No's currently employs 45 non-union employees. Due to the increasing popularity of its organic spiced herbal tea products, Dr. No's has plans to significantly increase its employee size in the next several years to meet its growing operational and marketing needs.

Dr. No's started offering a fully insured managed care health plan to its employees in 2016. Dr. No's provides all employees with a subsidy of \$100 PMPM towards the 2020 health insurance premium shown below:

<b>Exhibit 1 - Premium PMPM</b>			
<b>Single</b>	<b>EE + Spouse</b>	<b>EE + Children</b>	<b>Family</b>
\$351	\$705	\$452	\$857

The 2020 census and projected number of employees in 2021-2026 is given below:

<b>Exhibit 2 - Census</b>			
<b>Sex</b>	<b>Age</b>	<b># of Employees</b>	<b>Annual Salary</b>
F	<25	0	N/A
F	25-29	2	\$28,500
F	30-34	5	\$33,000
F	35-39	7	\$37,500
F	40-44	3	\$48,400
F	45-49	2	\$55,900
F	50-54	1	\$66,700
F	55-59	1	\$79,300
F	60-64	1	\$91,700
M	<25	1	\$22,000
M	25-29	0	N/A
M	30-34	5	\$33,000
M	35-39	6	\$37,000
M	40-44	6	\$46,750
M	45-49	1	\$55,400
M	50-54	2	\$67,600
M	55-59	1	\$78,250
M	60-64	1	\$90,500
	<b>Total</b>	<b>45</b>	



Despite the employer subsidy, the co-founders are concerned by the low participation in the health plan. Company management is also evaluating strategies to control premium costs that have steadily risen in recent years. They are considering many possible alternatives, such as:

- Replacing the currently offered managed care plan option with an EPO plan with a more restricted network and lower premium,
- Self-insurance, or
- Dropping the employer sponsored health insurance and providing coverage through the SHOP Exchange.



## Zorin Industries (Zorin)

Zorin Industries (Zorin) is a private equity firm that regularly acquires smaller companies. Their current portfolio of companies has employees concentrated in several different geographic areas.

Historically, Zorin has taken a hands-off approach to the benefits of its portfolio companies. They are concerned with keeping costs low and avoiding unnecessary risks. They also know they have very diverse employees in their portfolio companies and want to offer them plenty of options, although they are not concerned with the specifics of what is offered.

Zorin’s team has developed a core set of health benefits to offer to newly acquired portfolio companies:

- Zorin offers two benefit plans to its employees: a PPO plan and a CDHP with HSA
- Zorin covers 80% of the premium cost for health coverage
- The total premiums (both the company and employee’s cost) per employee per month are given as follows:

<b>Exhibit 1 – Premium PEPM</b>		
Coverage Tier	CDHP with HSA	PPO
Employee Only	\$300	\$400
Employee + Spouse	\$600	\$800
Employee + Child(ren)	\$400	\$600
Employee + Family	\$1,000	\$1,500

Zorin is acquiring a new company, A View to Kill Travel Agency (VTK) that offers one medical plan, a PPO.

Zorin requests a cost impact analysis for the VTK employees, evaluating both the impact of the change in out-of-pocket costs and employee contributions, the results of which are below:

<b>Exhibit 2 – Population Impacted by Change in Employee Costs</b>				
Annual Impact to Employee	CDHP with HSA		PPO	
	Single	Family	Single	Family
Less than -\$500	5%	5%	0%	15%
\$-500 to \$0	60%	15%	20%	10%
\$0 to \$500	20%	35%	45%	25%
More than \$500	15%	45%	35%	50%