

GH CORC Model Solutions

Fall 2018

1. Learning Objectives:

6. Evaluate the impact of regulation and taxation on companies and plan sponsors in Canada.

Learning Outcomes:

- (6a) Describe the regulatory and policy making process in Canada
- (6b) Describe the major applicable laws and regulations and evaluate their impact.

Sources:

Mercer Benefits Legislation in Canada pg. 36-37

Morneau Shepell Ch. 18

GHC-637-13: Chapters 16 and 17 of Canadian Life & Health Insurance Law, Jones, H. E.

Case studies (firefighter, West Nile virus)

Commentary on Question:

Candidates performed better in parts (b) and (c) compared to (a). See detailed comments below.

Solution:

- (a) Describe the assessment basis for the Workers' Compensation system.

Commentary on Question:

Candidates did not generally cover all the points relating to the assessment basis for the Worker's Compensation system. Candidates do not need to cover all the following points to receive full marks.

- Funded solely by assessments paid by employers – contributions from employees are not permitted
- Individual liability basis frequently used for government/public agencies, Crown corporations, public transportation companies (each employer is self-insured)
- Most industries in Canada are assessed on the basis of collective liability
- Costs are assessed on a pay-as-you-go basis

1. Continued

- Employers divided into industry classes/rate groups according to similar business activities and inherent risks
- Assessment rate is applied to the annual payroll of the covered employees, up to an assessable earnings maximum
- Maximum varies significantly by jurisdiction, and changes every calendar year in most jurisdictions
- Every year assessment rates, expressed as a percentage of payroll, are determined based on the cost experience of each class or rate group
- Collectively, assessment rates are intended to provide enough revenue to cover (retrospectively or prospectively)
 - Expected costs of current and future benefit claims
 - Administration expenses, cost of accident prevention programs/agencies, and other statutory obligations; and
 - Any necessary adjustments to meet funding requirements established by policy or legislation

(b)

- (i) Describe the eligibility requirements for Workers Safety Insurance Board (WSIB) benefits.
- (ii) Compare and contrast the benefits payable under the employer-sponsored LTD plan versus WSIB benefits. Assume John is eligible for benefits from both programs. Show your work.

Commentary on Question:

Candidates were provided credit in part (i) for stating that injuries must be work related. The intent of the question was around eligibility for requirements for the employer (not for receipt of benefits). Most candidates did attempt to compare and contrast WSIB vs employer sponsored LTD plans but did not generally cover all the points below.

- (i)
 - Work related (credit provided)
 - Coverage generally mandatory for employees in industrial occupations
 - In some provinces, domestic employees, casual employees, employees in certain service industries, employees in “knowledge” industries (finance, insurance) are exempt
 - Employees from exempt groups may still be covered on application by employer
 - Coverage for sole proprietors and executive officers not mandatory but can elect to be covered as employees
- (ii) Benefits under employer-sponsored LTD plan:
 - John Doe’s monthly benefit = $\$3,000 \times 70\% + (\$8,333 - \$3,000) \times 60\%$
= \$5,300

1. Continued

- Generally wage replacement only
- Disability can result from any cause (with certain, specific exclusions – e.g. disability resulting from act of war)
- Some rehabilitation expenses may be paid by insurer if expected to allow employee to return to work
- Benefits typically payable to earlier of recovery, death, or eligible to pension benefits
- Benefit is non-taxable because premiums fully paid by employee
- Benefit is reduced to reflect disability pension payable under C/QPP
- Less common to have COLA on private LTD plans
- Health and dental benefits may continue depending on employer benefits policy

Benefits under WCB plan

- John Doe's monthly benefit = 85% of net eligible earnings (capped at \$85,200 in 2015) = \$6,035
- Wage replacement, healthcare, rehabilitation, and survivor benefits
- Disability must result from employment
- May also be lump sum non-economic payment
- Income replacement benefits payable to age 65, but typically some form of payment provided after (e.g. DB pension, accumulated retirement account, lump sum payment)
- Benefit is non-taxable
- Benefit is reduced to reflect disability pension payable under C/QPP
- Benefits adjusted for cost of living

- (c) Jane Smith worked with John at Safe-T Industries. Jane had a form of cancer caused by exposure to a chemical as part of her job and was receiving disability benefits from both WSIB and the Canadian Pension Plan (CPP) at the time of her death. Before her disability, Jane was earning a gross income of \$110,000 per year.

Safe-T Industries' HR representative has told Jane's beneficiary that he will receive \$160,000 in death benefits from all sources.

Evaluate the HR representative's statement. Justify your response.

Commentary on Question:

Almost all candidates noted that life insurance was payable. Some candidates noted that AD&D would be payable as well. Most candidates failed to note that the CI benefit would have been paid out at diagnosis (subject to survival). Credit was given for a sensible conclusion based on the benefits payable outlined by the candidate.

1. Continued

- Life insurance = \$110,000 – the life insurance premium would have continued due to the Life Waiver of Premium (WOP) provision
- AD&D insurance = \$110,000 – covered by WOP; payment for death from cancer supported by recent case law (firefighter/West Nile virus)
- While most cancers are covered under critical illness policies, this would have already been paid at diagnosis (typically survival period is 30-90 days, and LTD elimination period is 6 months), so no amount would be paid to the beneficiary
- Total lump sum = \$220,000
- WSIB survivor benefits are also payable: lump sum for burial costs, additional benefits if Jane is survived by a spouse and/or children
- CPP survivor benefits (maximum \$2,500 lump sum death benefit, survivor pension/orphan's benefit if Jane is survived by a spouse and/or children)
- Conclusion: The HR rep is incorrect about the \$160,000; from the calculations above, the beneficiary should receive at least \$220,000 + some unknown additional benefit amount from WSIB and CPP

2. Learning Objectives:

5. The candidate will understand how to prepare and interpret insurance company financial statements in accordance with IFRS & IAS.

Learning Outcomes:

- (5a) Interpret insurer financial statements from the viewpoint of various stakeholders.

Sources:

LICAT guideline – page 126 – 130 (morbidity risk section)

Commentary on Question:

Candidates did not do well on this question. Many candidates understood the components of morbidity risk, however, didn't understand the shock factors that needed to be applied in performing the calculations for required capital.

Solution:

- (a) Describe the following, as defined under LICAT:

- (i) Morbidity risk
- (ii) Morbidity risk required capital components, and how they are calculated

- (i)
- Morbidity risk is a risk associated with the variability in liability cash flows arising from the incidence of policyholder disability or health claims (including critical illness), and from termination rates.
 - The sub-components in calculating Morbidity risk required capital are capital considerations from level risk, trend risk, volatility risk and catastrophe risk.

$$RC_{morbidity} = \sqrt{RC_{vol}^2 + RC_{cat}^2} + RC_{level} + RC_{trend}$$

- (ii)
- Level risk: misestimation of the level of Best Estimate Assumptions
 - Trend risk: misestimation of the future trend of Best Estimate Assumptions
 - Volatility risk: volatility risk due to random fluctuation
 - Catastrophe risk: catastrophe risk due to a one-time, large-scale event.

2. Continued

- (b) Compare and contrast the shock factors used for morbidity risk required capital as defined under LICAT applicable to:
- Individual critical illness
 - Group long term disability

Commentary on Question:

Most candidates did not know the shock factors or even the direction of the shock factors for the various products and morbidity assumptions. Knowing the exact shock factor was not necessary for full marks, but Candidates needed to recognize the relationship of shock factors relative to each other to receive most of the credit.

Product		Level Risk ⁽¹⁾	Trend Risk ⁽²⁾
CI	Incidence	+35%	0
GLTD	Termination	-25%	0

Product		Volatility Risk	Catastrophe Risk
CI	Incidence	+50% ⁽⁴⁾	+5% ⁽⁴⁾
GLTD	Termination	0 ⁽³⁾	0 ⁽³⁾

Candidates needed to recognize that:

- (1) Different Level Risk factors for CI and GLTD. CI has a higher factor than most other health products give it is a lump-sum payment product. Adverse movement for incidence is positive (an increase in claimants), while an adverse movement for termination is negative (more disabled remain collecting benefits)
- (2) No trend risk, since there is no morbidity improvement
- (3) Recognized that volatility and catastrophe risk only applies to those first year incidence factors, so does not apply to the GLTD disabled claim
- (4) CI insurance has the highest volatility risk at for all health products vs. the lowest catastrophe risk. So this relationship should be illustrated in the factors suggested.
- (c) Calculate morbidity risk required capital for the two individuals. Assume a constant discount rate of 3% per annum and morbidity improvement of 0%. State your assumptions and show your work.

Commentary on Question:

Most candidates did well on calculating the base PV of cashflows but did not know how to calculate the risk components that go into the required capital calculation.

2. Continued

For CI Policy

Best Estimate PV Cash flow:

Age	Incidence Rate	Discount Factor (at 3%) ⁽¹⁾	Amount at Risk
51	0.0029	0.9853	\$10,000
52	0.003	0.9566	\$10,000
53	0.0032	0.9288	\$10,000

⁽¹⁾ Assume uniform dist. Claims occur @ ½ year

Sumproduct of the above = \$86.99

Level Risk (with +35% factor)

Age	Incidence Rate	Discount Factor (at 3%)	Amount at Risk
51	0.0029*1.35	0.9853	\$10,000
52	0.003*1.35	0.9566	\$10,000
53	0.0032*1.35	0.9288	\$10,000

Sumproduct of the above = 117.4419

Level Risk = 117.4419-86.9940 = \$30.4479

Volatility Risk (with +50% factor)

Age	Incidence Rate	Discount Factor (at 3%)	Amount at Risk
51	0.0029*1.5	0.9853	\$10,000
52	0.003	0.9566	\$10,000
53	0.0032	0.9288	\$10,000

Sumproduct of the above = 101.2813

Volatility Risk = 101.2813-86.994 = \$14.2873

2. Continued

Catastrophe Risk (with +5% factor)

Age	Incidence Rate	Discount Factor (at 3%)	Amount at Risk
51	0.0029*1.05	0.9853	\$10,000
52	0.003	0.9566	\$10,000
53	0.0032	0.9288	\$10,000

Sumproduct of the above = 88.4227

Catastrophe Risk = 88.4227-86.994 = \$1.4287

Required Capital = $(14.2873^2 + 1.4287^2)^{(1/2)} + 30.4479 + 0$
= \$44.81

For GLTD Policy:

- Need to recognize that incidence rates do not apply for policy already disabled

Age	Termination Rate	Persistency Rate	Discount Factor (at 3%) ⁽²⁾	Annual
60	0	1	1	\$7200
61	0.34	$(1-0.34) = 0.66$	0.9708	\$7200
62	0.21	$0.66*(1-.21) = 0.52$	0.9426	\$7200
63	0.13	.4536	0.9151	\$7200
64	0.09	.4128	0.8885	\$7200

PV Cash flows = best estimate = \$20,981.75

Level Risk

Age	Termination Rate	Persistency Rate	Discount Factor (at 3%)	Annual
60	0	0	1	\$7200
61	$0.34(1-0.25) = .255$	$(1-0.255) = 0.745$	0.9708	\$7200
62	$0.21*(1-0.25) = 0.1575$	$0.745*(1-.1575) = .6277$	0.9426	\$7200
63	0.0975	.5665	0.9151	\$7200
64	0.0675	.5282	0.8885	\$7200

2. Continued

Sum product of the above = 23,779.11

Level Risk = 23,779.11 - \$20,981.75 = \$2,797.36

Required capital = $(0^2 + 0^2)^{1/2} + \$2,797.36 + 0$
= \$2,797.36

3. Learning Objectives:

7. The candidate will understand and evaluate Retiree Group and Life Benefits in Canada

Learning Outcomes:

- (7b) Determine appropriate baseline assumptions for benefits and population.
- (7c) Determine employer liabilities, service cost and expense for post-retirement and post-employment benefits for financial reporting purposes under IFRS and understand differences compared to US GAAP.

Sources:

GHC-650-15: Supplemental Calculation Note for IAS19

Commentary on Question:

Commentary listed underneath question component.

Solution:

- (a) Describe how the attribution period is determined for this benefit.

Commentary on Question:

Candidates needed to describe a general definition of attribution period as well as the how it was specifically applied in this case in order to earn full marks. Many students incorrectly capped the attribution period at 35 years. Note that 35 years is only intended to cap the years of salary to be paid out. Service beyond 35 years may increase the salary at retirement, which should be counted in the attribution period. Some candidates were confused between the eligibility date for the benefit (i.e. age 55) and the full eligibility date (i.e. end of attribution period).

Under IAS 19, the attribution period is equal to the service between:

- The date when service first leads to benefits under the plan. In this case, it is the Date of Hire, and
- The date when additional service will not lead to a material amount of additional benefits. In this case, it is the assumed retirement date (i.e. age 65), as the retirement allowance is based on the both length of service and earnings at retirement.

- (b) Recommend a salary scale assumption. Justify your response.

Commentary on Question:

Candidates needed to consider both the collective agreement salary scale for the short term and inflation and merit to recommend a long term salary assumption to earn full marks. A level assumption that is expected to produce similar results under similar rationale is also acceptable. A small group of candidates incorrectly used the 2017 rate for year 2018, without realizing that the plan was valued at the end of 2017.

3. Continued

- The Collective Agreement in place dictates the salary increase for 2018-2020. Therefore, it is recommend to assume 3.0% per year for year 2018 – 2019 and 3.5% for year 2020;
 - For 2021 or after, it is recommended to assume 3.0%. This assumption considers the following 2 components:
 - Expected annual adjustments for inflation
 - Merit over the long term
- (c) Calculate the Defined Benefit Obligation (DBO) for this new benefit as at December 31, 2017 and the 2018 current service cost. State your assumptions and show your work.

Commentary on Question:

Candidates needed to show key calculation steps to earn full marks. Salary assumptions used in c) need to match what was recommended under b). Furthermore, liabilities shouldn't be held for members under age 55. Finally, some candidates didn't understand that the allowance plan pays a lump sum amount at retirement (instead, they used an annuity).

Members at age 55 and above are eligible for the benefits.

Age Group	Current Years of Service	Years from Retirement	Total Years of Service at Retirement
55	30	10	40
57	3	8	11
65	32	0	32
75	35	0	35

Based on the salary scale assumption described in b), weekly salary at retirement for each age group is calculated as

Age 55: $(100,000 * 1.03^2 * 1.035 * 1.03^{(10-1-2)}) / 52 = 2597.00$

Age 57: $(90,000 * 1.03^2 * 1.035 * 1.03^{(8-1-2)}) / 52 = 2203.13$

Age 65: $105,000 / 52 = 2019.23$

Age 75: $110,000 / 52 = 2115.38$

Total payment at retirement for each age group = weekly salary at retirement * min (years of services at retirement, 35) * number of members

Age 55: $2597.00 * 35 * 325 = 29,540,875$

Age 57: $2203.13 * 11 * 10 = 242,344$

Age 65: $2019.23 * 32 * 75 = 4,846,152$

Age 75: $2115.38 * 35 * 25 = 1,850,958$

3. Continued

Discount the present value from the retirement date to the valuation date under 4.00% annual discount rate. We will refer this as PV of Payment at Retirement.
Age 55: $29,540,875 / 1.04^{10} = 19,956,757$
Age 57: $242,344 / 1.04^8 = 177,078$
Age 65: 4,846,152
Age 75: 1,850,958

Attribution for each age group

Age 55: $30/40 = 75\%$

Age 57: $3/11 = 27\%$

Age 65: 100%

Age 75: 100%

DBO = PV of Payment at Retirement * Attribution

Age 55: $19,956,757 * 75\% = 14,967,568$

Age 57: $177,078 * 27\% = 48,294$

Age 65 = $4,846,152 * 100\% = 4,846,152$

Age 75 = $1,850,958 * 100\% = 1,850,958$

Total DBO = 21,712,972

Service Cost = PV of Payment at Retirement / Attribution Period. Fully eligible groups have 0 SC.

Age 55: $19,956,757 / 40 = 498,919$

Age 57: $177,078 / 11 = 16,098$

Age 65: 0

Age 75: 0

Total SC = 515,017

- (d) Calculate the projected DBO as at December 31, 2018. State your assumptions and show your work.

Commentary on Question:

Candidates needed to show key calculation for full scores. Some candidates didn't calculate the benefit payments for the groups that retire immediately.

DBO@ 12/31/2018 = DBO@ 12/31/2017 + 2018 Service Cost (SC) + 2018 Interest Cost (IC) – 2018 Benefit Payments (BP)

2018 BP = Payment for age 65 and 75 = $4,846,152 + 1,850,958 = 6,697,110$

2018 Interest Cost = Interest Rate * (2017YE DBO + 2018 SC – 2018 BP/2)
= $4.00\% * (21,712,972 + 515,017 - 6,697,110/2)$
= 755,177

2018 YE DBO = $21,712,972 + 515,017 + 755,177 - 6,697,110$
= 16,286,056

4. Learning Objectives:

4. The candidate will understand how to describe Government Programs providing Health and Disability Benefits in Canada.

Learning Outcomes:

- (4a) Describe eligibility requirements for social programs in Canada and the benefits provided.

Sources:

Morneau Shepell Handbook of Canadian Pension and Benefit Plans, 16th Edition, 2016

- Ch. 17: Provincial Hospital and Medical Insurance Plans

GHC-688-18: BC Changes to Health Premiums

GHC-689-18: BC Medical Services Plan Premiums to be Reduced by 50% on January 1, 2018

Commentary on Question:

When calculating the STD and LTD cost, some of the candidates did not cap the benefit amount by applying the income cap given in the case study. If the candidate has assumed a reasonable salary distribution when applying the income cap, full credit will be given.

For health and dental and HCSA, if candidates stated that the cost does not change when calculating the cost difference, full credits will also be given for this part of the work.

Solution:

Calculate the expected budget surplus or shortfall for 2020. State your assumptions and show your work.

Income threshold at which the benefit cap kicks in:

STD Capped Income: $\$1,000/0.75*52 = \$69,333$

LTD Capped Income: $\$5,000/0.6667*12 = \$89,996$

Life Capped Income: $\$500,000 / 2 = \$250,000$

4. Continued

Assumptions provided:

Headcount increase p.a. 0%

Salary increase p.a. 5%

Premium rates all under rate guaranteed from 2018 to 2020

MSP will be eliminated on Jan 1, 2020

Calculation Section:

**Trend the 2017 salary provided to 2018 and 2020, using the 5.0% p.a. salary assumption
Headcount remains the same in 2018 and 2019**

At 2018

Family Status	Employee Count	Average Salary
Single	108	\$74,550
Family	243	\$88,200
Total	351	\$84,000

At 2020

Family Status	Employee Count	Average Salary
Single	108	\$82,191
Family	243	\$97,241
Total	351	\$92,610

2017 MSP Annual Premium

Single $\$75 * 12 = \900

Family $\$75 * 2 * 12 = \$1,800$

2018 MSP Annual Premium (reduce to 50% in 2018)

Single $\$900 * 50\% = \450

Family $\$1,800 * 50\% = \900

2020 MSP Annual Premium (eliminated in 2020)

Single \$0

Family \$0

Single \$0

Family \$0

4. Continued

Actual 2018 Cost for each benefit		Formula
Life	\$327,626	$=0.463/1000*(84,000*2)*351*12$
AD&D	\$21,228	$=0.03/1000*(84,000*2)*351*12$ $=0.66/10*(69333.33/52)*75%*351*12$
STD	\$277,992	(Note the benefit cap applies for STD)
LTD	\$501,253	$=2.55/100*(84,000/12)*66.67%*351*12$
Health	\$655,452	$=(85*108+187*243)*12$
Dental	\$416,988	$=(54*108+119*243)*12$
HCSA	\$175,500	$=500*351$
MSP	\$267,300	$=450*108+900*243$
Total 2018 Cost	\$2,643,340	
Actual 2020 Cost for each benefit		Formula
Life	\$361,208	$=327626*(1+5\%)^2$ (Adjust for 2 years of salary)
AD&D	\$23,404	$=21228*(1+5\%)^2$ (Adjust for 2 years of salary)
STD	\$277,992	Same as 2018 since income is capped
LTD	\$537,030	$=2.55/100*(89995.5/12)*66.67%*351*12$ (Note the benefit cap applies for LTD in 2020)
Health	\$655,452	No change from 2018
Dental	\$416,988	No change from 2018
HCSA	\$175,500	No change from 2018
MSP	-	No MSP Premium
Total 2020 Cost	\$2,447,574	

4. Continued

2020 EHT Cost	\$633,869	$=29250+(92610*351-1500000)*1.95\%$
Total 2020 Cost	\$3,081,443	
Budget (based on 2018 cost)	\$2,643,340	
Surplus (Deficit)	\$(438,104)	

5. Learning Objectives:

6. Evaluate the impact of regulation and taxation on companies and plan sponsors in Canada.

Learning Outcomes:

- (6c) Understand the impact of taxation of both insurance companies and the products they provide.

Sources:

Source material is GHC-644-17 Taccess

Commentary on Question:

Commentary listed underneath question component.

Solution:

- (a) Projected ASO plan costs, including all taxes and fees, for the existing plan are \$140 per employee per month (PEPM) and \$92 PEPM for health and dental benefits, respectively.

Calculate the projected PEPM ASO plan costs for the Newfoundland office. State any assumptions and show your work.

Commentary on Question:

Most candidates were able to recognize that NL had a different premium tax and HST but did not get the actual NL HST correct, however almost full credit was received if this was the only error

The Applicable taxes in ON are:

- ON premium tax 2% on claims and fees
- ON RST 8% on claims
- ON RST 8% on fees when plan has pooling

The applicable taxes in NL are:

- premium tax 5% on claims and fees
- There is no HST

No HST on fees for either province because the plan has pooling
Claims and Fees in both provinces since they are the same:

$$\text{EHC: } 140 / (1 + 8\% + 2\%) = 127$$

$$\text{Dental: } 92 / (1 + 8\% + 2\%) = 84$$

PEPM in NL:

$$\text{EHC: } 127 \times (1 + 5\%) = 133$$

$$\text{Dental: } 84 \times (1 + 5\%) = 88$$

5. Continued

- (b) While recruiting for the new office, Hoyt receives feedback from potential employees that they would prefer a higher base salary rather than a health and dental plan. Hoyt is willing to consider this suggestion as long as the cost to the company does not increase.
- (i) Calculate the maximum annual salary increase that Hoyt could offer to an employee in Newfoundland with a salary of \$45,000, in exchange for the removal of health and dental benefits.
- (ii) Calculate the maximum annual salary increase that Hoyt could offer to an employee in Ontario with a salary of \$60,000, in exchange for the removal of health and dental benefits.

Commentary on Question:

Most candidates didn't recognize that there are salary maximums that apply to CPP/EI contributions.

- (i) Total annual cost of EHC/dental benefits in NL = $(133+88) \times 12 = 2,652$
If additional salary offered instead, Employer will need to pay EI and CPP because the salary is below the max for both
Cannot calculate the WSIB because not enough information to determine the cost
EI premium @ 2.63% (max is \$50,800 for 2016)
CPP premium @ 4.95% (max is \$54,900 for 2016)
Max salary increase = $2,652 / (1 + 2.63\% + 4.95\%) = 2,465$
- (ii) Total cost of EHC/dental benefits in ON = $(140+92) \times 12 = 2,784$
If additional salary offered instead, Employer will not need to pay EI or CPP because the salary is above the max for both.
Cannot calculate the WSIB because not enough information to determine the cost
Employer will need to pay EHT since this is an ON employee
EHT premium @ 1.95%
Max salary increase = $2,784 / (1 + 1.95\%) = 2,731$
- (c) Calculate the difference in value, before and after the suggested change in (b), for each employee in (i) and (ii) above assuming a marginal tax rate of 30%.

State any assumptions and show your work.

5. Continued

Ontario: No additional Employee premiums for EI or CPP because above maximum

Deduct 30% for taxes = $2,731 \times 30\% = 819$

Net value to Employee = $2,731 - 819 = 1,912$

Difference from current value to Employee = $1,912 - 2,784 = -872$

Additional Employee premiums for EI and CPP because below maximum

Employee EI premium @ 1.88% = $2,465 \times 1.88\% = 46$

EE Employee CPP premium @ 4.95% = $2,465 \times 4.95\% = 122$

Deduct 30% for taxes = $2,476 \times 30\% = 740$

Net value to Employee = $2,465 - 46 - 122 - 740 = 1,557$

Difference from current value to Employee = $1,557 - 2,652 = -1,095$

6. Learning Objectives:

5. The candidate will understand how to prepare and interpret insurance company financial statements in accordance with IFRS & IAS.

Learning Outcomes:

- (5g) Explain fair value accounting principles and describe International Accounting Standards (IAS)
- (5i) Describe emerging developments impacting International Financial Reporting frameworks.

Sources:

In depth look at financial reporting issues.

Commentary on Question:

Candidates were required to demonstrate the basic understanding of IFRS by describing different liability measurement approaches outlined in IFRS 17 as well as demonstrate a deeper understanding of IFRS 17 by calculating the building blocks of the General model approach.

Candidates demonstrated a clear understanding of the three types of liability measurement approaches and were able to calculate many of the components of the general model approach. However, candidates demonstrated difficulty in constructing the breakdown of the IFRS 17 income from inception to the end of the insurance contract.

Based on that, candidates score fairly well on (a) and (b)(i) but poorly on (b)(ii) and (b)(iii).

Solution:

- (a) Describe the three liability measurement approaches under IFRS 17 for different types of insurance contracts.

Commentary on Question:

Part (a) was pretty straightforward and most candidates did well. If they answered some of (a) in (b)(i) then points were given.

General Model

- Building block approach
- Default approach for calculating liability
- Includes a current estimate of future cash flows, discount rate adjustment, explicit risk adjustment for non-financial risk and contractual service margin (CSM)
- Applied to all insurance contracts except for contracts with direct participation features or entity elects to apply premium allocation approach

6. Continued

Premium Allocation Approach

- Used as an approximation to the building block approach
- Optionally used for liabilities with duration less than 12 months
- Liability is reasonably expected to not be materially different from using general model or variable fee approach

Variable Fee Approach

- Used for contracts where liability is tied to the assets supporting the liabilities (i.e. direct participation features)
- Measurement is similar to the General Model approach, except for the measurement of the CSM after initial recognition.

- (b) The actuary would like to show how the entity should recognize the insurance contract at the beginning of the coverage period using the general model approach (building block approach) under IFRS 17.
- (i) Describe the building blocks of the general model approach under IFRS 17.
- (ii) Calculate each building block under the general model approach at the time of inception. State your assumptions and show your work.
- (iii) Construct a table showing the breakdown of IFRS 17 income from inception to the end of the insurance contract. Assume the contract service margin is amortized linearly. Show your work.

Commentary on Question:

Part (i) – was well done by candidates.

Part (ii) – some candidates did the calculations as one (ie: grouping the CFs with a PV calc. Marks were given if they did this as they understood the approach.

Part (iii) – candidates did poorly on this portion. Some knew how the release of CSM was amortized.

(i)

Contractual Service Margin (CSM) - unearned profit from the contract. CSM is recognized over the coverage period.

Risk adjustment - explicit risk adjustment for non-financial risk. Compensation entity requires for bearing the uncertainty about the amount and timing of the cash flows that arises from non-financial risks

Discounting/Risk adjustment for non-financial risk - adjustment to reflect the time value of money and other financial risks, such as liquidity and currency risks associated with cashflows

6. Continued

Estimate of fulfilment cashflows - a current estimate of future cash flows expected (probability-weighted mean) to arise during the life of the contract

(ii)

Estimate of fulfilment cashflows: it is the sum of non-discounted probability weighted cash inflows and outflows.

- Cash inflow = \$500
- Cash outflow
 - Prob. Weighted claims = \$12,000 (0.01 + 0.02)
= \$360
 - Prob. Weighted expenses = \$10 + \$10 = \$20
 - Commissions = \$50
 - Cash outflow = \$360 + \$20 + \$50 = \$430

Net cash flow = + 500 - 430 (\$70 income)

Discounting: difference between the present value of the probability weighted future cash flows and its non-discounted value

- PV of cash inflow = \$500
- PV of claims at 3% (assumed mid year) = \$347.84
- PV of expense (assumed begin of year) = \$19.7
- PV commissions = \$50
- Net PV cash flow = \$500 - 347.84 - 19.7 - \$50
= \$82.46

Discounting impact is 82.46 - 70 = \$12.46

Risk adjustment factor for non-financial risk

= 10% of PV claims
= 10% * 347.84
= \$34.78

CSM: is the remainder of the discounted expected net cash flows (\$70 + 12.46) and the risk adjustment of \$34.78.

Balancing number = \$47.68

6. Continued

(iii) Breakdown of IFRS 17 income

	1/1/2020	1/1/2021	1/1/2022
Release of RA	\$0	\$11.13	\$23.65
CSM Amortization	\$0	\$23.84	\$23.84
Non attributable Exp	(\$15)	\$0	\$0
Net Income	(\$15)	\$34.97	\$47.49

Recognize that the non-attributable expense is the acquisition cost = \$15

CSM Amortization = $\$47.68 / 2$ years
= 23.84

End of Year 1 Risk Adjustment = 10% of PV claims
= $10\% * 12,000 * 0.02^{(1/1.03^{(1/2)})}$ (PV of last payment)
= $10\% * \$236.48$
= \$23.65

Release in year 1 = RA @ time 0 – RA @ time 1
= $\$34.78 - \23.65
= \$11.13

The remainder (23.65) would be release at the end of year 2 (when the contract ends)

7. Learning Objectives:

4. The candidate will understand how to describe Government Programs providing Health and Disability Benefits in Canada.
7. The candidate will understand and evaluate Retiree Group and Life Benefits in Canada

Learning Outcomes:

- (4a) Describe eligibility requirements for social programs in Canada and the benefits provided.
- (7c) Determine employer liabilities, service cost and expense for post-retirement and post-employment benefits for financial reporting purposes under IFRS and understand differences compared to US GAAP.

Sources:

Morneau Shepell Ch. 2

Mercer Benefits Legislation in Canada sections I, II

GHC-650-15 Supplemental calculation note for IAS 19

Commentary on Question:

Candidates were required to compare employer perspective vs. employee perspective of offering/taking an early retirement incentive package. Candidates needed to understand how sources of income and benefits are taxed on both the employer side as well as the employee side. Many candidates did not seem to understand how the public plans interact with the private plan.

Solution:

- (a)
 - (i) Describe the eligibility requirements to receive each of the following CPP benefits:
 - Disability
 - Retirement
 - Death
 - (ii) Describe the eligibility requirements to receive other government benefits available during retirement.

Commentary on Question:

Most candidates did not know the eligibility requirements for the various CPP benefits. Some candidates knew some of the other government provided healthcare benefits.

7. Continued

(i)

- Retirement benefits
 - If at least one valid contribution is made
 - Can start receiving reduced benefits as early as age 60
- Disability benefits
 - Definition of disability: inability to perform any substantially gainful occupation
 - Disability must likely result in death or be of indefinite duration
 - Contributed to CPP in 4/6 last years (3/6 only for 25-year contributors)
- Death benefits
 - Contributed during 1/3 of deceased's contributory period or 10 years, whichever is less (minimum 3 years)

(ii)

- OAS
 - Age 65
 - Subject to residency requirements
 - Clawback above \$72,809 (no benefit above \$117,909)
- GIS
 - Age 65
 - Subject to income test and residency requirements

- (b) Recommend to which claimants, if any, Duffield should offer a cash payout. Show your work and justify your response.

Commentary on Question:

Most candidates didn't recognize that CPP would not be paid prior to age 60. They also didn't recognize that CPP was reduced from ages 60-65.

7. Continued

- LTD is ER-paid so taxable
- CPP is taxable
- No taxes on health and dental
- **Net income during disability** = gross LTD benefit x (1-30%)
(since CPP is just an offset to the private plan, the total income to the individual remains the same)
 - Claimant #1: $\$5,100 \times (1-30\%) = \$3,570$
 - Claimant #2: $\$2,400 \times (1-30\%) = \$1,680$
 - Claimant #3: $\$3,000 \times (1-30\%) = \$2,100$
- To determine CPP pension at current age, CPP pension at age 65 needs to be reduced by 6.96% per year if taken between ages 60 and 65
 - Claimant #1: no CPP since under age 60
 - Claimant #2: $\$800 \times (1 - (6.96\% \times 5)) = \521.60
 - Claimants #3: no CPP since under age 60

Candidates were not penalized if they did not know the exact CPP reduction amount, as long as a reasonable assumption was made.

- Private pension and CPP are taxable
- **Net income during retirement** = (gross pension benefit + reduced gross CPP benefit) x (1-25%)
 - Claimant #1: $(\$3,000 + \$0) \times (1-25\%) = \$2,250$
 - Claimant #2: $(\$1,700 + \$521.60) \times (1-25\%) = \$1,666.20$
 - Claimant #3: $(\$2,650 + \$0) \times (1-25\%) = \$1,987.50$
- Cash payout = 125% x (net income during disability – net income during retirement) x (months to age 65)
 - Claimant #1 = $125\% \times (\$3,570 - \$2,250) \times 84 = \$138,600$
 - Claimant #2 = $125\% \times (\$1,680 - \$1,666.20) \times 60 = \$1,035$
 - Claimant #3 = $125\% \times (\$2,100 - \$1,987.50) \times 120 = \$16,875$
- Cash payout is less than DLR for all claimants, so DUFFIELD should offer a payout to all three individuals

- (c) The financial advisor working with these claimants has suggested that individuals choose the scenario (continue collecting LTD benefits or accept the early retirement incentive) that maximizes after-tax value to age 65.

Recommend which claimants, if any, should accept Duffield's offer, based on the financial advisor's criteria. Show your work and justify your response.

Commentary on Question:

Many candidates completely omitted the cash payout from this calculation. Others incorrectly applied tax to it.

7. Continued

- **“Value” to stay disabled** = (net income during disability + health/dental premiums) x (months to age 65)
 - Claimant #1: $(\$3,570 + \$220) \times 84 = \$318,360$
 - Claimant #2: $(\$1,680 + \$110) \times 60 = \$107,400$
 - Claimant #3: $(\$2,100 + \$110) \times 120 = \$265,200$
- **“Value” to retire** = (net income during retirement) x (months to age 65) + cash payout
- Cash payout in respect of LTD benefits is not taxable, cash payout in respect of health and dental benefits is taxable
 - Claimant #1: $(\$2,250 \times 84) + \$138,600 = \$327,600$
 - Claimant #2: $(\$1,666.20 \times 60) + \$1,035 = \$101,007$
 - Claimant #3: $(\$1,987.50 \times 120) + \$16,875 = \$255,375$
- Claimant #1 should retire (note: if candidates incorrectly applied tax to the lump sum payout, they would determine that these individuals should also stay disabled)
- Claimants #2 and #3 should stay disabled as it provides greater net benefits than retiring

(d) Claimants #1 and #2 decline Duffield’s offer. Claimant #3 accepts Duffield’s offer at the end of the current fiscal year.

- (i) Define this event under IAS 19.
- (ii) Describe the accounting treatment.
- (iii) Duffield’s accounting department has prepared the draft accounting schedule for the company’s current fiscal year:

Reconciliation of defined benefit obligation (DBO)	Current fiscal year
Opening DBO	608,755
Service cost	96,000
Interest cost at 3%	19,700
Benefit payments	(96,000)
Actuarial (gain)/loss	(98,880)
Closing DBO	529,575

During your review, you notice a number of errors.

Construct the correct table. State your assumptions and show your work.

7. Continued

Commentary on Question:

Many candidates knew that this was a settlement; however, many candidates did not know how to treat a settlement under IAS and furthermore didn't understand how the IAS accounting worked overall.

- (i)
- Technically this is considered a settlement since any future obligation for Claimant #3 is eliminated through a lump-sum payment from the employer
- (ii)
- The impact of the settlement is determined at the date of the event
 - Settlement gain or loss is recognized in the service cost reported in the profit or loss statement
 - However, since it is only one individual it is likely immaterial and could therefore be included in benefit payments
- (iii) Freedom was given to candidates to determine when the settlement happened within the year. This solution assumes an end of year settlement.
- Assume the opening DBO is correct – no information to suggest otherwise
 - SC should be zero since it is a closed group with no active employees
 - Benefit payments are correct for monthly benefit payments during the year, but do not reflect the lump sum payment to claimant #3
 - Correct amount = $96,000 + 48,375 = 144,375$
 - Need to add a line item for settlement cost
 - Settlement gain = 110,250
 - Closing balance should reflect no DLR for claimant #3 = 370,950
 - Recalculate interest cost as there is not SC. $IC = (608,755 - 96,000/2) \times 3\% = 16,822$
- OR
- Candidate may recognize that gain/loss should be zero and use this as a balancing item (or adjust for rounding) = 16,820
 - Gain/loss is balancing item = about -2
- OR
- Candidate recognizes that this should be zero and uses IC as balancing item

7. Continued

Reconciliation of defined benefit obligation (DBO)	Current fiscal year
Opening DBO	608,755
Service cost	0
Interest cost at 3%	16,820
Benefit payments	-144,375
Settlement (gain)/loss	-110,250
Actuarial (gain)/loss	0
Closing DBO	370,950

8. Learning Objectives:

6. Evaluate the impact of regulation and taxation on companies and plan sponsors in Canada.

Learning Outcomes:

- (6a) Describe the regulatory and policy making process in Canada
- (6b) Describe the major applicable laws and regulations and evaluate their impact.

Sources:

GHC-625-16 Legal Aspects of Group Insurance in the Province of Québec

Commentary on Question:

Commentary listed underneath question component.

Solution:

- (a)
- (i) Define a contract of adhesion under the Quebec Civil Code.
 - (ii) Describe the major consequences when an insurance contract is considered a contract of adhesion.

Commentary on Question:

Recall-type question. Candidates generally were able to get part marks.

- (i) A contract of adhesion is a contract in which the essential stipulations were imposed or drawn up by one of the parties, on his behalf or upon his instructions, and were not negotiable
 - (ii) Major consequences for an insurance contract
 - The insurance contract must be interpreted in favour of the policyholder or the insured
 - An external clause is null if, at the time of formation of the contract, it was not expressly brought to the attention of the adhering party (policyholder or insured), unless the other party proves that the policyholder or insured otherwise knew of it
 - A clause that is illegible or incomprehensible to a reasonable person is null if the adhering party suffers injury therefrom, unless the other party proves that an adequate explanation of the nature and scope of the clause was given to the adhering party
- (b) Critique the disability contract for Franklin & Sons. Assume the table provided above represents the entirety of the contract for this benefit.

8. Continued

Commentary on Question:

Based on the critique verb choice, candidates were expected to provide positive and negative comments in order to receive full credit.

- The Contract correctly includes the following provisions:
 - Insurer's name (XYZ Insurer)
 - Policyholder's name (ABC Company)
 - Nature of risks insured (Long Term Disability)
 - Amount of coverage (benefit formula, maximum provided)
 - Time from which risks are covered (effective date, termination age)
 - The period during which benefits are payable (disability definition, termination age)
 - The Contract is missing the following provisions:
 - Means to identify the insured persons
 - Object of insurance
 - Term of coverage
 - Premium rates, due date, and time limit on payment of premiums
 - Right of policyholder to participate in profits
 - Right to convert
 - Inconsistent information with tax rules: Premiums are 100% paid by Franklin & Sons, so the disability benefit should be taxable
 - Where the contract provides coverage against disability, the insurer must set out the terms and conditions of payment of the indemnities and the nature and extent of the disability covered. Failing clear indication as to the nature and extent of the disability covered, the inability to carry on one's usual occupation constitutes the disability
- (c) Calculate the amount of group life and AD&D benefits payable in the following situations. Justify your response.
- (i) Alfa dies from an accident a few days after being hired. At the time of his death, Alfa's group benefits application has been accepted without modification by Nevlines. The accepted policy has not been delivered back to Franklin & Sons, as the initial premium is still outstanding.
 - (ii) Two and a half years after Zeta's group coverage became effective, she commits suicide. It is also discovered at the time that due to a clerical error, Zeta's age was misstated. She was actually age 63 when she was hired.

Commentary on Question:

Candidates generally did well on this question, however, required to address both the Life and AD&D policies to receive full credit.

8. Continued

(i) Life Policy:

Under the Civic Code, life insurance takes effect when the application is accepted by the insurer, provided it is accepted without modification, premium has been paid, and there has been no change in the insurability of risk since the application was signed. In this case, the initial premium has not been paid. As such, the life insurance payout is \$0 in this case.

AD&D Policy:

There is no significant difference between the Civic code and the Common Law regarding the effective date of accident and sickness insurance. Accident insurance takes effect upon the delivery of the policy to the client. In this case, the policy has not been delivered. As a result, the AD&D payout is \$0.

(ii) Life Policy:

Suicide exclusion doesn't apply, as the policy has been in place for over 2 years.

In addition, the error was clerical, not fraudulent, although in reality Zeta is age 65.5, which exceeds the termination age of 65, but the policy has already been in force for over 2 years, and the error was discovered after her death.

The payout amount needs to reflect the benefit formula and 2 years of salary increase.

$3 \times \$120,000 \times 1.03^2 = \$381,924$ (Note the payout amount is capped at \$600,000)

AD&D Policy:

There will be no payment under the AD&D policy, as suicide does not qualify as an accident.

(d) One year after his coverage became effective, Beta retires from Franklin & Sons and would like to convert his group life coverage into individual life coverage.

(i) Describe Beta's conversion rights.

(ii) Calculate the possible range of Beta's conversion amount. State any assumptions and show your work.

8. Continued

Commentary on Question:

Candidates generally were able to identify that the member can convert some type of coverage, however, required to provide additional detail for full credit.

(i)

- Every group life insurance contract must give to the participant who ceases to belong to the group before age 65 the right to convert all or part of his/her life insurance into individual life insurance within the 31 days after leaving the group
- The conversion can take place without having to provide evidence of insurability
The group insurance coverage remains in force during the 31-day period or until converted into individual insurance

(ii)

- The amount of insurance that may be converted must be at least \$10,000 and may not exceed the lesser of the amount of all the life insurance protections that the participant held under the contract on the conversion date and \$400,000.
 - Beta's group life insurance coverage at the time of retirement is:
 $3 \times \$90,000 \times 1.03, \$600,000 = \$278,100$ (capped at \$600,000)
- As this is less than the maximum of \$400,000, the conversion amount can be from \$10,000 to \$278,100.

9. Learning Objectives:

2. The candidate will understand and recommend a manual rate for each of the coverages described in Learning Objective 1.

Learning Outcomes:

- (2d) Calculate and recommend a manual rate.
- (2g) Apply actuarial standard of practice in evaluating and projecting claim data.

Sources:

Individual Health Insurance, Leida, 2nd Edition, 2015, Ch 5

ASOP 23-Data Quality

ASOP 25-Credibility Procedures

ASOP 41-Actuarial Communications

Commentary on Question:

Commentary listed underneath question component.

Solution:

- (a) List and describe major considerations in the rate setting process.

Commentary on Question:

While some candidates listed major considerations for group rate setting this question was specifically looking for the guidance provided by Leida, Chapter 5. Those that were familiar with the text did very well.

The Market-competitors price, limits insurers pricing options

Existing Products-Expectations by producers and the market will have an impact

Distribution System-Structure, compensation, level of Company control

Regulatory Situation-Federal and state changes can influence pricing and scrutiny

Strategic Plans and Profit Goals-needs to reflect and contribute to achieving company's strategic goals

- (b) Describe durational influences on claim costs that should be considered in the rate setting process.

Commentary on Question:

The answer to this was actually in the tables provided for the rate calculation and specifically called out in Leida Chapter 5. Many candidates mentioned "underwriting wear off" which was good. These are important concepts in Individual Insurance. The question was looking for thorough understanding of the concepts.

9. Continued

Underwriting Selection - initial underwriting causes policyholders at time zero (time of issue) to be relatively healthy. Initial underwriting can cause first years claims to be as much as 60% less than average claims over the life of the policy. Underwriting selection is usually assumed to wear off over several-year depending on the type of coverage.

Cumulative Anti-Selection - Once underwriting wears off durational deterioration takes over due to the inability of the policyholder to obtain other insurance coverage

- (c) Calculate net premium for a 55-year old. Show your work.

Commentary on Question:

Most Candidates were able to get some partial credit for this even if they did not do well on the first two questions. Application of UW and Anti Selection factors were the weak areas.

Attined Age	Incidence Rate	Average Annual Claim	UW Selection/Cum Anti Selection	Lives	PV	PV Cost
55	22.5%	\$ 325.00	60%	1	0.952381	\$ 41.79
56	25.0%	\$ 350.00	80%	0.7	0.907029	\$ 44.44
57	27.5%	\$ 375.00	100%	0.56	0.863838	\$ 49.89
						136.12

- (d) Describe when and how each of ASOPs 23, 25 and 41 apply to your rate-making and rate filing process.

Commentary on Question:

Most candidates were able to identify and describe all ASOP's which got them half the credit for this question. The candidate needed to apply each ASOP to this particular situation to get full credit.

9. Continued

ASOP 23-Data Quality

When:

During pricing/assumption setting

How:

Provides Guidance on

- Selecting the data that underlies the actuarial work product
- Relying on data supplied by others
- Reviewing data
- Using data
- Preparing data to be used by other actuaries
- Making appropriate disclosures with regard to data quality

ASOP 25-Cedibility Procedures

When:

During pricing/assumption setting

How:

Provides Guidance on using credibility to

- Evaluate experience for use in assumption setting
- Improve estimates of expected values

ASOP 41-Actuarial Communications

When:

Communicating results to principal
Rate filings with state regulators

How:

- Guidance for preparing actuarial communications, including those that may be required by the Qualification Standards or by other ASOPs

10. Learning Objectives:

1. The candidate will understand how to describe plan provisions typically offered under:
 - a. Group and individual medical, dental and pharmacy plans
 - b. Group and individual long-term disability plans
 - c. Group short-term disability plans
 - d. Supplementary plans, like Medicare Supplement
 - e. Group and Individual Long Term Care Insurance
2. The candidate will understand and recommend a manual rate for each of the coverages described in Learning Objective 1.

Learning Outcomes:

- (1b) Describe each of the coverages listed above.
- (2d) Calculate and recommend a manual rate.

Sources:

Group Insurance, Skwire, 7th Edition, 2016.

- Ch. 11 Group Life Insurance Benefits
- Ch. 24 Estimating Life Claim Costs

Group Disability Insurance (Study Note GHC 101-13)

Commentary on Question:

Commentary listed underneath question component.

Solution:

- (a) Dr. No asks for your help clarifying requirements and options for group term life products.
- (i) List the eligibility provisions for most basic group term life policies.
 - (ii) Describe a viatical assignment and why Dr. No's employees may want to participate in one.

Commentary on Question:

Many candidates received partial or full credit on part (i), just by listing the two items below, while some listed other aspects of group term life insurance (benefit provisions, etc.). Most candidates were not familiar with viatical settlements.

10. Continued

- (i) Common eligibility provisions include:
- Full time employees (working more than a minimum number of hours, typically 20 per week)
 - Actively-at-work requirement (performing all the usual duties of his or her job at the normal place of employment, before the life insurance becomes effective)
- (ii) The certificate holder sells (“assigns”) all of their incidents of ownership in the group coverage to a third party (viatical settlement provider). The viatical settlement provider pays the certificate holder a lump sum determined as an actuarially discounted value of the specified face amount.

Employees may want to participate in this in order to get cash now to pay for some form of illness or end of life costs prior to dying.

- (b) Calculate the claims cost as a percentage of premium for each quote using Thunderball’s claim rate found in exhibit 6 and Dr. No’s 2014 employee census. Show your work.

Commentary on Question:

Most candidates understood how to set up the calculations for the claims cost, and several candidates got the correct answer exactly. One common problem was comparing monthly costs to annual premium, resulting in a very low loss ratio that did not make sense.

Current Dr. No’s employee census, per page 40 of case study:

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

10. Continued

Monthly manual claims rate per \$1,000 of coverage, per page 36 of case study:

<u>Age</u>	<u>Male</u>	<u>Female</u>
<25	0.61	0.32
25-29	0.78	0.35
30-34	0.87	0.45
35-39	0.98	0.63
40-44	1.39	0.90
45-49	2.16	1.25
50-54	3.64	1.95
55-59	6.41	3.46
60-64	11.65	6.80

(Note that age bands do not line up exactly. Full credit was given if candidate assumed the ranges were the same, or if reasonable adjustments were made to correct for the discrepancy.)

Company A claims cost = \$60,000 * number of employees * claims cost / \$1,000

<u>Sex</u>	<u>Age</u>	<u>Claims Cost</u>	<u>Sex</u>	<u>Age</u>	<u>Claims Cost</u>
M	<25	\$439.20	F	<25	\$0.00
M	25-29	\$0.00	F	25-29	\$504.00
M	30-34	\$3,132.00	F	30-34	\$1,620.00
M	35-39	\$4,233.60	F	35-39	\$3,175.20
M	40-44	\$6,004.80	F	40-44	\$1,944.00
M	45-49	\$1,555.20	F	45-49	\$1,800.00
M	50-54	\$5,241.60	F	50-54	\$1,404.00
M	55-59	\$4,615.20	F	55-59	\$2,491.20
M	60-64	\$8,388.00	F	60-64	\$4,896.00
M	Total	\$33,609.60	F	Total	\$17,834.40
Grand Total		\$51,444.00			

10. Continued

Company B claims cost = Salary * number of employees * claims cost / \$1,000

<u>Sex</u>	<u>Age</u>	<u>Claims Cost</u>	<u>Sex</u>	<u>Age</u>	<u>Claims Cost</u>
M	<25	\$161.04	F	<25	\$0.00
M	25-29	\$0.00	F	25-29	\$239.40
M	30-34	\$1,722.60	F	30-34	\$891.00
M	35-39	\$2,610.72	F	35-39	\$1,984.50
M	40-44	\$4,678.74	F	40-44	\$1,568.16
M	45-49	\$1,435.97	F	45-49	\$1,677.00
M	50-54	\$5,905.54	F	50-54	\$1,560.78
M	55-59	\$6,018.99	F	55-59	\$3,292.54
M	60-64	\$12,651.90	F	60-64	\$7,482.72
M	Total	\$35,185.49	F	Total	\$18,696.10
Grand Total		\$53,881.59			

Claims Cost as a Percentage of Premium:

Company A: $\$51,444 / \$64,000 = 80.38\%$

Company B: $\$53,882 / \$66,000 = 81.64\%$

(c)

- (i) Describe total and permanent disability coverage.
- (ii) Calculate Dr. No's monthly cost to provide this benefit to Mike. Show your work.

Commentary on Question:

Part (i) was intended to ask about a total and permanent disability provision of a life insurance benefit. Part (ii) concerned a disability income plan. Very few candidates calculated the correct answer to (ii), with the most common mistake being the lack of an incidence rate in the calculation. Many candidates arrived at a monthly cost that was too high and did not make sense relative to the amount of the benefit.

- (i) When an insured becomes totally and permanently disabled, this provision typically provides a benefit on a monthly installment basis, equal to all or a portion of the life insurance benefit. On death, the original death benefit would be reduced by any disability installments made.
- (ii) Plan 2 policy is an 80% of salary benefit with a maximum monthly benefit of \$5,000, 3-month elimination period, 3% COLA, 80% employer paid, per page 37 of the case study. Mike is in male 30-39 age band for claims incidence and reserve amounts.

10. Continued

$$\text{Maximum monthly benefit} = \text{Min} [\$5,000, 80\% * (\$84,000 / 12)] = \$5,000$$

$$\text{Premium Cost} = \text{Incidence Rate} * \text{Reserve Amount} * \text{Maximum Monthly Benefit}$$

Incidence Rate = 1.4 per 1,000, per page 31 of case study

Reserve Amount = \$18 per \$2 of coverage, given in problem

Maximum Monthly Benefit = \$5,000, from above

$$\text{Premium Cost} = (1.4 / 1000) * (18/2) * \$5,000 = \$63 \text{ per month}$$

$$\text{Employer Cost} = \text{Premium Cost} * \text{Employer Cost Sharing}$$

$$= \$63 * 80\% = \$50.40 \text{ per month}$$

11. Learning Objectives:

1. The candidate will understand how to describe plan provisions typically offered under:
 - a. Group and individual medical, dental and pharmacy plans
 - b. Group and individual long-term disability plans
 - c. Group short-term disability plans
 - d. Supplementary plans, like Medicare Supplement
 - e. Group and Individual Long Term Care Insurance

Learning Outcomes:

- (1b) Describe each of the coverages listed above.

Sources:

Group Insurance Chapter 7 and 23

GHC 105 17 Pricing Considerations for Drugs Covered under Pharmacy Benefit Programs

Commentary on Question:

This question is attempting to test candidates knowledge on the Step Therapy practice used by many insurance companies & PBM's. Many candidates did very well on parts (a.) through (d.), while parts (e.) and (f.) were the real differentiators of those who were fully prepared.

Solution:

- (a) Describe the stages of the Prescription Drug Lifecycle.

Commentary on Question:

Candidates were expected to not only list the stages of the prescription drug lifecycle, but give some commentary on what happens in each stage. The vast majority of candidates got full credit for this question.

1. Research and Development – includes initial drug discovery, preclinical testing, clinical trials, and review by the FDA
2. Brand Patent Protection Period – After a new drug is FDA approved the manufacturer is granted exclusive right to manufacture the drug. This period typically lasts 12 years and is intended to give the manufacturer time to offset R&D costs
3. Generic Exclusivity Period – This period typically lasts six months and often immediately follows the brand patent protection period. During this period the brand name manufacturer and one additional manufacturer are allowed to manufacture the generic equivalent. The intent of the generic exclusivity period is to reward the generic manufacturer that incurs significant legal costs to end the brand patent period.

11. Continued

4. Generic Drug Life Span – After the Generic Exclusivity Period all pharmaceutical manufacturers can sell and produce the drug. New competitive market forces contribute to lower generic prices.
- (b) Calculate the net plan cost for one 35 days supply, assuming this was Ruth's first claim of the year. Show your work.

Commentary on Question:

Generally, candidates did well on this question. The most common fault was the failure to recognize that after applying the coinsurance, Ruth hits her OOP max, so the plan must cover the remainder of the cost.

Allowed Amount = $AWP \times (1 - \text{Discount Rate}) + \text{Dispensing fee}$
Ruth's Liability = $\text{Min}(\text{Allowed}, \text{Max out of pocket})$
Plan Liability = $\text{Allowed} - \text{Member paid}$

Allowed Amount: $\$10,000 \times (1 - .25) + \$2 = \$7,502$
Ruth's Liability: $\text{Min}(\$7,502 \times .5, \$3,000) = \$3,000$
Plan Liability: $\$7,502 - \$3,000 = \$4,502$

- (c)
- (i) Define step therapy.
- (ii) Describe the rationale for adding step therapy for an expensive drug.

Commentary on Question:

Again, candidates did very well on this question. Some candidates combined parts (i.) and (ii.) into a single answer, which was acceptable. One key factor that was sometimes missed was that step therapy must retain the effectiveness of the original drug. Candidates lost points if they only referred to the cost savings objectives and did not factor in the effectiveness of using the alternative drugs.

- (i) Members are required to try and document failure of a certain preferred drug or set of drugs prior to gaining coverage for the more expensive drug.
- (ii) Step Therapy should minimize costs and while maintaining effectiveness.
- (d) Calculate the cost change from adding step therapy for both the insurance company and for Ruth.

Commentary on Question:

Candidates did well on this question as well. The biggest mistake candidates made was to calculate the revised cost for both Ruth and the plan, but then did not subtract this from the original cost to determine the savings.

11. Continued

Allowed Amount: $\$30 \times (1 - .25) + \$2 = \$24.50$

Ruth's Liability: \$5 copay >> Change in cost is $\$3,000 - \$5 = \$2,995$ decrease

Plan Liability: $\$24.50 - \$5 = \$19.50$ >> Change in cost is $\$4,502 - \$19.50 = \$4,482.50$ decrease

- (e) Describe another formulary management strategy that could be used in this case to control cost.

Commentary on Question:

This question was the real differentiator amongst candidates that knew the material very well and those that are very good at memorizing note cards. Candidates were expected to recommend an alternative method to derive cost savings. Due to the wording of the question, a wide variety of answers were accepted, but candidates were expected to think through their answer, not just reword the purpose of step therapy. Additionally, candidates were expected to tie their answer back to the problem at hand – if they did not, they did not receive full credit.

In Ruth's case, the Insurer should consider only approving only a 30 day prescription and not allow refills until after 25 days. Extra approval should be needed for early refills or refills of larger quantities.

- (f) Compare and contrast US and Canadian prescription drug pricing benchmarks, regulation, and contracting.

Commentary on Question:

Candidates did not do well on this section. Some were able to recognize differences in benchmarks, but in general credit was quite sparse.

	U.S.	Canada
Benchmarks	AWP / AMP (Average Wholesale Price / Average Manufacturer's Price)	Manufacturer's List Price
Regulation	US government is not involved in setting prices	Subject to review by the Patent Medicine Prices Review Board (PMPRB)
Contracting	Typically (AWP – discount), rebates negotiated between manufacturer's and PBM's for favorable placement on PBM's formulary	Private payers negotiate directly with manufacturers for rebates on brand drugs in exchange for their drug being listed on the formulary

12. Learning Objectives:

1. The candidate will understand how to describe plan provisions typically offered under:
 - a. Group and individual medical, dental and pharmacy plans
 - b. Group and individual long-term disability plans
 - c. Group short-term disability plans
 - d. Supplementary plans, like Medicare Supplement
 - e. Group and Individual Long Term Care Insurance
2. The candidate will understand and recommend a manual rate for each of the coverages described in Learning Objective 1.

Learning Outcomes:

- (1b) Describe each of the coverages listed above.
- (2a) Identify and evaluate sources of data needed pricing, including the quality, appropriateness and limitations of each data source.
- (2f) .Describe the product development process including risks and opportunities to be considered during the process.

Sources:

Group Insurance, Skwire, 7th Edition, 2016
Chapter 6 Dental Benefits in the United States
Chapter 22 Estimating Dental Claim Costs

Commentary on Question:

Most candidates did well on this question overall, especially with respect to parts a and d. However, many struggled with the identification and mitigation of risks in part c – aside from antiselection – that AnyState faces in pricing dental and entering the dental PPO market. Additionally, a surprising number of candidates did not apply the co-payment and/or deductible correctly in part f. Candidates are reminded to state their assumptions when unsure in order to maximize exam points awarded.

Solution:

- (a) Describe the type of dental products available in the market.

Commentary on Question:

Most candidates were able to list out the various dental products and provided a short description for each. Usually when a candidate missed points, it was because descriptions were not provided or one of the product types was not listed.

12. Continued

There are 4 major types of dental plans in the market today:

1. Dental Indemnity Plans
 - Fee for service reimbursement type of plan
 - Member may see any provider they choose
 - Insurance company pays up to a scheduled fee per service and members is responsible for the additional charged amount above the fee schedule.
2. Dental HMO Plans
 - Insurance company generally reimburses providers on prepaid/capitated basis
 - Requires members to use in-network providers. Out-of-network providers are not covered
3. Dental Preferred Provider Organization (PPO) plans
 - Network of contracted providers at discounted rate
 - Discounted rate is all the provider can charge. Provider cannot balance bill.
 - Could offer different coinsurance rate for in network providers to help incentivize members to use in-network providers.
4. Discounted Dental Plan
 - These plans simply give members access to contracted provider discounts
 - Member is responsible for the total cost of the service

- (b) Describe why a dental Preferred Provider Organization (“PPO”) is a good initial product offering for Mutual of AnyState. Justify your response.

Commentary on Question:

Overall students largely were able to identify broad patient access as a reason for a PPO, but many were unable to provide additional justification.

Because Mutual of AnyState is new at the dental insurance market, I recommend us to start with a PPO plan for the following reasons:

- PPO’s offer broader patient access as it has both in and out of network providers, allowing members to choose any provider they prefer while offering discounted rates for in-network providers.
- PPO’s offer lower out of pocket rates for members when they utilize in-network providers.

12. Continued

- PPO's are typically more expensive than HMO's. But due to the low dollar amount of premium compare to medical insurance, I believe it will not be a huge barrier to the membership. PPO's are also less expensive than indemnity plans.
 - PPO's offer plan design feature options such as deductibles, co-payments, coinsurance and annual or lifetime maximums to help with utilization management.
 - Effective PPO provider-contracting ensures the providers have undergone an extensive credentialing process and meet quality requirements.
- (c) Describe risks for Mutual of AnyState and recommend risk mitigation techniques with respect to the following:
- (i) Pricing dental insurance products.
 - (ii) Entering the dental insurance market.

Commentary on Question:

Most candidates focused on antiselection risks and mitigation techniques, but failed to provide more issues other than that. Additionally, while candidates were not penalized, it was clear that many had a difficult time distinguishing the risks of pricing of dental products versus the risks of entering the dental insurance market.

Risks and mitigation strategies associated with pricing dental insurance products include:

1. Risks:
 - a. Where are we going to obtain baseline data to calculate our premium rate for the first time?
 - b. What if the baseline data we obtain is not an apples-to-apples comparison to our actual membership?
 - c. How do we verify the appropriateness of our trend rate?
 - d. How will a small group size impact us?
 - e. How can we avoid low participation and the high antiselection that could come with that?
2. Mitigation strategies:
 - a. We could buy data from a consulting company to help develop the premium rate.
 - b. We could use our internal medical insurance data to estimate population characteristics.
 - c. We could hire a consultant to opine on the trend rate.
 - d. We could require a minimum group size.
 - e. We could make our plan non-contributory to incite full participation.

12. Continued

Risks and mitigation strategies associated with entering the dental insurance market include:

1. Risks:
 - a. Do we have the talent and experience within our company to bring this product to the market?
 - b. How are we going to deal with the pent-up demand of the membership that is common with dental insurance?
 - c. What if we cannot negotiate favorable pricing/discounts with our network providers?
 - d. What if our network providers are low-quality?
2. Mitigation strategies:
 - a. Hire people with dental insurance pricing and underwriting experience if not already available within the company.
 - b. Include plan design features like waiting periods, incentive coinsurance, pre-existing condition clauses, etc., to reduce the impact of the pent-up demand.
 - c. Ensure the plan design will steer members towards in-network providers, or consider renting a network for a limited time.
 - d. Employ a robust credentialing process to ensure our network providers are high quality.

(d)

- (i) Describe the coverage for each class of dental benefits including service examples.
- (ii) Recommend four changes to the PPO plan that would help with any or all of the following: lower utilization, lower cost, reduce anti-selection risk, and reduce underwriting risk. Justify your response.

Commentary on Question:

Candidates generally did very well on this question, but are reminded to include justification for their responses. For example, “adding deductibles” was not awarded full points as an appropriate response for part (ii). However, “adding a deductible of \$50 or \$100 on Class II services to reduce plan costs and lower utilization,” is appropriate.

The four classes of dental benefits include:

1. Class I – Preventive and Diagnostic Procedures. These services are intended to maintain good oral health and prevent future complications, which can be costly. Service examples include oral exams, cleaning and fluoride treatment, etc.
2. Class II – Basic Procedures. These services correct dental problems and treat dental disease. Service examples include fillings, extractions, root canal and other oral surgery.

12. Continued

3. Class III – Major Procedures. These services are intended to treat severe cases, some of which could have been prevented with regular preventative care and good personal care. Service examples include inlays, onlays, crowns, bridge and dentures.
4. Class IV – Orthodontic Procedures. These services are not always covered by dental plans due to their cosmetic nature. Service examples include braces.

To help lower any of utilization, cost, anti-selection risk and underwriting risk. The company could consider change the following plan designs:

1. Based on the plan design presented, I recommend the following changes to help lower any of utilization, costs, anti-selection risk and underwriting risk:
 - a. Reduce the Class I copay to \$0, in order to incentivize members to regularly obtain preventative care and avoid higher Class II, III and IV claims down the line.
 - b. Add a deductible for Class II of \$50 or \$100 per year in order to reduce plans costs and lower utilization.
 - c. Increase the spread in the in-network vs. out-of-network coinsurance levels in order to encourage more members to seek in-network services, lowering plan costs and member costs.
 - d. Other: Lower lifetime maximums, introduce incentive coinsurance for Classes II and III, etc.
 2. Additionally, AnyState could review the following plan design features:
 - a. Frequency limitations to ensure members are not over-utilizing preventative services. For example, two dental cleanings per year.
 - b. Pre-existing condition clauses to address the initial spike in costs due to pent-up demand, or – at the very least – review waiting periods for Class III and IV services.
 - c. Other examples as appropriate.
- (e) Describe the impact the Affordable Care Act has had on the dental insurance market.

Commentary on Question:

Most candidates correctly identified that ACA included pediatric dental as an “essential health benefit”, but nothing further – nor did candidates include a description of the impact the ACA has had.

12. Continued

The Affordable Care Act impacted the market in the following ways:

1. Identified a set of “essential health benefits”, and pediatric dental is part of it. Because of this, child-only policies are now developed, leading to additional antiselection considerations.
2. No annual or lifetime limits are permitted and there is a required annual out-of-pocket maximum. Out-of-pocket maximums were generally not seen in the dental insurance industry, and insurers had to determine the impact of this new feature.
3. The ACA provided expansion for Medicaid eligibility. However, dental provider shortages in some areas may limit the ability of patients to receive care, even if benefits are available.
4. Because the actuarial value (AV) for stand-alone dental plan must be at either 70% or 85%. Because AV calculators created for medical plans are not able to separate out pediatric dental services, stand-alone dental products must develop their own AV calculator and it must be certified by a member of the American Academy of Actuaries.

- (f) Calculate the cost for both the member and for Mutual of AnyState for the policy year, based on the PPO plan proposed by the sales department, assuming the member:
- (i) Went to only in-network providers
 - (ii) Went to only out-of-network providers

Show your work.

Commentary on Question:

The most common issues for candidates were identifying the appropriate Class for the services and not removing copayments and deductibles before applying coinsurance levels to determine the AnyState share of costs.

12. Continued

AnyState Amount = ((Allowed – Copay) – Deductible) * Coinsurance

Member Amount = Allowed – Company Amount

Service	Total Allowed Amount	In-Network	Out-of-Network
X-Rays: Class I	\$80	AnyState: $(\$80 - \$10) * 100\% = \mathbf{\$70}$ Member: $\$80 - \$70 = \mathbf{\$10}$	AnyState: $(\$80 - \$10) * 90\% = \mathbf{\$63}$ Member: $\$80 - \$63 = \mathbf{\$17}$
Fillings: Class II	\$450	AnyState: $(\$450 - \$50) * 80\% = \mathbf{\$320}$ Member: $\$450 - \$320 = \mathbf{\$130}$	AnyState: $(\$450 - \$50) * 70\% = \mathbf{\$280}$ Member: $\$450 - \$280 = \mathbf{\$170}$
Root Canal: Class II	\$500	AnyState: $(\$500 - \$50) * 80\% = \mathbf{\$360}$ Member: $\$500 - \$360 = \mathbf{\$140}$	AnyState: $(\$500 - \$50) * 70\% = \mathbf{\$315}$ Member: $\$500 - \$315 = \mathbf{\$185}$
Partial Denture: Class III	\$900	AnyState: $((\$900 - \$100) - \$100) * 50\% = \mathbf{\$350}$ Member = $\$900 - \$350 = \mathbf{\$550}$	AnyState: $((\$900 - \$100) - \$100) * 40\% = \mathbf{\$280}$ Member = $\$900 - \$280 = \mathbf{\$620}$
Total		AnyState = \$1,100 Member = \$830	AnyState = \$938 Member = \$992

13. Learning Objectives:

3. Evaluate and recommend an employee benefit strategy.

Learning Outcomes:

- (3b) Describe elements of flexible benefit design and management.
- (3c) Recommend an employee benefit strategy in light of an employer's objectives.

Sources:

Canadian Handbook of Flexible Benefits

The Essentials of Managed Healthcare

Commentary on Question:

Commentary listed underneath question component.

Solution:

- (a) Calculate the average impact of adverse selection (%) on net claims across the three options. Show your work.

Commentary on Question:

To receive full credit, candidates needed to show their work on calculating expected and actual net claims for each option and total 3 options to measure the adverse selection for the combined 3 options. PMPM calculations listed in the answer were not required. Some candidates used per thousand or annual dollar amounts to calculate the results, which were also acceptable. Common mistakes included simply weighing the A/E ratio using headcount enrollments instead of using \$\$ claim experience, confusing expected costs with actual when applying A/E ratio, and finishing with a total dollar average impact in lieu of a % as asked in the question.

Option A: IP Expected Net Claim Cost PMPM = $300 \times \$5,000 / 12000 = \125.00

Option A: OP Expected Net Claim Cost PMPM = $(900 \times \$1,500 / 12000) - (810 \times \$20 / 12000) = \$111.15$

Option A: PCP Expected Net Claim Cost PMPM = $(4,000 \times \$200 / 12000) - (3,700 \times \$10 / 12000) = \$63.58$

Option B: IP Expected Net Claim Cost PMPM = $250 \times \$5,000 / 12000 = \104.17

Option B: OP Expected Net Claim Cost PMPM = $(900 \times \$1,500 / 12000) - (595 \times \$40 / 12000) = \$110.52$

Option B: PCP Expected Net Claim Cost PMPM = $(3,000 \times \$200 / 12000) - (2,760 \times \$20 / 12000) = \$45.40$

Option C: IP Expected Net Claim Cost PMPM = $100 \times \$5,000 / 12000 = \41.67

Option C: OP Expected Net Claim Cost PMPM = $(400 \times \$1,500 / 12000) - (360 \times \$50 / 12000) = \$48.50$

Option C: PCP Expected Net Claim Cost PMPM = $(2,000 \times \$200 / 12000) - (1,800 \times \$20 / 12000) = \$30.33$

13. Continued

Option A: Total Expected Net Claim Cost PMPM = $\$125.00 + \$111.15 + \$63.58$
= $\$299.73$

Option B: Total Expected Net Claim Cost PMPM = $\$104.17 + \$110.52 + \$45.40$
= $\$260.09$

Option C: Total Expected Net Claim Cost PMPM = $\$41.67 + \$48.50 + \$30.33 =$
 $\$120.50$

Option A: Actual Net Claim Cost PMPM = $\$299.73 \times 1.2 = \359.68

Option B: Actual Net Claim Cost PMPM = $\$260.09 \times 0.8 = \208.07

Option C: Actual Net Claim Cost PMPM = $\$120.50 \times 1.5 = \180.75

Average actual net claim cost PMPM =

$$[(\$359.68 \times 5,000) + (\$208.07 \times 2,500) + (\$180.75 \times 2,500)] / 10,000 = \$277.05$$

Average expected net claim cost PMPM =

$$[(\$299.73 \times 5,000) + (\$260.09 \times 2,500) + (\$120.50 \times 2,500)] / 10,000 = \$245.01$$

Average impact of adverse selection = $(\$277.05 / \$245.01) - 1 = 13.1\%$

- (b) LC is interested in mitigating the impact of adverse selection.
- (i) List design approaches that LC can use to mitigate adverse selection.
- (ii) Describe pricing approaches that LC can use to mitigate adverse selection.

Commentary on Question:

The intent of the question was to distinguish between design approaches versus pricing approaches. Some candidates incorrectly listed pricing approaches in responding to part (i). To receive full credit on part (i), candidates only had to list a maximum of 4 design approaches. For part (ii), descriptions were necessary to receive full credit.

Design Approaches:

- Limit frequency of choice
- Limit degree of change
- Level the spread between options
- Require proof of insurability
- Delay full payment
- Test program with employees
- Offer health spending account

13. Continued

Pricing Approaches:

- Risk-based pricing – price the options to reflect the expected risk or cost of the benefit.
- Employer subsidization – subsidize the cost to encourage participation and spread risk of adverse selection.
- Anticipating adverse selection in pricing
 - Load the prices of the lower-valued options in order to reduce the reward to employees for opting down.
 - Load all of the cost of expected adverse selection into the highest-valued option and keep the prices for the other options at the same level.
 - Spread the cost of the expected adverse selection over the price of all the options.

14. Learning Objectives:

3. Evaluate and recommend an employee benefit strategy.

Learning Outcomes:

- (3a) Describe structure of employee benefit plans and products offered and the rationale for offering these structures.
- (3c) Recommend an employee benefit strategy in light of an employer's objectives.

Sources:

A Practical Guide to Private Exchanges;

Rosenbloom Ch 32, page 874

Commentary on Question:

Commentary listed underneath question component.

Solution:

- (a) Explain considerations for Kings Company when determining its defined contribution approach for offering its plans on a private exchange.

Commentary on Question:

Recall-type question. Candidates were generally able to receive part marks.

- Current funding approach - what is the employer's current philosophy regarding subsidies and how does it compare to a defined contribution approach?
 - Variation by coverage tier - does the employer want to subsidize dependents at a different level than the employee?
 - Member Impact - How does this impact the member payroll contributions and what level of dissatisfaction may arise?
 - Financial Goals - Does this change meet the employer's financial goals?
 - Competitive pressures - how does the subsidy compare to the benefits provided by other companies for similar employees?
- (b) Calculate the monthly employer subsidy PMPM and new monthly employee payroll contributions PMPM if the current plans move to the private exchange. Show your work.

Commentary on Question:

Candidates generally did very well on this portion of the question.

Employer subsidy PMPM = $((\$525 * .63 * 41) + (350 * .63 * 41)) / (41 + 41)$

Average Employer subsidy PMPM for both plans = \$275.63

Employee contribution PMPM for Plan 1 = $(\$600 - \$275.63) = \$324.37$

Employee contribution PMPM for Plan 2 = $(\$300 - \$275.63) = \$24.37$

14. Continued

- (c) Explain why employee contributions would change for Kings Company if the current plans move to the private exchange.

Commentary on Question:

Candidates generally identified the change in subsidy methodology, however, needed to comment on pricing within the Exchange for full credit.

- Each plan must stand on its own in the Exchanges - there can be no cross subsidization between plans – which means that the full impact of member selection (net of risk adjustment, if applicable) must be included in the total premium rates – whereas traditional pricing may subsidize selection.
 - The employer contribution in the exchange is same \$ amount regardless of plan, causing employees to have to pay the full incremental cost of the high option whereas previously the contribution was the same % of premium.
- (d) Explain whether projected enrollment would change after moving to the private exchange.

Candidates generally were able to receive part marks identifying change in enrollment within options, but required to comment on total enrollment impact to receive full credit.

- Enrollment will shift to Plan 2 because the resulting gap in employee contribution for Plan 2 and Plan 1 has increased.
 - Overall enrollment could (*any rational response below would receive credit*):
 - increase if one of the premium options becomes free or very low cost and people who previously didn't enroll will
 - remain the same in aggregate if the cheaper option seems decent
 - decrease if the cheaper options doesn't seem decent (people then seek coverage through spouse or go bare)
- (e) Explain potential implications of having a non-contributory health plan option.

Commentary on Question:

Most of the candidates knew non-contribution plan's effect includes anti-selection, that it would be difficult to introduce employee contribution later, and the legal issues with identifying who is covered.

- Under a non-contributory plan, the employee will not have any payroll deduction for Plan 2 and therefore even more employees may shift from Plan 1 to Plan 2 as a result.

14. Continued

- This additional shift will need to be reflected in the pricing of the two options [which may lead to even higher differential between the Plan 1 and Plan 2 rates (more selection)]
- Employees who currently don't enroll may enroll in Plan 2 may enroll once free option exists, which will increase overall costs
- Adding a premium to the \$0 option in the future will be seen as a benefit reduction and can create employee anxiety and ill will, therefore it may be best to avoid setting a \$0 option as precedent
- Letting employees opt out of \$0 options can create legal issues if a medical provider tries to seek payment from the employer therefore it may be best to have to a premium to avoid the situation