



# Case Study Spring 2021

Group & Health Finance & Valuation, Segment C, Canada Exam

# Contents

Introduction	
Firm Description	
Quantum Health Insurance Company (Quantum)	
Living Daylights Life and Health Insurance Company (Living Daylights)	
Casino Royale Health & Life Insurance Company (Royale Health)	
The Thunderball Corporation (Thunderball)	
Another Day, Inc. (Another Day)	

# Case Study – Group & Health Finance & Valuation 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.

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 that are located throughout Canada.

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

#### mantum 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 2018 and December 2019 with paid data through December 2019. These exhibits are various steps in the reserve calculation process.

Page | 4

								Ext	nibit 1 - Mont	hly Claims E	perience									
									Quantum Le	gacy III - Indi	vidual									
										Paid Mont										
		Jul-2018	Aug-2018	Sep-2018	Oct-2018	Nov-2018	Dec-2018	Jan-2019	Feb-2019	Mar-2019	Apr-2019	May-2019	Jun-2019	Jul-2019	Aug-2019	Sep-2019	Oct-2019	Nov-2019	Dec-2019	
	Jul-2018	31,000	725,000	590,000	217,000	152,000	38,000	23,000	20,000	24,000	11,000	10,000	2,000	0	0	0	0	0	0	1,843,000
	Aug-2018	0	54,000	652,000	749,000	246,000	80,000	17,000	16,000	12,000	19,000	14,000	7,000	5,000	0	0	0	0	0	1,871,000
	Sep-2018	0	0	56,000	763,000	965,000	338,000	74,000	33,000	34,000	14,000	9,000	3,000	4,000	5,000	0	0	0	0	2,298,000
	Oct-2018	0	0	0	44,000	755,000	920,000	287,000	31,000	61,000	44,000	12,000	3,000	2,000	8,000	18,000	0	0	0	2,185,000
	Nov-2018	0	0	0	0	43,000	844,000	1,035,000	214,000	160,000	67,000	14,000	19,000	9,000	19,000	8,000	4,000	0	0	2,436,000
	Dec-2018	0	0	0	0	0	47,000	725,000	668,000	216,000	75,000	16,000	11,000	1,000	5,000	5,000	11,000	2,000	0	1,782,000
뢰	Jan-2019	0	0	0	0	0	0	31,000	625,000	591,000	258,000	290,000	23,000	8,000	7,000	39,000	6,000	1,000	9,000	1,888,000
<u> Ionth</u>	Feb-2019	0	0	0	0	0	0	0	19,000	483,000	398,000	97,000	42,000	15,000	16,000	46,000	9,000	1,000	5,000	1,131,000
D D	Mar-2019	0	0	0	0	0	0	0	0	19,000	810,000	521,000	156,000	50,000	15,000	16,000	33,000	2,000	7,000	1,629,000
	Apr-2019	0	0	0	0	0	0	0	0	0	34,000	367,000	383,000	226,000	137,000	29,000	50,000	13,000	13,000	1,252,000
Incurre	May-2019	0	0	0	0	0	0	0	0	0	0	23,000	432,000	432,000	405,000	133,000	32,000	17,000	15,000	1,489,000
ᆌ	Jun-2019	0	0	0	0	0	0	0	0	0	0	0	29,000	306,000	306,000	338,000	138,000	188,000	16,000	1,321,000
	Jul-2019	0	0	0	0	0	0	0	0	0	0	0	0	43,000	349,000	375,000	283,000	76,000	40,000	1,166,000
	Aug-2019	0	0	0	0	0	0	0	0	0	0	0	0	0	42,000	451,000	453,000	200,000	84,000	1,230,000
	Sep-2019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73,000	527,000	568,000	232,000	1,400,000
	Oct-2019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37,000	383,000	560,000	980,000
	Nov-2019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	66,000	803,000	869,000
	Dec-2019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	499,000	499,000
	Total	31,000	779,000	1,298,000	1,773,000	2,161,000	2,267,000	2,192,000	1,626,000	1,600,000	1,730,000	1,373,000	1,110,000	1,101,000	1,314,000	1,531,000	1,583,000	1,517,000	2,283,000	27,269,000

	Exhibit 1 (con't) - Monthly Claims Experience																			
								H	MO - Individ	ual (ACA-Co										
										Paid Mon										
		Jul-2018	Aug-2018	Sep-2018	Oct-2018	Nov-2018	Dec-2018	Jan-2019	Feb-2019		Apr-2019	May-2019	Jun-2019	Jul-2019	Aug-2019	Sep-2019	Oct-2019	Nov-2019	Dec-2019	Total
	Jul-2018	14,000	321,000	299,000	102,000	49,000	19,000	9,000	9,000	6,000	5,000	14,000	1,000	0	0	0	0	0	0	848,000
	Aug-2018	0	32,000	427,000	364,000	177,000	50,000	15,000	12,000	7,000	15,000	13,000	3,000	1,000	0	0	0	0	0	1,116,000
	Sep-2018	0	0	21,000	276,000	389,000	128,000	30,000	14,000	9,000	6,000	4,000	4,000	1,000	5,000	0	0	0	0	887,000
	Oct-2018	0	0	0	13,000	240,000	301,000	94,000	9,000	23,000	16,000	6,000	1,000	1,000	3,000	4,000	0	0	0	711,000
	Nov-2018	0	0	0	0	14,000	312,000	354,000	67,000	74,000	27,000	6,000	7,000	4,000	11,000	5,000	2,000	0	0	883,000
	Dec-2018	0	0	0	0	0	17,000	331,000	312,000	100,000	17,000	7,000	5,000	3,000	1,000	4,000	7,000	1,000	0	805,000
됩	Jan-2019	0	0	0	0	0	0	14,000	304,000	295,000	125,000	162,000	11,000	3,000	4,000	21,000	4,000	1,000	5,000	949,000
<b>Jonth</b>	Feb-2019	0	0	0	0	0	0	0	13,000	297,000	277,000	67,000	15,000	7,000	3,000	9,000	10,000	1,000	4,000	703,000
Σ	Mar-2019	0	0	0	0	0	0	0	0	11,000	450,000	292,000	84,000	25,000	7,000	6,000	14,000	8,000	3,000	900,000
rred	Apr-2019	0	0	0	0	0	0	0	0	0	18,000	220,000	244,000	151,000	113,000	16,000	33,000	16,000	10,000	821,000
cn	May-2019	0	0	0	0	0	0	0	0	0	0	13,000	241,000	250,000	254,000	72,000	12,000	11,000	10,000	863,000
ᆁ	Jun-2019	0	0	0	0	0	0	0	0	0	0	0	19,000	183,000	213,000	237,000	103,000	140,000	8,000	903,000
	Jul-2019	0	0	0	0	0	0	0	0	0	0	0	0	28,000	246,000	280,000	208,000	58,000	28,000	848,000
	Aug-2019	0	0	0	0	0	0	0	0	0	0	0	0	0	27,000	317,000	346,000	151,000	49,000	890,000
	Sep-2019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41,000	324,000	352,000	153,000	870,000
	Oct-2019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18,000	205,000	339,000	562,000
	Nov-2019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70,000	882,000	952,000
	Dec-2019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	470,000	470,000
	Total	14,000	353,000	747,000	755,000	869,000	827,000	847,000	740,000	822,000	956,000	804,000	635,000	657,000	887,000	1,012,000	1,081,000	1,014,000	1,961,000	14,981,000

Exhibit 2 - Monthly Claims Experience											
	PPO -	Individual (ACA-Co	mpliant)								
		Paid Claims		Paid							
		Through Dec 2019	Enrollment	PMPM							
	Jul-2018	409,000	1,980	206.57							
	Aug-2018	491,000	1,980	247.98							
	Sep-2018	382,000	1,860	205.38							
	Oct-2018	294,000	1,620	181.48							
	Nov-2018	362,000	1,620	223.46							
	Dec-2018	347,000	1,620	214.20							
th	Jan-2019	403,000	1,620	248.77							
Incurred Month	Feb-2019	289,000	2,040	141.67							
1 M	Mar-2019	371,000	2,100	176.67							
rrec	Apr-2019	357,000	2,040	175.00							
ıcn	May-2019	370,000	2,040	181.37							
I	Jun-2019	400,000	2,100	190.48							
	Jul-2019	371,000	2,100	176.67							
	Aug-2019	395,000	2,100	188.10							
	Sep-2019	376,000	2,280	164.91							
	Oct-2019	246,000	2,280	107.89							
	Nov-2019	203,000	2,400	84.58							
	Dec-2019	102,000	2,640	38.64							
	Total	6,168,000									

Exh	ibit 3 - Enrollment -	Individual	
	Quantum Legacy	HMO (ACA -	PPO (ACA -
Month	III	Compliant)	Compliant)
Jul-2018	11,100	4,000	1,980
Aug-2018	11,700	3,800	1,980
Sep-2018	11,400	3,750	1,860
Oct-2018	11,400	3,750	1,620
Nov-2018	11,400	3,750	1,620
Dec-2018	11,400	4,050	1,620
Jan-2019	11,800	4,100	1,620
Feb-2019	11,800	4,050	2,040
Mar-2019	12,000	4,100	2,100
Apr-2019	12,000	4,150	2,040
May-2019	12,700	4,200	2,040
Jun-2019	12,700	4,150	2,100
Jul-2019	11,700	4,450	2,100
Aug-2019	11,900	4,450	2,100
Sep-2019	12,100	4,600	2,280
Oct-2019	12,300	4,850	2,280
Nov-2019	12,300	4,850	2,400
Dec-2019	12,500	4,600	2,640

	Exhibit 4 - Percent of Ultimate Losses by Lag Month												
	Quantum Legacy III - Small Group												
							Lag Mo	onth					
		1	2	3	4	5	6	7	8	9	10	11	12
	Jul-18	0.016	0.465	0.694	0.804	0.910	0.924	0.934	0.944	0.963	0.969	0.999	1.000
	Aug-18	0.036	0.356	0.835	0.922	0.953	0.964	0.969	0.977	0.977	0.993	0.998	1.000
	Sep-18	0.026	0.447	0.783	0.879	0.916	0.933	0.966	0.973	0.979	0.989	0.992	1.000
Month	Oct-18	0.029	0.445	0.790	0.959	0.946	0.957	0.971	0.980	0.982	0.986	0.993	1.000
Mo	Nov-18	0.029	0.397	0.856	0.904	0.948	0.962	0.966	0.975	0.980	0.985	0.994	1.000
	Dec-18	0.041	0.451	0.739	0.880	0.957	0.967	0.971	0.974	0.980	0.989	0.999	1.000
Incurred	Jan-19	0.027	0.416	0.711	0.836	0.947	0.964	0.970	0.979	0.990	0.994	0.994	1.000
Inc	Feb-19	0.017	0.422	0.758	0.809	0.865	0.880	0.911	0.988	0.998	0.999	1.000	
	Mar-19	0.006	0.483	0.739	0.876	0.905	0.920	0.946	0.973	0.997	1.000		
	Apr-19	0.040	0.411	0.592	0.755	0.923	0.948	0.980	0.998	1.000			
	May-19	0.030	0.413	0.705	0.865	0.970	0.987	0.993	1.000				

	Exhibit 4 (con't) - Percent of Ultimate Losses by Lag Month												
	HMO - Small Group (ACA-Compliant)												
							Lag Mo	onth					
		1	2	3	4	5	6	7	8	9	10	11	12
	Jul-18	0.017	0.375	0.740	0.862	0.931	0.961	0.973	0.984	0.991	0.998	0.999	1.000
	Aug-18	0.025	0.385	0.727	0.889	0.948	0.959	0.971	0.978	0.995	0.997	0.999	1.000
	Sep-18	0.023	0.306	0.760	0.932	0.966	0.980	0.986	0.992	0.995	0.995	0.999	1.000
onth	Oct-18	0.019	0.329	0.780	0.891	0.927	0.963	0.986	0.991	0.992	0.993	0.995	1.000
Mo	Nov-18	0.013	0.350	0.763	0.841	0.928	0.967	0.973	0.984	0.987	0.993	0.995	1.000
	Dec-18	0.020	0.426	0.836	0.946	0.973	0.986	0.994	0.993	0.994	0.994	0.999	1.000
Incurred	Jan-19	0.012	0.316	0.628	0.768	0.950	0.960	0.964	0.966	0.991	0.994	0.995	1.000
Inc	Feb-19	0.017	0.445	0.797	0.908	0.937	0.950	0.954	0.978	0.991	0.992	1.000	
	Mar-19	0.015	0.517	0.858	0.938	0.967	0.976	0.979	0.995	0.996	1.000		
	Apr-19	0.022	0.275	0.630	0.818	0.896	0.920	0.968	0.985	1.000			
	May-19	0.013	0.266	0.558	0.870	0.956	0.971	0.988	1.000				

	Exhibit 5 - Age-to-Age Factors											
				PF	O - Small (	Group (ACA	-Compliant	)				
Incurred						Lag M	onth					
Month	1	2	3	4	5	6	7	8	9	10	11	12
Jul-18	12.039	1.655	1.299	1.090	1.114	1.013	1.004	1.027	1.014	1.116	1.003	-
Aug-18	12.231	2.112	1.199	1.200	1.015	1.013	1.020	1.002	1.026	1.037	1.057	-
Sep-18	23.283	1.894	1.191	1.190	1.020	1.021	1.014	1.011	1.028	1.044	1.037	-
Oct-18	5.845	1.593	1.171	1.183	1.025	1.031	1.013	1.001	1.014	1.070	1.078	-
Nov-18	11.674	2.469	1.806	1.033	1.086	1.004	1.050	1.001	1.109	1.026	1.071	-
Dec-18	12.605	1.516	1.163	1.117	1.093	1.022	1.002	1.004	1.032	1.056	1.005	-
Jan-19	14.917	1.581	1.121	1.240	1.022	1.004	1.031	1.025	1.026	1.019	1.048	-
Feb-19	17.920	1.936	1.173	1.115	1.014	1.022	1.124	1.029	1.024	1.031	-	-
Mar-19	42.812	1.940	1.152	1.011	1.017	1.004	1.005	1.009	1.005	-	-	-
Apr-19	7.140	2.985	1.104	1.174	1.021	1.031	1.009	1.008	-	-	-	-
May-19	5.167	1.936	1.301	1.106	1.258	1.046	1.009	-	-	-	-	-

#### Society of Actuaries - Case Study, Group & Health Finance & Valuation Canada Exam

### \*\*Quantum Email 1\*\*

From: Dominic Greene < DGreene@quantum.com>

To: You <JB007@Skyfall.com>

Sent: April 20, 2020

Subject: 2019 YE Financial Statements

We have finished our financial statements. I have enclosed several of the key pages. Let me know if you have any questions.

Dominic

Enclosures:

Exhibit 6 - Financial Statements		
Income Statement		
(In thousands) For	r the Years End	ling December 31,
Revenue	2019	2018
Premiums	85,128	94,429
Individual HMO	22,637	18,257
Individual PPO	6,407	5,377
Individual Grandfathered	18,780	32,298
Total Individual	47,823	55,932
Small Group HMO	14,860	11,750
Small Group PPO	7,699	6,013
Small Group Grandfathered	14,747	20,734
Total Small Group	37,305	38,497
Administrative fees Income	32	22
Miscellaneous income	1,703	1,889
Total operating revenue	86,863	96,340
Net investment income	1,340	1,079
Total Revenues	\$ 88,203	\$ 97,419
Expenses		
Benefit expense	71,916	76,845
Individual HMO	19,500	14,372
Individual PPO	5,574	4,799
Individual Grandfathered	15,860	25,950
Total Individual	40,934	45,120
Small Group HMO	11,363	9,354
Small Group PPO	6,164	4,820
Small Group Grandfathered	13,455	17,551
Total Small Group	30,983	31,725
Commissions	1,541	757
General insurance expenses	9,534	10,293
Insurance taxes, licenses, and fees, excluding federal income tax	1,703	1,889
Write-in	752	576
Total expenses	\$ 85,446	\$ 90,359
Income before income tax expense	2,757	7,059
Income tax expense	937	2,400
Net Income	\$ 1,820	\$ 4,659

Current Assets		d) - Financial Statements	Exhibit 6 (continue
Current Assets		ince Sheet	Bal
Current Assets			(In thousands)
Cash and cash equivalents	December 31, 2018	December 31, 2019	Assets
Bonds			Current Assets
Real Estate	11,308	11,931	Cash and cash equivalents
Investment income due and accrued   Premium Receivables   13   Other receivables   995   Other   1,712   Electronic data processing equipment   859	2,695	2,535	Bonds
Premium Receivables	2,748	2,835	Real Estate
Other receivables         995           Other         1,712           Electronic data processing equipment         859           Total current assets         21,081           Long-term investments         17,505           Net property, plant, and equipment         906           Goodwill         151           Other intangible assets         395           Other noncurrent assets         253           Total Assets         \$ 40,291           Liabilities and Shareholder's Equity           Liabilities         \$ 40,291           Current Liabilities:         \$ 9,535           Reserves for future policy benefits         59           Other policyholder liabilities         201           Total policy liabilities         9,795           Unearned Income         82           Accounts payable and accrued expenses         3,129           Current portion of long-term debt         67           Other current liabilities         1,594           Total current liabilities         14,667           Drafts outstanding         533           Payable for securities         655           Remittances         3,102           Other noncurrent liabilities         19,772	159	201	Investment income due and accrued
Other   Electronic data processing equipment   859	11	13	Premium Receivables
Electronic data processing equipment   21,081   17,505	995	995	Other receivables
Total current assets	1,712	1,712	Other
Long-term investments	859	859	Electronic data processing equipment
Net property, plant, and equipment   151	20,487	21,081	Total current assets
151   Other intangible assets   395   Other noncurrent assets   253	17,831	17,505	Long-term investments
Other intangible assets         395           Other noncurrent assets         253           Total Assets         \$ 40,291 \$           Liabilities and Shareholder's Equity           Liabilities         Urrent Liabilities:           Policy liabilities:         9,535           Reserves for future policy benefits         59           Other policyholder liabilities         201           Total policy liabilities         9,795           Unearned Income         82           Accounts payable and accrued expenses         3,129           Current portion of long-term debt         67           Other current liabilities         1,594           Total current liabilities         14,667           Drafts outstanding         533           Payable for securities         655           Remittances         3,102           Other noncurrent liabilities         19,772           Shareholder's Equity         6,500           Retained earnings         13,597           Unassigned funds (surplus)         422           Total Shareholder's Equity         20,519	880	906	Net property, plant, and equipment
Other noncurrent assets 253  Total Assets \$ 40,291 \$  Liabilities and Shareholder's Equity  Liabilities  Current Liabilities:  Policy liabilities:  Accident and health contracts Reserves for future policy benefits Other policyholder liabilities  Total policy liabilities Unearned Income Accounts payable and accrued expenses Current portion of long-term debt Other current liabilities Total current liabilities Infato other noncurrent liabilities Infato other noncurrent liabilities Infatol Liabilities Infato	163	151	Goodwill
Total Assets  Liabilities and Shareholder's Equity  Liabilities  Current Liabilities:  Policy liabilities:  Accident and health contracts Reserves for future policy benefits Other policyholder liabilities  Total policy liabilities Unearned Income Accounts payable and accrued expenses Current portion of long-term debt Other current liabilities  Total Shareholder's Equity  Common capital stock  Retained earnings  Unassigned funds (surplus)  422  Total Shareholder's Equity	396	395	Other intangible assets
Liabilities and Shareholder's Equity  Liabilities  Current Liabilities:  Policy liabilities:  Accident and health contracts Reserves for future policy benefits Other policyholder liabilities Unearned Income Accounts payable and accrued expenses Current portion of long-term debt Other current liabilities  Total Liabilities	245	253	Other noncurrent assets
Liabilities         Current Liabilities:       Policy liabilities:         Accident and health contracts       9,535         Reserves for future policy benefits       59         Other policyholder liabilities       201         Total policy liabilities       9,795         Unearned Income       82         Accounts payable and accrued expenses       3,129         Current portion of long-term debt       67         Other current liabilities       1,594         Total current liabilities       14,667         Drafts outstanding       533         Payable for securities       655         Remittances       3,102         Other noncurrent liabilities       19,772         Shareholder's Equity       6,500         Retained earnings       13,597         Unassigned funds (surplus)       422         Total Shareholder's Equity       20,519	\$ 40,002	\$ 40,291 \$	Total Assets
Liabilities         Current Liabilities:           Policy liabilities:         Accident and health contracts         9,535           Reserves for future policy benefits         59           Other policyholder liabilities         201           Total policy liabilities         9,795           Unearned Income         82           Accounts payable and accrued expenses         3,129           Current portion of long-term debt         67           Other current liabilities         1,594           Total current liabilities         14,667           Drafts outstanding         533           Payable for securities         655           Remittances         3,102           Other noncurrent liabilities         19,772           Shareholder's Equity         6,500           Retained earnings         13,597           Unassigned funds (surplus)         422           Total Shareholder's Equity         20,519			
Liabilities         Current Liabilities:           Policy liabilities:         Accident and health contracts         9,535           Reserves for future policy benefits         59           Other policyholder liabilities         201           Total policy liabilities         9,795           Unearned Income         82           Accounts payable and accrued expenses         3,129           Current portion of long-term debt         67           Other current liabilities         1,594           Total current liabilities         14,667           Drafts outstanding         533           Payable for securities         655           Remittances         3,102           Other noncurrent liabilities         19,772           Shareholder's Equity         6,500           Retained earnings         13,597           Unassigned funds (surplus)         422           Total Shareholder's Equity         20,519			Liabilities and Shareholder's Equity
Current Liabilities:       Policy liabilities:         Accident and health contracts       9,535         Reserves for future policy benefits       59         Other policyholder liabilities       201         Total policy liabilities       9,795         Unearned Income       82         Accounts payable and accrued expenses       3,129         Current portion of long-term debt       67         Other current liabilities       1,594         Total current liabilities       14,667         Drafts outstanding       533         Payable for securities       655         Remittances       3,102         Other noncurrent liabilities       19,772         Shareholder's Equity       6,500         Retained earnings       13,597         Unassigned funds (surplus)       422         Total Shareholder's Equity       20,519			
Policy liabilities:    Accident and health contracts    Reserves for future policy benefits    Other policyholder liabilities    Other policy liabilities    Unearned Income    Accounts payable and accrued expenses    Current portion of long-term debt    Other current liabilities    Other current liabilities    It,594  Total current liabilities    It,667  Drafts outstanding    S33  Payable for securities    Acemittances    It,102  Other noncurrent liabilities    It,103  Total Liabilities    It,104  Total Liabilities    It,105  Total Liabilities    It,106  Total			
Accident and health contracts Reserves for future policy benefits Other policyholder liabilities Total policy liabilities Unearned Income Accounts payable and accrued expenses Current portion of long-term debt Other current liabilities Total Shareholder's Equity Total Shareholder's Equity			
Reserves for future policy benefits Other policyholder liabilities 201  Total policy liabilities Unearned Income Accounts payable and accrued expenses Current portion of long-term debt Other current liabilities Total before securities Remittances Total Liabilities Total Shareholder's Equity	9,478	9.535	-
Other policyholder liabilities201Total policy liabilities9,795Unearned Income82Accounts payable and accrued expenses3,129Current portion of long-term debt67Other current liabilities1,594Total current liabilities14,667Drafts outstanding533Payable for securities655Remittances3,102Other noncurrent liabilities815Total Liabilities19,772Shareholder's Equity13,597Unassigned funds (surplus)422Total Shareholder's Equity20,519	59		
Total policy liabilities Unearned Income Accounts payable and accrued expenses Gurrent portion of long-term debt Other current liabilities Total current liabilities Total current liabilities Total current liabilities Total Shareholder's Equity	202		
Unearned Income Accounts payable and accrued expenses Current portion of long-term debt Other current liabilities  Total current liabilities  14,667  Drafts outstanding 533 Payable for securities 655 Remittances 3,102 Other noncurrent liabilities 753 Total Liabilities 19,772 Shareholder's Equity Common capital stock Retained earnings 13,597 Unassigned funds (surplus) 422 Total Shareholder's Equity 20,519	9,739		
Accounts payable and accrued expenses Current portion of long-term debt Other current liabilities  Total current liabilities 11,594  Total current liabilities 114,667  Drafts outstanding 533  Payable for securities 655  Remittances 3,102 Other noncurrent liabilities 19,772  Shareholder's Equity  Common capital stock Retained earnings 13,597  Unassigned funds (surplus) 422  Total Shareholder's Equity  20,519	81		
Current portion of long-term debt Other current liabilities  Total current liabilities  14,667  Drafts outstanding 533  Payable for securities 655  Remittances 3,102 Other noncurrent liabilities 815  Total Liabilities 19,772  Shareholder's Equity  Common capital stock Retained earnings 13,597  Unassigned funds (surplus) 422  Total Shareholder's Equity 20,519	3,299		
Other current liabilities 1,594  Total current liabilities 14,667  Drafts outstanding 533  Payable for securities 655  Remittances 3,102 Other noncurrent liabilities 815  Total Liabilities 19,772  Shareholder's Equity  Common capital stock 6,500  Retained earnings 13,597  Unassigned funds (surplus) 422  Total Shareholder's Equity 20,519	84	,	
Total current liabilities Drafts outstanding Payable for securities Remittances Other noncurrent liabilities Total Liabilities Shareholder's Equity Common capital stock Retained earnings Unassigned funds (surplus) Total Shareholder's Equity  20,519	1,594		
Drafts outstanding 533 Payable for securities 655 Remittances 3,102 Other noncurrent liabilities 815 Total Liabilities 19,772 Shareholder's Equity Common capital stock 6,500 Retained earnings 13,597 Unassigned funds (surplus) 422 Total Shareholder's Equity 20,519	14,797		
Payable for securities  Remittances  Other noncurrent liabilities  Total Liabilities  Shareholder's Equity  Common capital stock  Retained earnings  Unassigned funds (surplus)  Total Shareholder's Equity  20,519	632		
Remittances 3,102 Other noncurrent liabilities 815  Total Liabilities 19,772 Shareholder's Equity Common capital stock 6,500 Retained earnings 13,597 Unassigned funds (surplus) 422  Total Shareholder's Equity 20,519	938		
Other noncurrent liabilities 815  Total Liabilities 19,772  Shareholder's Equity  Common capital stock 6,500  Retained earnings 13,597  Unassigned funds (surplus) 422  Total Shareholder's Equity 20,519	2,987		•
Total Liabilities 19,772  Shareholder's Equity  Common capital stock 6,500  Retained earnings 13,597  Unassigned funds (surplus) 422  Total Shareholder's Equity 20,519	787		
Shareholder's Equity Common capital stock 6,500 Retained earnings 13,597 Unassigned funds (surplus) 422 Total Shareholder's Equity 20,519	20,141		
Common capital stock 6,500 Retained earnings 13,597 Unassigned funds (surplus) 422 Total Shareholder's Equity 20,519	20,111	23,2	
Retained earnings 13,597 Unassigned funds (surplus) 422  Total Shareholder's Equity 20,519	6,500	6.500	
Unassigned funds (surplus) 422  Total Shareholder's Equity 20,519	12,951		*
Total Shareholder's Equity 20,519	410		
	19,861		_
	\$ 40,002		Total Liabilities and Owner's Equity
——————————————————————————————————————	10,002	10,271	

# ing Daylights Life and Health Insurance Company (Living Daylights)

Living Daylights Life and Health Insurance Company has been a client for over 20 years. Living Daylights provides group coverage to its Canadian policyholders. Since its inception in 1975, Living Daylights has been providing services within Canada and actively seeks to provide a variety of plans to meet their policyholders needs while pooling the risk across an increasing number of members.

Skyfall Canada services include the pricing and development of its products, regulatory compliance guidance, and valuation services as the Appointed Actuary.

#### **Supplemental Medical Plans**

Living Daylights provides supplemental health benefits not covered by provincial medical plans to various companies within Canada. The summary of key benefit provisions provided by each of the plans is outlined in Exhibit 1 below:

	Exhibit 1 - Benefits											
	Basic	Enhanced 1	Enhanced 2	Enhanced 3								
Prescription Drug	70%	70%	75%	90%								
Coverage	(\$1,000 annual OOP max)*	(\$1,000 annual OOP max)*	(\$1,000 annual OOP max)*	(\$1,000 annual OOP max)*								
Hospital Room												
Semi-Private	Not covered	100% (\$150/day max)	100% (\$150/day max)	100% (\$150/day max)								
Private	Not covered	Not covered	100% (\$200/day max)	100% (\$200/day max)								
Paramedical	80%	90%	90%	100%								
Coverage	(\$200 per calendar year per	(\$500 per calendar year per	(\$500 per calendar year per	(\$1,000 per calendar year								
	practitioner max)	practitioner max)	practitioner max)	per practitioner max)								
Emergency Out of	60 travel days	180 travel days	180 travel days	180 travel days								
Country Coverage	(\$1,000,000 annual max)	(\$1,000,000 annual max)	(\$1,000,000 annual max)	(\$1,000,000 annual max)								
Vision	Not covered	100%	100%	100%								
Coverage		(\$300 per 24 months max)	(\$300 per 24 months max)	(\$300 per 24 months max)								
Dental Coverage												
Preventive & Basic	80%	80%	100%	100%								
Major	Not covered	50%	50%	50%								
Orthodontic	Not covered	Not covered	50%	50%								
			(\$2,000 lifetime max)	(\$3,500 lifetime max)								

<sup>\*</sup> OOP max = Out-of-pocket maximum

Living Daylights has faced many challenges throughout the years but most challenging is the increased cost of prescription drugs and rising dental costs. There are currently no incentives in place for choosing generic over brand name drugs and there is currently no maximum annual or lifetime caps set for dental coverage, except for orthodontic coverage.

Exhibit 2 - Annual Trend Data											
	2016-	2017	2017-	2018	2018-2019						
Category	Utilization	Cost	Utilization	Cost	Utilization	Cost					
Prescription Drug	5.0%	2.0%	4.1%	3.9%	1.2%	2.4%					
Dental & Ortho	7.3%	3.0%	5.1%	1.5%	4.4%	1.5%					
Vision	3.2%	1.9%	2.9%	1.2%	3.0%	1.5%					
Emergency OOC Coverage	3.1%	4.7%	2.7%	1.1%	1.6%	1.8%					
Other Medical	6.7%	3.5%	6.3%	-0.6%	3.5%	2.1%					

The Financial Statements for Living Daylights are seen in Exhibit 3.

Exhibit 3 - Financial Statements								
Living Day lights			Income Statement					
(In thousands)			For the Years Ending December 31,					
Revenue		2019	2018					
	Premiums	\$7,660	\$7,223					
	Other revenue	1,542	1,254					
	Total operating revenue	9,202	8,477					
	Net investment income	351	546					
	Net realized gains (losses) on investments	321	423					
	<b>Total Revenues</b>	\$9,874	\$9,446					
Expenses								
	Benefit expense	\$5,193	\$5,921					
	Commissions	1,149	1,083					
	General and administrative expense	735	587					
	Premium Taxes	153	144					
	Interest Expense	50	45					
	Amortization of other intangible assets	298	287					
	Total Expenses	\$7,579	\$8,068					
	Income before income tax expense	2,295	1,378					
	Income tax expense	1,251	1,253					
Net Income		\$1,044	\$125					

Ex	khibit 3 - Financial Sta	atements (continued)				
Living Daylights			<b>Balance Sheet</b>			
(In thousands)						
Assets		December 31, 2019	December 31, 2018			
Current Assets		,	,			
Cash and cash equivalents		\$1,729	\$2,210			
Investments available-for-	sale, at fair value					
Fixed maturity securiti	es (amortized cost)	9,564	8,456			
Equity securities	,	1,835	1,515			
Accrued investment incom	ne	159	149			
Premium Receivables		3,858	3,748			
Other receivables		995	897			
Other current assets		1,712	1,829			
Assets held for sale		859	901			
Total Current Assets		\$20,711	\$19,705			
Long-term investments		\$2,102	\$2,055			
Net property, plant, and equip	ment	1,811	1,729			
Goodwill		1,423	2,012			
Other intangible assets		5,005	3,025			
Other noncurrent assets		458	299			
Total Assets		\$31,510	\$28,825			
Liabilities and Shareholder	's Equity					
Liabilities						
Current Liabilities						
Policy Liabilities:						
Claims Payable		\$1,232	\$1,354			
Reserves for future po	licy benefits	2,082	2,180			
Total Policy Liabilities		\$3,314	\$3,534			
Unearned Income		811	875			
Accounts payable and accounts	rued expenses	3,299	2,975			
Short-term borrowings		856	701			
Other current liabilities		1,594	1,647			
Total Current Liabilities		\$9,874	\$9,732			
Long-term debt, less current p	ortion	5,468	4,868			
Deferred tax liabilities, net		2,987	2,857			
Other noncurrent liabilities		1,442	1,556			
Total Liabilities		\$19,771	\$19,013			
Shareholder's Equity						
Paid-in capital - Common Stoo	ek	\$5,416	\$3,215			
Retained earnings 6,323						
Total Shareholder's Equity		\$11,739	\$9,812			
Total Liabilities and Owner	's Equity	\$31,510	\$28,825			

# 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 has expressed interest in expanding the company into new product markets. Royale Health has recently participated in preliminary discussions with a Canadian company, Pinewood Insurance Company about a potential merger.

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

From: Le Chiffre < lechiffre @RoyaleHealth.com>

To: You <JB007@Skyfall.com>

Sent: March 9, 2020 Subject: Potential Merger

I have been approached by the CEO of Pinewood Insurance Company (Pinewood), located in Canada, for a possible merger. They are interested in expanding into the U.S., and we could gain from their product expertise. While we do have some overlap in product offerings, Pinewood has experience in some additional markets that we have no experience with.

As you can imagine, this potential merger is highly confidential. As we begin to explore this opportunity, I would like your help through the due diligence and, if necessary, negotiations of this possible merger. I have attached Pinewood's financial information for your review. To provide you with some background, I have also summarized below some of the information on Pinewood that I have thus far:

Pinewood is a large insurance company operating exclusively in Canada. Its corporate vision is similar to ours: to be a leader in the insurance industry, to earn a competitive return for its stockholders, to offer good value to its policyholders while operating in a financially sustainable way, and to attract and retain valuable employees.

Pinewood's primary product offerings include:

- Supplemental medical benefits.
- Group life,
- Disability insurance, and
- Ancillary products, including dental and vision.

Pinewood employs 2,000 people throughout Canada. From what I've gathered so far, Pinewood seems to have a strong reputation in their markets. However, they are interested in growing into other markets and possibly internationally.

I have attached Pinewood's financial information for your review. Please let me know what additional information you think we should seek out.

Thanks,

Le Chiffre

Exhibit 1 - 2019 Annual Report								
Pinewood Insurance Company	Consolidated	Statement of (	Operations					
(In thousands, except per share data)			Ending December 31,					
Revenue	2019	2018	2017					
Premium Income								
Supplemental Medical	4,023	3,784	3,129					
Group Life	5,888	6,071	6,211					
Disability	2,572	3,420	5,280					
Ancillary Products	1,234	967	957					
Administrative fees Income	2,553	3,118	3,011					
Other revenue	-	-	-					
Total operating revenue	16,270	17,360	18,588					
Net investment income	3,178	5,348	5,707					
Net realized gains (losses) on investments	-	-	-					
Total Revenues	\$19,448	\$22,708	\$24,295					
Expenses								
Benefit expense								
Supplemental Medical	3,359	3,123	2,583					
Group Life	3,592	3,946	3,913					
Disability	1,517	2,120	3,326					
Ancillary Products	963	725	794					
Commissions	1,941	2,233	2,671					
General and administrative expense	4,084	4,315	4,859					
Premium Taxes	274	285	312					
Interest Expense	350	323	345					
Amortization of other intangible assets	265	274	260					
Total Expenses	\$16,345	\$17,344	\$19,063					
Income before income tax expense	3,103	5,364	5,232					
Income tax expense	621	1,073	1,046					
Net Income	\$2,482	\$4,291	\$4,186					
Not in come non all and								
Net income per share	\$2.66	¢4.22	¢2.72					
Basic Diluted	\$2.66	\$4.33 \$4.72	\$3.73					
Diluted	\$2.70	\$4.73	\$3.84					
Average Exchange Rates*								
U.S. dollars	0.74	0.76	0.80					
Euro	0.69	0.67	0.66					
* e.g., on 12/31/2017, \$1 Can = \$0.80 US								

Exhibit 1 - 2019 Annual Report (continued)  Pinewood Insurance Company  Consolidated Balance Shee								
Pinewood Insurance Company (In thousands)	Consolid	ated Balance Sheet						
Assets	December 31, 2019	December 31, 2018						
Current Assets	, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,						
Cash and cash equivalents	\$9,880	\$8,770						
Premium Receivables	8	8						
Investments available-for-sale, at fair value								
Fixed maturity securities (amortized cost)	1,169	1,097						
Equity securities	256	242						
Other invested assets, current	693	722						
Other receivables	827	745						
Income taxes receivable	53	54						
Net due from subsidiaries	867	1,197						
Securities lending collateral	583	854						
Deferred tax assets, net	250	248						
	250	240						
Other current assets Total Current Assets	\$14,587	\$13,938						
I and town investments	. ,	, ,						
Long-term investments	<b>\$524</b>	ф <b>э</b> э.						
Fixed maturity securities	\$534	\$234						
Equity securities	\$6	\$7						
Other invested assets, long-term	\$456	\$495						
Property and equipment, net	4	3						
Deferred tax assets, net, non-current	234	227						
Investment in subsidiaries	5,544	3,456						
Other noncurrent assets	114	37						
Total Assets	\$21,479	\$18,397						
Liabilities and Shareholder's Equity	December 31, 2019	<b>December 31, 2018</b>						
Liabilities	,	,						
Actuarial and Policy Liabilities	\$8,230	\$7,564						
Amounts on deposit	678	876						
	4	5						
Deterred Gains								
Deferred Gains Long-term debt	345	420						
Long-term debt	345 795	456 856						
	345 795 <b>\$10,052</b>	\$56 \$9,757						
Long-term debt Other Liabilities  Total Liabilities	795	856						
Long-term debt Other Liabilities  Total Liabilities  Shareholder's Equity	795 <b>\$10,052</b>	856						
Long-term debt Other Liabilities  Total Liabilities  Shareholder's Equity Preferred stock	795 <b>\$10,052</b> 0	856						
Long-term debt Other Liabilities  Total Liabilities  Shareholder's Equity Preferred stock Common stock	795 <b>\$10,052</b> 0 5	856 \$9,757 0 5						
Long-term debt Other Liabilities  Total Liabilities  Shareholder's Equity Preferred stock Common stock Additional paid-in capital	795 \$10,052 0 5 326	856 \$9,757 0 5						
Long-term debt Other Liabilities  Total Liabilities  Shareholder's Equity Preferred stock Common stock Additional paid-in capital Retained earnings	795 \$10,052 0 5 326 1,865	856 \$9,757 0 5 109 1,777						
Long-term debt Other Liabilities  Total Liabilities  Shareholder's Equity Preferred stock Common stock Additional paid-in capital Retained earnings Accumulated Income	795 \$10,052 0 5 326 1,865 9,231	856 \$9,757 0 5 109 1,777 6,749						
Long-term debt Other Liabilities  Total Liabilities  Shareholder's Equity Preferred stock Common stock Additional paid-in capital Retained earnings	795 \$10,052 0 5 326 1,865	856						

#### Society of Actuaries - Case Study, Group & Health Finance & Valuation Canada Exam

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

From: Le Chiffre < lechiffre @RoyaleHealth.com>

To: You <JB007@Skyfall.com>

Sent: March 17, 2020

Subject: Royale Health Financial Information

Hi – I have attached our latest financial information for this past year. Also of note, Royale Health had 444,902,956 common/preferred shares outstanding at YE2019. Our current tax rate is 21.0%.

Please let me know if you need anything else or need help finding anything.

Thanks,

Le Chiffre

Exhibit 2 - Financial Statements							
Royale Life Insurance Company	Income S	<b>Income Statement</b>					
(In thousands)	For the Years Endi	ng December 31,					
Revenue	2019	2018					
Premiums	\$66,599	\$57,686					
Administrative fees Income	5,050	4,152					
Other revenue	45	79					
Total operating revenue	71,694	61,917					
Net investment income	749	755					
Net realized gains (losses) on investments	321	423					
Total Revenues	\$72,764	\$63,095					
Expenses							
Benefit expense	\$57,230	\$49,252					
Commissions	1,541	1,591					
General and administrative expense	9,246	8,143					
Premium Taxes	1,332	1,154					
Interest Expense	752	598					
Amortization of other intangible assets	298	287					
Total Expenses	\$70,399	\$61,025					
Income before income tax expense	2,365	2,070					
Income tax expense	1,251	1,253					
Net Income	\$1,114	\$817					

atements (continued)	
	<b>Balance Sheet</b>
December 31, 2019	<b>December 31, 2018</b>
	,
\$1,729	\$2,210
	,
16,950	15,913
1,835	1,515
· · · · · · · · · · · · · · · · · · ·	149
	3,748
995	897
	1,829
,	901
	\$27,162
Ψ20,077	Ψ27,102
	\$2,055
	1,729
15,971	15,942
	7,955
	299
\$56,370	\$55,142
December 31 2019	December 31, 2018
December 31, 2017	December 31, 2010
¢< 050	¢c 005
• * *	\$6,095
	55 2,125
	\$8,275
	\$6,275 875
· · · · · · · · · · · · · · · · · · ·	2,975 212
	489
· · · · · · · · · · · · · · · · · · ·	1,647
	\$14,473
	12,121
	661
	2,857
	895 <b>\$31,007</b>
\$30,382	\$31,007
\$12,094	\$11,976
13,513	11,950
381	209
\$25,988	\$24,135
\$56,370	\$55,142
\$56.370	\$55,142
	\$1,729  16,950 1,835 159 3,858 995 1,712 859  \$28,097  \$2,102 1,811 15,971 7,931 458  \$56,370  December 31, 2019  \$6,058 59 2,023 \$8,140 811 3,299 389 467 1,594 \$14,700 11,253 655 2,987 787 \$30,382

# 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 1 & 2 are the newest tables created by the internal team, and Tables 3 & 4 are the tables that have been used for many years.

				Exhib	it 1 - Claim	Reserve I	actors				
\$3,000 Ind	exed Gross	Monthly B	enefit to Age 6	55, Reserves	per \$1 Bene	efit, No Di	agnosis,				
Three Mon	nth Elimination	on Period.	24 Month Ow	n Occupation	n Period, 5.	0% Discou	ınt Rate				
	Duration	,			Duration				Duration		
Age	(Months)	Male	Female	Age	(Months)	Male	Female	Age	(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		35.41	38.97	44		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		92.43	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		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	90.82	96.04
30	4	28.27	31.59	38	4	37.28	40.58	45		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	-	74.11	79.84	46	18	74.19	77.76
30	27	73.67	78.82	38	18 27	81.67	88.29	46		79.03	83.41
30	48	101.53	107.39	38	48	102.09	110.54	46		89.21	94.86
30	60	106.16	111.64	38	60	104.29	112.63	46	60	88.21	93.67
31	4 9	29.46	32.82	39	4	37.96	40.96	47	4 9	43.40	44.00
31	-	48.08	52.20	39	9	57.82	61.18	47	-	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		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		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		77.18	81.54
33	60	106.22	113.08	41	60	98.26	105.52	49		74.38	78.52
34	4	33.03	36.51	42	4	40.00	42.10	50		40.94	40.85
34	9	52.49	56.55	42	9	59.20	61.60	50		56.37	56.48
34	18	70.05	75.54	42	18	74.15	78.80	50		66.10	68.41
34	27	78.43	84.58	42	27	80.35	85.85	50		68.56	71.49
34	48	102.77	110.31	42	48	95.65	102.70	50		71.97	75.86
34	60	106.24	113.56	42	60	96.25	103.15	50	60	68.47	72.13

					it 2 - Claim						î
		-	enefit to Age 6		_						
Six Month	Elimination 1	Period, 24	Month Own 0	Occupation I	Period, 5.0%	Discount	Rate				
	Duration				Duration				Duration		
Age	(Months)	Male	Female	Age	(Months)	Male	Female	Age	(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		75.25	79.53
28	27	75.70	80.57	36	27	84.50	91.53	44		82.03	87.30
28	48	100.91	105.93	36	48	103.39	111.77	44		92.43	98.78
28	60	106.12	110.68	36	60	106.28	114.52	44		92.23	98.41
29	7	43.66	48.10	37	7	55.10	59.30	45		58.62	60.26
29	9	48.70	53.10	37	9	60.30	64.70	45		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		81.52	86.50
29	48	101.22	106.66	37	48	103.70	112.50	45		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		59.06	60.38
30	9	50.15	54.55	38	9	60.66	64.75	46		63.54	65.15
30	18	66.29	71.27	38	18	75.55	81.39	46		75.15	78.91
30	27	77.90	83.31	38	27	85.09	92.10	46		81.01	85.70
30	48	101.53	107.39	38	48	102.09	110.54	46		89.21	94.86
30	60	106.16	111.64	38	60	102.09	110.54	46		88.21	93.67
31	7	46.52	50.90	39	7	55.98	59.54	47		59.50	
31	9	51.60	56.00	39	9	61.02	64.80	47	9	63.90	60.50 65.20
31	18	67.62	72.76	39	18	75.50	81.08	47	18	75.10	78.60
31	27			39							
31	48	79.00	84.68	39	27	84.58	91.30	47		80.50	84.90
		101.84	108.12		48	100.48	108.58	47		87.60	92.90
31	60	106.18	112.12	39	60	102.28	110.26	47		86.20	91.30
32	7	47.95	52.30	40	7	56.42	59.66	48		57.91	58.67
32	9	53.05	57.45	40	9	61.38	64.85	48		62.05	63.10
32	18	68.95	74.25	40	18	75.45	80.77	48		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		82.39	87.22
32	60	106.20	112.60	40	60	100.27	107.89	48		80.29	84.91
33	7	49.38	53.70	41	7	56.86	59.78	49		56.32	56.84
33	9	54.50	58.90	41	9	61.74	64.90	49		60.20	61.00
33	18	70.28	75.74	41	18	75.40	80.46	49		69.60	72.40
33	27	81.20	87.42	41	27	83.56	89.70	49		73.20	76.80
33	48	102.46	109.58	41	48	97.26	104.66	49		77.18	81.54
33	60	106.22	113.08	41	60	98.26	105.52	49		74.38	78.52
34	7	50.81	55.10	42	7	57.30	59.90	50		54.73	55.01
34	9	55.95	60.35	42	9	62.10	64.95	50		58.35	58.90
34	18	71.61	77.23	42	18	75.35	80.15	50		66.85	69.30
34	27	82.30	88.79	42	27	83.05	88.90	50		69.55	72.75
34	48	102.77	110.31	42	48	95.65	102.70	50		71.97	75.86
34	60	106.24	113.56	42	60	96.25	103.15	50	60	68.47	72.13

				Exhib	it 3 - Claim	Reserve I	actors				
\$3,000 Ind	exed Gross l	Monthly B	enefit to Age 6	55, Reserves	s per \$1 Ben	efit, No Di	agnosis,				
Three Mon	th Elimination	on Period,	24 Month Ow	n Occupation	on Period, 5.	0% Discou	ınt Rate				
	Duration				Duration				Duration		
Age	(Months)	Male	Female	Age	(Months)	Male	Female	Age	(Months)	Male	Female
27	4	44.40	47.20	35	4	52.80	55.52	43	4	58.50	60.54
27	9	68.70	76.00	35		76.22	82.72	43	9	78.52	83.32
27	18	95.00	110.80	35		98.28	111.12	43	18	94.36	103.40
27	27	108.30	127.50	35		109.34	124.62	43	27	101.26	111.72
27	48	127.50	146.40	35		121.34	136.00	43	48	105.34	114.92
27	60	133.70	151.10	35		123.54	137.10	43	60	103.96	112.72
28	4	45.45	48.24	36		53.85	56.56	44	4	59.10	61.03
28	9	69.64	76.84	36		77.16	83.56	44	9	78.59	83.14
28	18	95.41	110.84	36		98.69	111.16	44	18	93.57	102.10
28	27	108.43	127.14	36		109.47	124.26	44	27	99.87	102.10
28	48							44	48		
28		126.73	145.10	36 36		120.57	134.70	44		102.93	111.84
	60	132.43	149.35			122.27	135.35		60	101.12	109.24
29	4	46.50	49.28	37		54.90	57.60	45	4	59.70	61.52
29	9	70.58	77.68	37		78.10	84.40	45	9	78.66	82.96
29	18	95.82	110.88	37		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		121.00	133.60	45	60	98.28	105.76
30	4	47.55	50.32	38		55.50	58.09	46	4	60.30	62.01
30	9	71.52	78.52	38		78.17	84.22	46	9	78.73	82.78
30	18	96.23	110.92	38		98.31	109.90	46	18	91.99	99.50
30	27	108.69	126.42	38		108.21	121.87	46	27	97.09	105.63
30	48	125.19	142.50	38		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	4	48.60	51.36	39	4	56.10	58.58	47	4	60.90	62.50
31	9	72.46	79.36	39		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	4	49.65	52.40	40	4	56.70	59.07	48	4	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		105.43	117.81	48	27	91.06	98.32
32	48	123.65	139.90	40		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	4	50.70	53.44	41	4	57.30	59.56	49	4	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		109.64	119.68	49	60	79.58	84.64
34	4	51.75	54.48	42		57.90	60.05	50	4	56.97	58.09
34	9	75.28	81.88	42		78.45	83.50	50	9	71.21	74.08
34	18	97.87	111.08	42		95.15	104.70	50	18	79.74	85.09
34	27	109.21	124.98	42		102.65	113.75	50	27	81.78	87.76
34	48	122.11	137.30	42		102.65	113.75	50	48	77.91	83.01
34	60	124.81	138.85	42	60	106.80	116.20	50	60	73.07	77.56

				Exhib	it 4 - Claim	Reserve F	actors				
\$3,000 Ind	exed Gross	Monthly B	enefit to Age 6	5, Reserves	per \$1 Ben	efit, No Di	agnosis,				
Six Month	Elimination	Period, 24	Month Own (	Occupation 1	Period, 5.0%	Discount	Rate				
	Duration				Duration				Duration		
Age	(Months)	Male	Female	Age	(Months)	Male	Female	Age	(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		83.13	90.46	44	9	82.56	87.66
28	18	97.29	113.11	36		100.41	113.19	44	18	94.71	103.40
28	27	111.62	130.41	36		111.78	126.49	44	27	100.95	110.60
28	48	126.73	145.10	36		120.57	134.70	44	48	102.93	111.84
28	60	132.43	149.35	36		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		76.34	84.58	37	9	84.10	91.30	45		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		97.85	106.20
30	48	125.19	142.50	38	48	117.39	130.32	46		98.11	105.68
30	60	129.89	145.85	38	60	118.16	130.12	46		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		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		114.98	127.24	47	48	95.70	102.60
31	60	128.62	144.10	39		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		79.06	82.91
32	18	98.85	113.15	40		98.19	109.00	48		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	112.37	123.16	48	60	86.09	91.72
33	7	74.28	80.46	40	7	78.44	83.30	49	7	73.16	75.86
				41	9			49	9		
33		80.22	87.94			83.22	89.22			76.22	79.72
33		99.24	113.16 127.96	41	18	97.32	107.60	49	18	84.28	90.26
33		111.72		41	27	105.60	117.20	49	27	86.58	93.02
33		122.88	138.60	41	48	110.16 109.64	121.08	49		83.84	89.54
33		126.08	140.60	41	60		119.68	49		79.58	84.64
34		75.36	81.47	42	7	78.40	83.00	50		70.64	73.04
34		81.19	88.78	42	9	83.00	88.70	50		73.38	76.53
34		99.63	113.17	42		96.45	106.20	50		80.37	85.79
34	27	111.74	127.47	42	27	104.05	115.00	50		81.72	87.53
34		122.11	137.30	42		107.75	118.00	50		77.91	83.01
34	60	124.81	138.85	42	60	106.80	116.20	50	60	73.07	77.56

# **Another Day, Inc. (Another Day)**

Another Day is a company headquartered in Toronto, Ontario with employees and locations across Canada. Over the past several years, it has experienced rapid growth and now offers benefit coverage to 1,500 active employees and 350 retirees. Its benefit plan (both active and retiree) is fully insured on a non-refund basis, with Another Day fully subsidizing the premiums.

Another Day has employed Skyfall Canada to assist with the design and pricing of its active and retiree benefit plans as well as the preparation of its financial statements for the post-retirement benefit plan.

A summary of the active benefit plan and applicable premium rates is provided in Exhibit 1 below:

Exhibit 1:

Ealibit 1.		
<b>Benefit</b>	Coverage Level	Monthly Rate
		40.449 44.000
Basic Life Insurance	2 times annual salary up to \$500,000	\$0.463 per \$1,000
B	Mala Barana a	Ф0.020 Ф1.000
Basic AD&D	Matches Basic Life Insurance volume	\$0.030 per \$1,000
	75% of weekly salary up to \$1,000	
Short Term Disability	Taxable plan	\$0.660 per \$10
Short Term Disability	3 day elimination period	ψ0.000 per ψ10
	26 week benefit period	
	20 week benefit period	
Long Term Disability	66.67% of monthly salary up to \$5,000	\$2.550 per \$100
	Taxable plan, 26 week elimination period	1
Extended Health Care		\$85/single; \$187/family
-Drugs	90% with \$1,000 employee out-of-pocket maximum	
-Paramedical Practitioners	100%; \$500 per practitioner per year	
-Hospital	100% semi-private room	
-Vision	100%; \$200 per 12 months	
-Emergency Out-of-Country	60 day maximum, \$1,000,000 lifetime maximum	
-Other Supplies and Services	100%	
Dental		\$54/single; \$119/family
-Basic	100%, \$2,500 annual maximum (combined with major)	
-Major	50%, \$2,500 annual maximum (combined with basic)	
-Orthodontics	50%; \$1,500 lifetime maximum	
Health Spending Account	\$500 per year	Paid as Incurred
	Credit carryforward provision	

Note: All benefits terminate at the earlier of retirement or age 65

A summary of the retiree benefit plan and applicable premium rates is provided in Exhibit 2 below:

Exhibit 2:

<b>Benefit</b>	Coverage Level	Monthly Rate
Basic Life Insurance	Flat \$15,000	\$0.463 per \$1,000
Extended Health Care		\$85/single; \$187/family
- Drugs	90% with \$1,000 out-of-pocket maximum	
- Paramedical Practitioners	100%; \$500 per practitioner per year	
- Hospital	100% semi-private room	
- Vision	100%; \$200 per 12 months	
- Emergency Out-of-Country	60 day maximum, \$1,000,000 lifetime maximum	
- Other Supplies and Services	100%	·

Benefits terminate upon death of the retiree with a 24 month extension for surviving spouses. Further, only active employees with a minimum of 5 years of continuous service are eligible at or after age 55.

Summaries of the employees and retirees of Another Day are provided in Exhibit 3 and Exhibit 4 below.

Exhibit 3:

Active Data						
Employee Information				Headcount	t	
Age	Years of Service	Annual Salary	Single	Family	Total	
25	4	\$50,000	175	50	225	
35	13	\$65,000	100	300	400	
45	23	\$80,000	50	375	425	
53	1	\$85,000	5	10	15	
55	30	\$100,000	50	275	325	
57	3	\$90,000	5	5	10	
65	32	\$105,000	35	40	75	
75	35	\$110,000	20	5	25	
			440	1,060	1,500	

Average Family Size: 2.3

Exhibit 4:

Retiree Data							
Retiree	Information		Headcount	,			
Age	Years Since						
(years)	Retirement	Single	Family	Total			
55	0	50	100	150			
60	4	37	33	70			
65	8	33	30	63			
70	12	30	14	44			
75	16	21 2 23					
		171	179	350			

Average Family Size: 2.0

A summary of Extended Health Care claims experience for both actives and retirees over the period 2017 to 2019 can be found in Exhibit 5 below:

**Exhibit 5: Extended Health Care Claims Experience** 

Active Claims Experience						
Calendar Year		2017		2018		2019
Total Paid Claims (Including Pooled) Total Pooled Claims	\$ \$	977,000 77,000	\$ \$	1,512,000 185,000	\$ \$	2,286,000 190,000
Number of Covered Employees - Single - Family		225 475		350 700		440 1060

Premium rates have been held unchanged over the past three years.

Administrative Expenses and Taxes: 12% of paid claims

Pooling Charge: 5.5% of paid claims

Pooling Arrangement: Large Amount Pooling of claims in excess of \$25,000 (inside and outside) per covered individual.

Retiree	Claima	Evn	omionoo
Kemee	Clamis	LAP	CHEHCE

Calendar Year	2017	2018	2019
Total Paid Claims (Including Pooled)			
- Under 65	\$ 427,000	\$ 457,000	\$ 507,000
- 65 and Over	\$ 77,000	\$ 88,000	\$ 113,000
<b>Total Pooled Claims</b>			
- Under 65	\$ 12,000	\$ 43,000	\$ 35,000
- 65 and Over	\$ -	\$ -	\$ 5,000
Number of Covered Employees			
- Under 65			
- Single	71	75	87
- Family	116	123	133
- 65 and Over			
- Single	55	67	84
- Family	33	35	46

Premium rates have been held unchanged over the past three years.

Administrative Expenses and Taxes: 12% of paid claims

Pooling Charge: 5.5% of paid claims

Pooling Arrangement: Large Amount Pooling of claims in excess of \$25,000 (inside and outside) per covered individual.

# \*\*Another Day Email 1\*\*

From: You <JB007@Skyfall.com>

To: Mike Green <mgreen@AnotherDay.com>

Sent: March 17, 2020

Subject: Governmental Programs 2020

 ${\rm Hi}$  –  ${\rm As}$  requested, please find below the information regarding the governmental programs for the year 2020.

EI Maximum Yearly Insurable Earnings	\$54,200
Year's Maximum Pensionable Earnings (YMPE)	\$58,700
Year's Basic Exemption under CPP	\$3,500
OAS Claw back Salary	\$79,054
Maximum OAS Monthly Benefit	\$613.53
Maximum GIS Monthly Benefit	\$916.38
Maximum CPP Monthly Disability Benefit	\$1,387.66
Flat Amount Monthly CPP Disability Benefit	\$505.79
Early Retirement Annual CPP Pension Reduction	7.2%
Late Retirement Annual CPP Pension Increase	8.4%
Late Retirement OAS Monthly Pension Increase	0.6%

Please let me know if you need anything else or need help finding anything.

Thanks!

# \*\*Another Day Email 2\*\*

From: John Smith <jsmith@Skyfall.com>

To: You <JB007@Skyfall.com>

Sent: January 3, 2021 Subject: Pooling 2020

Hi,

Please find below the pooling information for the year 2020.

Canadian Drug Insurance Pooling Corporation - 2020				
Initial Threshold	\$65,000			
Ongoing Threshold	\$32,500			
Coinsurance (amount pooled)	85%			
Maximum Pooled Amount	\$500,000			

Quebec Drug Insurance Pooling Corporation - 2020					
Croup Sizo	Threshold per	Annual Factor			
Group Size	Certificate	Without Dependents	With Dependents		
< 25 lives	\$8,000	\$211	\$581		
25 to 49	\$16,500	\$137	\$376		
50 to 124	\$32,500	\$74	\$205		
125 to 249	\$47,500	\$52	\$142		
250 to 499	\$72,000	\$34	\$94		
500 to 999	\$95,000	\$27	\$74		
1,000 to 3,999	\$120,000	\$23	\$62		
4,000 to 5,999	\$300,000	\$11	\$31		
6,000 or more	N/A	N/A	N/A		

Thanks, John Smith