GH CORC Model Solutions
Fall 2014

1. **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.

(5b) Evaluate key financial performance measures used by L&H insurers for both short and long-term products.

(5c) Project financial outcomes and recommend strategy to senior management to achieve financial goals.

(5d) Describe the planning process of an L&H insurance company (strategic, operational, and budgeting)

(5h) Construct basic financial statements and its actuarial entries for an L&H insurance company.

Sources:

Higgins, Chapter 4

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) Discuss how a company can "grow broke" and related actions to avoid this peril.

- Growing broke can occur if a company's growth outpaces their sustainable growth rate
- If growth outpaces the sustainable growth rate, actions need to be taken to raise the sustainable growth rate by improving the profit margin, asset turnover, or financial leverage

1. Continued

(b)

(i) Calculate the 2014 sustainable and actual growth rates. Show your work.

(ii) Describe the impacts on the balance sheet of your findings.

Commentary on Question:
Candidates had no trouble calculating sustainable growth, a few candidates calculated actual growth using total revenue did not achieve full mark for i.). Candidates had trouble on part ii.)

(i) Joey Bats' actual growth rate for 2014:
= 2014_Sales / 2013_Sales – 1 = 19,621 / 12,954 – 1 = 51.4%

Joey Bats' sustainable growth rate for 2014:
= (2014 equity – 2013 equity) / (2013 equity) = (3,475 – 2,467) / 2,467 = 40.9% (note that Joey Bats retains 100% of earnings)

(ii) The consequences of this are highlighted in the financial statements in the following areas:

- Cash reserves have decreased which puts the company at a higher risk of insolvency.
- Accounts receivable has increased presumably because the increase in growth has made it more challenging to collect on monies owed
- Accounts payable has increased presumably because the cash reserves have decreased making it more difficult to pay off debt quickly

(c) Discuss why corporations do not, in general, issue more equity.

Commentary on Question: *Candidates had no trouble with part c.)*

Reasons why corporations do not issue equity:
- Not needed
- Expensive to issue
- Fixations with earnings per share
- "Market doesn't appreciate us" syndrome
- Unreliable funding source

(d) Explain why the reasons from (c) may or may not apply to Joey Bats.

Commentary on Question:
Candidates did not perform well on part d.)

1. Continued

These reasons do not necessarily apply to Joey Bats because it is a relatively new company looking to grow. The equity instruments that young companies issue are occasionally referred to as "story paper" by brokers, which refer to potentially high-growth enterprises with a particular product or concept that brokers can hype to receptive investors – i.e. this is an advertising opportunity

2. Learning Objectives:

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

Learning Outcomes:

(5b) Evaluate key financial performance measures used by L&H insurers for both short and long-term products.

(5c) Project financial outcomes and recommend strategy to senior management to achieve financial goals.

Sources:

Group Insurance page 331

CIA Educational Note Sources of Earnings Calculations Section 2.2.3.1

CIA Education Note Simplified CALM Example

Commentary on Question:

This question was intended to evaluate a candidate's in-depth understanding of CALM principles and demonstrate a working understanding of cash flow principles in a simplified example.

Solution:

(a) Describe the general principles of the CALM.

Commentary on Question:

To achieve full marks for part (a), a candidate needed to describe more than the relationship of assets and liabilities within a CALM approach. It was necessary to describe the many principles of the methodology. Since part (a) was worth 2 exam points the candidate should have recognized that more than a definition was required to score well.

- Liabilities should be computed on a going concern basis
- The calculation of liabilities should be under expected experience and should assume all acquisition costs
- Separate provision for adverse deviation (PFAD) should be included and the derivation of the PFAD should be limited and reasonable

(i.e. not excessively conservative)

- Surrender privileges and policy lapsation should be considered

2. Continued

(b) Compare the treatment of provisions for adverse deviation for short term and long term liabilities.

Commentary on Question:
As the question asked a candidate to compare two items it was necessary for the candidate to do more than simply list the treatment of PFADs under each of short term and long term liabilities. Candidates that could correctly identify examples of short term and long term liabilities and how the PFADs are represented in each scored well but the candidates that made a summary comparison maximized the points available.

- Long term liabilities like LTD, life waiver, and paid-up life liabilities have substantial specifically identified PFADs when established. These PFADs are quickly released as a claim matures. As they are substantial in the early years they put a strain on profits early in the policy life cycle. Early premiums may be discounted as a result of marketing discount subsequently reserves may be released and premium discounts removed increasing profit margin
- Short term liabilities such as medical and dental: tend to be affected minimally by PFADs as they are small relative to paid claims. Companies may simply include PFADs in claims numbers without specific identification. As the PFADs are typically in claims amounts their impact on profitability does not change in the same manner as long term liabilities.

(c) Calculate the net cash flow for the CALM scenario at maturity. Show your work.

Commentary on Question:
The question asked for net cash flow impact at maturity. It was necessary to determine the result at the end of the cycle not the beginning by illustrating the formulas used and correctly applying them through the life cycle.

Available cash at time 0 = $400,000

Year	Invested Asset Cash flow	Short term Cash	Inv Asset + Cash flow	Reserve Cash flow	Net Cash (End Year)	Interest Rate
1	2,000,000	412,000	2,412,000	2,100,000	312,000	3%
2	2,000,000	321,360	2,321,360	2,100,000	221,360	3%
3	2,000,000	228,001	2,228,001	2,100,000	128,001	3%
4	2,000,000	131,841	2,131,841	2,100,000	31,841	3%
5	2,000,000	32,796	2,032,796	2,100,000	-67,204	3%

Net Cash = Invested Asset + Short term Cash – Reserve Cash Flow

Short term Cash = Cash at beginning of year *(1 + i)

2. Continued

(d) Interpret the results from (c) and discuss strategies Goliath could implement to address your findings.

Commentary on Question:
It was appropriate for the candidate to analyze the result of the net cash flow in (c) and determine appropriate steps to align the maturity of the annuity with a profitable result by suggesting actions that could be taken and the impact those actions would have on the net cash flow result. Candidates that obtained a positive cashflow in (c) and suggested appropriate modifications received full credit.

- The negative net cash flows calculated at maturity indicate that the assets Goliath allocated to back the reserve are insufficient.
- In order to address the insufficient assets, Goliath could consider the following strategies:
  - Increase Invested Asset Cash Flow – could be challenging if the investments are locked in and new issues not available
  - Increase Cash – There is a direct cost associated with this but this is the likely the simplest solution
  - Decrease Reserve Cash Flow – These may be fixed based on the risks
  - Increase Interest Rate – Depending on investment options this may not be easy and would most likely result in an increased risk profile to achieve a potentially higher return

3. Learning Objectives:

7. The candidate will understand and evaluate Retiree Group and Life Benefits in the United States.

Learning Outcomes:

(7b) Determine appropriate baseline assumptions for benefits and population.

(7c) Determine employer liabilities for retiree benefits under various accounting standards.

Sources:

Textbook: Fundamentals of Retirees Group Benefits (by Yamamoto), Chapter 7.

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) Describe the key components of the net periodic postretirement benefit cost.

Commentary on Question:

Candidates must provide sufficient support to each of the components included in the Net Periodic Post-Retirement Benefit Cost in order to obtain full mark. No marks are given to candidates only provided a list of the components.

- Service cost – the cost of the benefits that accrue during the period for the P&L statement
- Interest cost – interest on items like APBO, service cost, and benefit payments
- Expected return on plan assets – expected fair market value of return on plan assets in the plan year
- Amortization of the transition obligation – if employer chose to delay and amortize one-time impact of FAS 106
- Net amortization and deferral – amortization for prior costs
- Net amortization and deferral – amortization for plan gains/losses

(b) List and describe eight actuarial assumptions used for valuation of life and health group benefit plans.

Commentary on Question:

Candidates must provide sufficient support to each actuarial assumption in order to obtain full mark. No marks are given to candidates only provided a list of the components.

Note, the actuarial assumptions must pertain to the post-retirement benefit valuation.

3. Continued

- Discount rate – used to discount all future benefit payments in any present value calculation.
- Health care cost trend rate – the rate used to project current claims costs into the future.
- Salary increase – used to project the salary to retirement for salary-based benefits such as Life insurance.
- Termination – used for current active employees who are expected to leave the employer prior to retirement.
- Mortality – generally not significant until after retirement
- Retirement rate – likelihood of retirement upon attainment of eligibility
- Current plan costs and contributions – the costs by age for a retiree
- Retiree contribution increase – if contributions are required, assumption for future increases

(c) Calculate DL's net periodic postretirement benefit cost for 2014. Show your work.

Commentary on Question:
Candidates must show all work in order to obtain full marks. Candidates must also provide sufficient support to any assumptions (not provided as part of the question) used in the calculation.

NPPB Cost = Service Cost + Interest Cost + Net Amortization and Deferral

Service cost = $40,000

Interest Cost = (APBO + Service Cost) x Plan Discount Rate – Expected Plan Payments / 2 x Plan Discount Rate
= ($590,000 + $40,000) x 5% - $10,000 / 2 x 5% = $31,250

Assume plan is not a funded plan – no expected return on asset

Total Unrecognized (Gain)/Loss = $27,000

However, since 10% of APBO ($59,000 = 10% x $590,000) is greater than the Total Unrecognized (Gain)/Loss, no amortization is required for 2014.

NPPB Cost
= Service Cost + Interest Cost + Net Amortization and Deferral
= $40,000 + $31,250 + $0 = $71,250

3. Continued

(d)

(i) Discuss possible reasons for the increase in APBO.

(ii) Calculate the revised net periodic postretirement benefit cost for 2014. Show your work.

Commentary on Question:
It is important to notice that the information provided in this sub-question is based on a new valuation as at January 1, 2014. The information provided under the main question portion is the roll-forwarded result based on a previous valuation.

Candidates must show all work in order to obtain full marks. Candidates must also provide sufficient support to any assumptions (not provided as part of the question) used in the calculation

(i) The roll-forward valuation assumes a stable population and assumption from year to year. Therefore, the increase in APBO from the new valuation could be a result of the following:

- The active population may not have terminated at the rates being assumed since the last valuation (termination rate)
- The company may be in growth mode, adding more active associates than those who leave, creating a net increase in covered population
- Actual health care trend rates are higher than expected leading to a change in trend rate assumption
- Expected claims costs used in the previous valuation are lower than actual claims costs

(ii) NPPB Cost = Service Cost + Interest Cost + Net Amortization and Deferral

Service cost = $53,000

Interest Cost
= (APBO + Service Cost) x Plan Discount Rate – Expected Plan Payments / 2 x Plan Discount Rate
= ($670,000 + $53,000) x 5% - $12,000 / 2 x 5% = $35,850

Total Unrecognized (Gain)/Loss
= unamortized (gain)/loss from previous valuations + new loss on APBO
= $27,000 + ($670,000 - $590,000) = $107,000

3. Continued

10% of APBO = $67,000

Therefore:
Amortization = ($107,000 - $67,000) / 9 years = $4,444

NPPB Cost
= Service Cost + Interest Cost + Net Amortization and Deferral
= $53,000 + $35,850 + $4,444 = $93,294

(e) You receive a call from the Retiree Benefits Manager at DL who is forecasting a budget for 2015. She is particularly concerned with the discount rate risk, as it has recently been volatile on a month-to-month basis.

Describe the expected impact on the components of the net periodic postretirement benefit cost if the discount rate at December 31, 2014 decreases by 50 basis points.

The lower discount rate will impact the following components of the NPPBC:

- Service cost – the lower discount rate will increase the service cost, as the present value of future benefits increases
- Interest cost – the lower discount rate may or may not increase the interest cost as the APBO and service cost both increase, but the discount rate being applied to these items decreases
- Net amortization and deferral – amortization for plan gains/losses – as the plan's unrecognized losses are already outside the corridor, exactly one-ninth of the loss arising due to the discount rate decrease will be included in the following year's expense, unless there are offsetting actuarial gains
- Expected return on plan asset – no impact

4. Learning Objectives:

5. Understand how to prepare and be able to interpret insurance company financial statements in accordance with US Statutory Principles and GAAP

Learning Outcomes:

(b) Prepare financial statement entries in accordance with generally accepted accounting principles

(c) Interpret the results of both statutory and GAAP statements from the viewpoint of various stakeholders, including regulators, senior management, investors

Sources:

Analysis for Financial Management, Higgins, 10th Edition

- Ch. 3 Financial Forecasting

Group Insurance, Bluhm, 6th Edition

- Ch. 45 Analysis of Financial and Operational Performance

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) Describe three ways to cope with uncertainty in financial forecasts.

Commentary on Question:

Candidates tended to either provide all three ways or none. While full credit wasn't provided for merely listing the three ways, candidates who correctly provided the three ways generally described them sufficiently to earn full credit.

- Sensitivity Analysis – Measuring financial impact by changing one key assumption at a time and reviewing the results
- Scenario Analysis – Measuring financial impact by changing several key assumptions related to a possible scenario at a time and reviewing the results
- Simulation – Running thousands of simulations of assumptions as random variables using a computer, measuring financial impact, and reviewing the results

(b) Prepare a revised 3-year financial pro forma making the following revisions to the initial projection:

(i) Income Statement

(ii) Balance Sheet

Show your work.

4. Continued

Commentary on Question:
Candidates generally did well on this section. To earn full credit, candidates needed to show work by providing formulas (either numbers or fields used) for calculations used for at least one of the three years per item on the income statement.
Most candidates struggled with two major pieces of this section. The first was the application of retained earnings. Earnings are retained every year, even when there are net losses. Additionally, retained earnings are cumulative throughout the years on the balance sheet. The second major issue was that after applying the specified adjustments, candidates should have identified that assets did not equal the sum of liabilities and equity, and that the cash and securities asset should have been adjusted accordingly for this balance. To earn full credit, candidates needed to show work by providing formulas (either numbers or fields used) for calculations used for at least one of the three years per item on the balance sheet.

(i)

Income Statement ($ in 000's)

	2015	2016	2017
Net Premium Income	$108,000	$108,000	$108,000
Expenses			
Claims	95,040	92,880	91,800
Operating Expenses	16,200	12,960	11,880
Total Earnings before tax	(3,240)	2,160	4,320
Taxes (40%)	0	864	1,728
Earnings after taxes	($3,240)	$1,296	$2,592

Claims = Revenue x Projected Claims Loss Ratio
2015 Claims = $108,000 x 88% = $95,040
2016 Claims = $108,000 x 86% = $92,880
2017 Claims = $108,000 x 85% = $91,800

Operating Expenses = Revenue x Operating Expenses Ratio
2015 Operating Expenses = $108,000 x 15% = $16,200
2016 Operating Expenses = $108,000 x 12% = $12,960
2017 Operating Expenses = $108,000 x 11% = $11,880

Taxes = Tax rate x Max($0, Total Earnings Before Tax)
2015 Taxes = 40% x Max($0, -$3240) = $0
2016 Taxes = 40% x Max($0,$2160) = $864
2017 Taxes = 40% x Max($0,$4320) = $1,728

4. Continued

(ii)

Balance Sheet ($ in 000's)

	12/31/2015	12/31/2016	12/31/2017
Assets			
Current Assets			
Cash and Securities	$20,745	$20,026	$19,953
Accounts Receivable	2,160	2,160	2,160
Prepaid Expenses	405	324	297
Other Current Assets	-	-	-
Total Current Assets	23,310	22,510	22,410
Net Fixed Assets	5,000	5,000	5,000
Total Assets	28,310	27,510	27,410
Liabilities and Owner's Equity			
Current Liabilities			
Claims Unpaid	$13,500	$13,500	$13,500
Accounts Payable	1,620	1,296	1,188
Other Current Liabilities	-	-	-
Total Current Liabilities	15,120	14,796	14,688
Long Term Debt	4,000	3,200	2,560
Common Stock	10,000	10,000	10,000
Retained Earnings	(810)	(486)	162
Total Liabilities and Owner's Equity	$28,310	$27,510	$27,410

Accounts Receivable = 2% x Premium
2015/2016/2017 Accounts Receivable = 2% x $108,000 = $2,160

Prepaid Expenses = 2.5% x Operating Expenses
2015 Prepaid Expenses = 2.5% x $16,200 = $405
2016 Prepaid Expenses = 2.5% x $12,960 = $324
2017 Prepaid Expenses = 2.5% x $11,880 = $297

Unpaid Claims = 1.5 / 12 x Annual Premium
2015/2016/2017 Unpaid Claims = 1.5 / 12 x $108,000 = $13,500

Accounts Payable = 10% x Operating Expenses
2015 Accounts Payable = 10% x $16,200 = $1,620
2016 Accounts Payable = 10% x $12,960 = $1,296
2017 Accounts Payable = 10% x $11,880 = $1,188

4. Continued

Retained Earnings (yeary) = Retained Earnings (yeary-1) + 25% x Earnings After Taxes
2015 Retained Earnings = 0 + -$3,240 x 25% = -$810
2016 Retained Earnings = -$810 + $1,296 x 25% = -$486
2017 Retained Earnings = -$486 + $2,592 x 25% = $162

Cash and Securities = Total Liabilities and Owner's Equity – Net Fixed Assets – Other Current Assets - Prepaid Expenses – Accounts Receivable
2015 Cash and Securities = $28,310 – 5,000 – 0 – 405 – 2,160 = $20,745
2016 Cash and Securities = $27,510 – 5,000 – 0 – 324 – 2,160 = $20,026
2017 Cash and Securities = $27,410 – 5,000 – 0 – 297 – 2,160 = $19,953

(b) Calculate the following 12/31/2017 profit measures for Year 3, for both the initial 3-year pro forma statement and the pro forma you created in (b). Show your work and define the terms.

Commentary on question:
Shareholder equity, which is used in the calculation of return on equity, is the sum of just common stock and retained earnings. Many candidates included long-term debt as a part of shareholder equity instead of correctly defining it as a liability. Some candidates only provided the calculation for either the initial statement provided in the problem or the pro forma statement created in (b) but not both. Other candidates incorrectly used pre-tax earnings to calculate the profit measures. Another common mistake was that candidates calculated return on equity using shareholder equity at the start of the year instead of at the end of the year.

1. Return on equity
   Shareholder Equity = Common Stock + Retained Earnings
   Return on Equity = Net Income After Tax / Shareholder Equity

	Initial Statement	Revised Statement
Shareholder Equity	$10,000 + $6,215 = $16,215	$10,000 + $162 = $10,162
Return on Equity	$9,423 / $16,215 = 58.1%	$2,592 / $10,162 = 25.5%

2. Return on assets
   Return on Assets = Net Income After Tax / Total Assets

	Initial Statement	Revised Statement
Return on Assets	$9,423 / $39,976 = 23.6%	$2,592 / $27,410 = 9.5%

4. Continued

3. Profit margin
   Profit Margin = Net Income After Tax / Total Revenue

	Initial Statement	Revised Statement
Profit Margin	$9,423 / $157,048 = 6.0%	$2,592 / $108,000 = 2.4%

5. 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

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

Learning Outcomes:

(1c) Describe each of the coverages listed above.

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

(4b) Describe how private group insurance plans work within the framework of social programs in Canada.

Sources:

Group Insurance, Chapter 16

GHC-600-13, Canada/Quebec Pension Plan

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) Explain the difference between direct offsets and other offsets as they relate to benefit payments from a group LTD plan, and provide an example of each.

Commentary on Question:

This part of the question was generally well done by candidates who provided an answer. Some candidates did not clearly articulate the concept of an all source maximum when describing indirect offsets.

Direct offsets reduce group LTD benefit dollar for dollar, whereas indirect offsets reduce group LTD benefits if the earnings for all sources exceeds the benefit's all-source maximum (usually around 80-85%).

Examples of direct offsets:

- C/QPP primary benefits (note future COLA is not offset)
- Rehabilitation earnings (may be a percentage e.g. 50% offset)
- Workers compensation benefits

5. Continued

Examples of indirect offsets:

- C/QPP secondary benefits (e.g. child benefits)
- Other sources of employment income

(b) Estimate the monthly CPP or QPP disability pension for each claimant assuming both are approved. State your assumptions and show your work.

Commentary on Question:
Candidates were expected to identify why actual C/QPP disability benefits would differ from the maximum available. Partial credit was given for alternate calculations that demonstrated an understanding of C/QPP disability benefit determination.

Claimant A:

- Member's maximum C/QPP disability pension = baseline benefit + 75% of retirement benefit = \$458 + 75% x \$1,038 = \$1,236
- Annual pre-disability earnings = \$2,500 x 12 = \$30,000 < YMPE
  - C/QPP retirement pension would need to be adjusted to reflect earnings lower than YMPE
- However, member has only been in the workforce for two years, so has not earned much of a C/QPP retirement pension
- Not eligible for additional dependent benefits
- Therefore, member would be entitled to approximately the baseline benefit of \$458

Claimant B:

- Member's maximum C/QPP disability pension = baseline benefit + 75% of retirement benefit = \$458 + 75% x \$1,038 = \$1,236
- Annual pre-disability earnings = \$4,000 x 12 = \$48,000 < YMPE
  - C/QPP retirement pension would need to be adjusted to reflect earnings lower than YMPE: \$1,038 x \$48,000 / \$52,500 = \$949
  - Revised C/QPP disability pension = \$458 + 75% x \$949 = \$1,170
- Member has been in the workforce for 36 years, so has earned a full C/QPP retirement pension
- Not eligible for additional dependent benefits
- Therefore, member would be entitled to approximately \$1,170

5. Continued

(c) Justify the following decisions:

(i) Claimant A has been rejected for CPP

(ii) Claimant B has been approved for QPP

Commentary on Question:
Few candidates correctly identified differences in eligibility between CPP and QPP.

(i) Claimant A was rejected because he has not satisfied the CPP contribution requirements (4 of last 6 years).

(ii) Claimant B was approved because although he is only disabled from his own occupation, this is sufficient for claimants who become disabled after age 60 in Quebec.

(d) Draft a response to the account executive regarding her request for a lower rate increase for her client.

Commentary on Question:
Many candidates did not provide the solution in the form of a response to the account executive (e.g. internal memo). Several candidates did not take into account information provided earlier in the question regarding the size of the client, and how that would relate to credibility of the experience. For full credit, candidates needed to say "yes" or "no" to the account executive's request to lower the rate increase.

To: NOYL Account Executive
From: NOYL Reserving Actuary
Re: Review of Disabled Life Reserves

Further to your request, I have reviewed the disabled life reserves and required rate increase for your client.

- I agree that estimated C/QPP offsets may be applied for Claimant B, thereby reducing the required reserve.
- No CPP offsets should be applied for Claimant A as they are not eligible for CPP disability benefits.
- However, because this is a small block client, actual experience does not have a significant impact on renewal rating.
    - Manual rates and demographics are driving the required rate adjustment.

Therefore, I must regretfully decline your request to lower the rate increase.

6. 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 the Canada

Sources:

GHC-626-13: Guideline G4 – Coordination of Benefits

GHC-621-13: Canadian Life and Health Insurance Association: Guideline G3, Group Life and Health Insurance

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) Calculate last year's total cost assuming that all drug claims are eligible under both group health programs for:

(i) The family

(ii) Ed's plan

(iii) Rhonda's plan

Show your work.

Commentary on Question:

A f*ew candidates calculated the cost for Ed and Rhonda only. A few candidates did not track OOP maximum for Ed's plan. A few candidates did not identify the correct primary and secondary plan.*

The source material is not explicit in the treatment of a deductible for the secondary plan and whether payments made under the first plan can be used to satisfy the deductible so two alternative responses are provided below. Both are acceptable

6. Continued

	Claims	Ed's Plan	ED OOP	Rhonda's Plan	Rhonda OOP	Net OOP
Ed	$300	Self: ($300 – $25) * 80% = $220	$80	COB: Whole $80 goes against deductible = 0	$80	$80
Billy	$400	Primary: ($400 - $25) * 80% = $300	$100	Secondary: Max paid $400 * 90% = $360 but $20 left on deductible so plan pays $100 – 20 = $80	$20	$20
Rhonda	$1,200	COB: Max paid $1,200 * 80% = $960 so remainder covered after deductible so pays $95	$25	Self: $1,200 * 90% = $1,080	$120	$25
Ed	$400	Self: $225 * 80% + ($400 - $225) * 100% = $355	$45	COB: Max paid $400 * 90% = $360 so plan pays balance $45	$0	$0
Samantha	$2,200	Primary: $2,200 * 100% = $2,200	$0			$0
Total	**$4,500**	**$3,170**		**$1,205**		**$125**

Ed's plan pays = $3,170
Rhonda's plan pays = $1,205
Family OOP = $125 + annual premium costs = $125 +12*($20 + $55) = $1,025

6. Continued

	Claims	Ed's Plan	ED OOP	Rhonda's Plan	Rhonda OOP	Net OOP
Ed	$300	Self: ($300 – $25) * 80% = $220	$80	COB: MIN ($80, (300 – 100) * 90%) = $80	$0	$0
Billy	$400	Primary: ($400 - $25) * 80% = $300	$100	Secondary: Max paid $400 * 90% = $360, so plan pays balance (no deductible left) = $100	$0	$0
Rhonda	$1,200	COB: MIN (($1,200 - $25) * 80%, $120) = $120	$0	Self: $1,200 * 90% = $1,080	$120	$0
Ed	$400	Self: $350 * 80% + ($400 - $350) * 100% = $330	$70	COB: Max paid $400 * 90% = $360 so plan pays balance = $70	$0	$0
Samantha	$2,200	Primary: $2,200 * 100% = $2,200	$0			$0
Total	**$4,500**	**$3,170**		**$1,330**		**$0**

Ed's plan pays = $3,170
Rhonda's plan pays = $1,330
Family OOP = annual premium costs = $12*($20 + $55) = $900

6. Continued

(b) Describe the CLHIA guidelines that protect the insured from loss of coverage assuming Rhonda's employer will be changing insurers in the middle of next year

Commentary on Question:
Candidates had trouble with this question

- Replacing a contract by the same or another insurer that is effective no longer than 31 days after termination, insurers the same members or part of the same membership and includes one or more of life, AD&D, STD or LTD which were also provided in the prior contract
- New contract shall provide:
  - Member who was insured or eligible for insurance will be insured
  - Amount of insurance shall be the lesser of amount eligible under the new contract and the amount they were insured for under prior contract
  - Coverage shall become effective on the later of the members insurance termination and the date the replacing contract becomes effective
- If a member is not actively at work:
  - A claim for disability that has not been approved shall remain the responsibility of the terminating insurer as long as notice of claim is submitted within 180 days at a minimum
  - If the coverage includes a life waiver of premium provision the requirements are similar to above
  - Life insurance will be replaced on a premium paying basis when terminating contract does not have a waiver provision or where member does not qualify because of age or failure to submit claim within required period
  - Duplicate benefits may not be received
- Evidence of insurability can be required but contract cannot be effective until after approval
- There is no requirement that replacing contract ensures there are no loss of coverage under all circumstances with agreement from policyholder
- Any benefits to be paid by terminating insurer may be paid by new insurer upon mutual agreement but no requirement to do this by new insurer
- Insurers may submit disputes to CLHIA for binding arbitration

7. 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

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

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

Learning Outcomes:

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

Sources:

Benefits Legislation in Canada, Mercer, Canadian Handbook of Flexible Benefits, McKay, 3rd Edition, 2007, Ch 12, Education note on source of earnings calculations – Group Life and Health, Canada Life & Health Insurance Law, by H.E. Jones, Chapter 17 Health Insurance, GHC_C29_13: CIA Public Position on Self-Insured LTD Plans, Group Insurance Chapter 16 – Regulation in Canada,
Group Insurance Chapter 5 – Group Disability Income Benefits

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) Describe the disability benefits available via public programs in Canada.

Commentary on Question:

No credits were awarded for simply listing C/QPP benefits and/or Workers' compensation benefits. Full credits if for each benefit if describe at least three of the points related to definition, eligibility, funding, or taxation.

1. Canada/Quebec Pension Plan (C/QPP) Disability benefits.
   - Disabled if can't regularly perform any substantially gainful occupation (under QPP, own occupation if age 60 or over). Disability must likely result in death or be indefinite duration
   - Pays a monthly benefit from the 4th month following disability.
   - Benefits are indexed annually based on cost-of-living increases.

7. Continued

- A person is eligible for CPP disability benefits if made CPP contributions in at least 4 (3 only for contributory period of at least 25 years) of the last 6 years.
- A person is eligible for QPP disability benefits if made contributions in at least 2 of the last 3 years, at least 5 of the last 10 years or for half the years (minimum of 2 years).
- Employers contribute at the same rate as employees under both CPP and QPP.
- Payments are taxable, employer contributions tax deductible, and employee contributions subject to tax credits.

2. Workers' compensation benefits
   - Provides no-fault guarantee of compensation for work-related injury or disease (exceptions apply).
   - Legislation specifics vary by jurisdiction. Funded 100% by employers; rating methods vary by jurisdiction.
   - Provides disability wage loss benefits of a percent of net eligible earnings, which vary by jurisdiction.
   - Also provides permanent disability pension or lump-sum awards based on degree of physical or mental impairment and ensuing wage loss. Also varies by jurisdiction, but all jurisdictions have dual award systems providing both wage loss and non-monetary loss awards.
   - All jurisdictions adjust some or all benefits periodically based on CPI related indexation, or periodic improvements.
   - Payments are non-taxable, and employer contributions tax deductible.

(b) Compare and contrast the insured and self-insured options available for LTD plans in Canada in each of the following areas:

(i) Cost

(ii) Risk

(iii) Governance

(iv) Benefits security for disabled employees

Commentary on Question:
Most candidates identified fully insured and self-insured arrangement only and thus did not achieve full credit without identifying self-insured with stop-loss provision.

7. Continued

1. Fully insured (pooled) arrangements, which may be prospectively experience-rates, but would not allow for recovery of past losses.
   i. Cost: Company pays insurance premiums to insurer, which may be experience rated. Premiums would include profit charges, risk charges, administration fees. GST not applied to employee benefits or insurance premiums. Premiums subjected to premium tax. In Ontario and Quebec, premiums also subjected to provincial sales taxes.
   ii. Risk: The insurer bears the full claims risk
   iii. Governance: the insurer usually administers the plan
   iv. Benefit security: benefits fairly secured as employees not at risk of the company becoming insolvent. Also insurers would have guarantees that major portions of any benefits payable to members would be paid in case of insurer's insolvency.

2. Fully self-insured with an Administration Services Only (ASO) arrangement, where insurance company only administers the business or provides a service, e.g. claims adjudication, record keeping, etc. but does not bear any risk.
   i. Cost: Company pays ASO fees for the service, which can be amounts on deposit with or without interest credits. ASO fees are subjected to GST. Claim costs and administration fees are subjected to provincial premium taxes and provincial sales taxes.
   ii. Risk: The Company bears the full claims risk.
   iii. Governance: The company selects insurance company or 3rd party administrator to administer the plan
   iv. Benefit security: Benefits more at risk, as benefit payments dependent on company's ability to pay. Individuals not protected against loss of benefits if Company becomes insolvent. To secure benefits RSN can set up a health and welfare trust where they are set aside funds for the sole purpose of providing these benefits.

3. Self-insured with an Administration Services Only (ASO) arrangement as in point 2 above, but with a stop-loss provision. The stop-loss arrangement is one where the Company will pay a premium to the insurance company to take responsibility for claims in a year that exceed a threshold (either in aggregate or individual per-claim).
   i. Cost: Company pays ASO fees for the service, which can be amounts on deposit with or without interest credits. Company also pays insurance premium for the stop-loss provision. Because of the stop-loss provision, the arrangement is considered insurance and therefore ASO fees are not subjected to GST. Claim costs and administration fees are subjected to provincial premium taxes and provincial sales taxes.
   ii. Risk: The Company bears the full claims risk, provided claims do not exceed stop loss ceiling. There is protection for years where LTD claims are high.

7. Continued

iii. Governance: The company selects insurance company or 3rd party administrator to administer the plan
iv. Benefit security: There is still the risk of the Company becoming insolvent and not being able to meet benefit obligations, but there is some added security because of the stop-loss provision.

(c) Describe provisions included in a group health insurance policy, and for each state if the provision is required under the Uniform Accident & Sickness Act or the Quebec Civil Code.

Commentary on Question:
Candidates had trouble with part c.) as most simply listed the provisions. No credits were awarded for simply listing the provision. No credits were awarded if do not state if provision is required under the Act or Code.

The Uniform Accident & Sickness Act (the "Act") is the legislation governing both life and health insurance contracts in all the common law jurisdictions, with minor variations in each jurisdiction. The Quebec Civil Code (the "Code") is the legislation governing accident and sickness insurance in Quebec.

Provisions that are included in a group health insurance policy are:

1. Eligibility provisions: Defines which members of the group are eligible for coverage. Required under both the Act and the Code.

2. Entire contract provision: States that the policy and any application for coverage under the policy will make up the entire contract between the insurer and group policyholder. The Act does not mandate the documents that form a group health insurance contract.

3. Grace period provision: Group health insurance policies typically provide a grace period of at least 30 days for the payment of all renewal premiums. This provision is not required by the Act or Code, but if provided and policy lapses at end of grace period for nonpayment of premium, the Act and Code give the insurer the right to sue the policyholder to recover unpaid premium.

4. Misstatement of Age or Sex: Policies usually include a misstatement of age provision that allows the insurer the following 2 options if the insured age was misstated:
   - Adjusting the amount of benefits payment that would have been provided for the same premium at the correct age; or
   - Adjusting the amount of the premium payable to what should have been charged had the group person insured's age been stated correctly.

7. Continued

The Act and Code both state that a misstatement of age does not affect the validity of the group health insurance contract and allows for the adjustments. With respect to a misstatement of sex, the Act and Code do not address this issue. This is governed by the terms of the policy.

5. Termination of the policy: Defines the insurer's rights and liabilities to provide continued coverage when a group policy is terminated. The provisions are not Uniform, although most common law jurisdictions contain a provision that governs the continuation of coverage when a group health insurance contract terminates. E.g. in Ontario and Quebec. Therefore not required under the Act, but required under the Code.

6. Termination of an individual's coverage: Defines the circumstances under which an individual covered under the group policy coverage can terminated. E.g. ceases to be a member of the group or terminates employment. The Act and Code do not require policies to provide conversion privileges to these individuals, although many policies do provide them.

7. Pre-existing conditions provision: States which conditions are considered pre-existing and therefore not covered under the policy if not disclosed on application for insurance. Usually a pre-existing condition is defined as a condition for which an individual received medical care during the 3 months immediately prior to the effective date of the group coverage. The Act and Code prohibit insurers from excluding a pre-existing condition for coverage after the insured's coverage under the contract has been in force for 2 years, except if the policy explicitly names the disease or physical condition that is excluded, or in the case of fraud. The Act and Code do not permit a general pre-existing condition provision to exclude a disease or physical condition from coverage if the disease or condition was disclosed in the insurance application.

8. Physical examination provision: Grants the insurer the right to have the claimant examined by a doctor of the insurer's choice and expense. This is so that the insurer can gain information to use in validating the claim. In the case of LTD policies, this provision grants the insurer the right to require the disabled to undergo examinations at regular intervals. The Act does not address this provision, but the Code states that the insured person must submit to examination when insurer is entitled to it by nature of disability.

7. Continued

9. Coordination of benefits provision: Defines the plan that is the primary provider of benefits in cases in which the group insured has duplicate medical expense coverage. It is there to prevent a group insured from receiving benefit amounts that are greater than the amount of expenses incurred. The Act and Code provide guidelines for the primary provider to calculate the amount of benefits payable, following which the insured can submit to secondary carrier which would pay a maximum of the difference between the expenses incurred and the amount received from the primary plan.

(d) Describe approaches RSN can take to implement a self-insured arrangement and address the VP of Finance's concerns.

Commentary on Question:
Most candidates did not elaborate on their answers and thus did not achieve full credit.

To address the VP of Finance's concerns, RSN can:

1. Pre-fund the LTD plan through a separate vehicle such as a Trust. This way they can set minimum funding requirements based on sound actuarial principles. It provides a level of benefit security as the fund cannot revert back to the employer and must be used for providing the LTD benefits, which would be important during potential bankruptcy proceedings. However, it does not address the VP's concern for catastrophic plan costs.

2. Adopt a stop-loss feature, where total costs beyond a certain threshold, or where costs are insured after an extremely long elimination period. This addresses catastrophic plan cost concerns since the insurance can reduce the volatility of LTD plan costs, and may also address benefit security – assuming that the insurer is financially secure (i.e. company maintains at least 150% of the MCCSR requirements, including 105% comprised of Tier 1 capital).

8. **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

3. Evaluate and recommend an employee benefit strategy.

Learning Outcomes:

(1c) Describe each of the coverages listed above.

(1d) Evaluate the potential financial, legal and moral risks associated with each coverage.

(3b) Evaluate the elements of cafeteria plan design, pricing and management.

(3c) Recommend an employee benefit strategy in light of an employer's objectives.

Sources:

Rosenbloom Ch. 7

Commentary on Question:

This question is looking for the key components of HDHP's, as well as comparing/contrasting HSA's and HRA's.

Solution:

(a) Define the key components of CDHP.

- High Deductible Health Plan
- Paired with a savings account (HRA or HSA)
- Tools to assist members with finding high quality providers at the lowest cost
- Communications program that encourages consumerism and healthy behaviors
- Health coach or consultant provided to assist members as needed
- Health professional to assist with management of chronic conditions

(b)

(i) Describe the characteristics of HRAs and HSAs.

(ii) Explain why certain attributes of HSAs make them more popular with employees than HRAs

8. **Continued**

(i) HRA's

- Set up by ER
- EE cannot contribute
- Does not require use of HDHP
- No federal income tax limits, ER may set limits
- Carryover at discretion of ER
- Not portable
- Used for qualified medical expenses and health insurance premiums
- EEs are not taxed on distributions

HSA's

- Must be used with an HDHP
- ER and EE can contribute
- Limits on EE contributions
- Carryover each year
- Portable
- Not used for insurance premiums except in special circumstances
- EE contributions tax deductible
- Earns interest, not taxable
- Distributions not taxed if used for qualified medical expenses, all other subject to 20% penalty and taxed

(ii) HSA's are preferred because they are portable, can carry over unused each year, EE's can contribute to them, they earn tax-free interest, and they can be used for non-medical expenses.

(c) Recommend a plan in which each of them should enroll based on the information above. Justify your answer.

Commentary on Question:
There were many candidates who recommended Plan B to Rose because she is a smoker and is more likely to have high claims. If adequate support is given for that recommendation, partial credit is given.

Blanche: Plan A – She is very healthy and low probability of incurring claims, HSA contributions will carryover each year and can grow savings for future claims or even retirement

Dorothy: Claims are $3,500
Plan A: expenses would be (3,000-1,500) + 500x20% = $1,600 OOP costs
Plan B: expenses would be (1,000 – 1,000) + 2,500x20% = $500 OOP costs
Recommend Plan B since OOP costs are lower for her

8. Continued

Rose: Plan A – currently she has very little medical expenses. Preventive care is covered under all plans, and she should see a doctor. She is a smoker and will eventually likely have higher claims. The HSA rollover amounts will allow her to build up money to pay for those future claims.

9. 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:

(1c) Describe each of the coverages listed above.

(1d) Evaluate the potential financial, legal and moral risks associated with each coverage.

(2e) Identify critical metrics to evaluate actual vs. expected results.

(2f) Describe the product development process including risks and opportunities to be considered during the process.

Sources:

Bluhm Ch 35 Estimating Dental Claims Costs

Bluhm ch 8 Dental Benefits in the US

Commentary on Question:

In general, candidates did well with this question. However, some candidates only provided list responses for (a) and (b), but the question asked for a description in order to receive full marks. Some candidates only provided a counterproposal for (d) when the question asked for next steps in order to make a counterproposal.

Solution:

(a) Describe common provisions aimed at limiting anti-selection in dental plans.

- Exclusions: Excludes payment for elective (non-essential) procedures or procedures covered elsewhere. Examples include cosmetic treatments, experimental treatments, and services related to on-the-job accidents
- Pre-existing conditions limitations/Waiting: Most plans do not cover any charges incurred before a covered person was insured, including not covering the replacement of certain prosthetic devices implemented before the covered person was insured
- Benefits after insurance ends: Payment for charges after termination is often limited in scope and must be completed within 31 days

9. Continued

- Benefit provisions: Deductibles, coinsurance, copayments, and annual maximums limit the amount of services covered

(b) List common underwriting and rating parameters for group dental coverage, and describe considerations in using each.

- Group Size: Smaller groups are typically rated higher, and more credibility is given to experience with larger groups
- Eligible individuals: Some plans cover spouses and dependents, while others are employees only
- Participation: Plans typically include minimum participation requirements, anti-selection increases as participation declines
- Employer Contributions: Non-voluntary plans require a minimum contribution level of 50%, plans that cover 100% of premiums are typically given a rate discount
- Demographics: Groups with more females typically receive rate loads. Also important is geographic area and industry. Unions typically have higher utilization.
- Waiting and Deferral Periods: To limit anti-selection, there is typically a waiting period or limited coverage of certain

(c) Evaluate both the favorable and unfavorable impacts the proposed changes would have on Mission's costs.

- Unfavorable:
  - Union groups are typically more aware of benefits, so announcement of a new benefit will likely increase utilization, which increases the total costs
  - Ignoring utilization, removing deductible and cost-sharing are benefit increases, which will increase total costs
  - In addition, removing deductible and cost-sharing are likely to increase utilization, which will increase total costs
  - Adding orthodontia will increase total
  - Making the plan contributory will increase anti-selection and would increase costs on a PMPM basis
- Favorable
  - However, Mission now covers only 70% of associated claims and expenses so Missions costs will reduce
  - Making the plan contributory may reduce total costs because of lower participation percent

(d) Recommend next steps to enable Mission to make a counterproposal.

9. Continued

Recommend next steps:

- Look at historical experience costs by category
  - Trend
  - Utilization
  - Claims distribution per rating parameter (maximum, deductible)
- Evaluate costs for each of the parameters requested separately costs by category
  - Deductible (the elimination of the ded would increase costs)
  - Coinsurance levels (increasing coins levels,
  - Adding orthodontics
- Make scenarios on the employee contribution level with different levels of participation and show the cost.
- Come up with alternative plan designs parameters that would mitigate the costs (identify which) and answer the needs of the employer and union.

10. **Learning Objectives:**

3. Evaluate and recommend an employee benefit strategy.

Learning Outcomes:

(3a) Describe employer's rationale and strategies for offering employee benefit plans.

(3b) Evaluate the elements of cafeteria plan design, pricing and management.

(3c) Recommend an employee benefit strategy in light of an employer's objectives

Sources:

The Handbook of Employee Benefits, Chapter 2

The Handbook of Employee Benefits, Chapter 18

Canadian Handbook of Flexible Benefits, Chapter 16

Solution:

(a) Explain why organizations use an organized system for classifying and analyzing risks to evaluate employee benefits strategies.

- Employee Benefits are viewed as a significant element in total compensation by employees and thus should be planned and organized to be as effective in meeting employees needs
- Employee benefits are a large part of labor costs and thus effective planning can avoid waste and help control employer costs
- Employee Benefits may have been adopted on a piecemeal basis, and thus should be periodically reviewed to identify overlaps and gaps
- Changes in tax laws, regulations, and economic climate occur and thus it is important to use a systematic approach to plan benefits to keep them current, cost effective, and compliant

(b) Identify considerations in establishing an Employer's Total Compensation Policy.

- General compensation policy in line with industry, community, or both.
- Type of industry and type of organization (mature industrial, nonprofit, sales, etc)
- Balance between cash and non-cash compensation and short-term versus long-term compensation
- Balance between compensation/service-oriented and benefit/need-oriented

10. Continued

(c) List considerations used in analyzing the benefits presently available at Company ABC and explain the rationale for reviewing these considerations.

- Outline the different types of benefits
  i. To ensure the coverage is for services needed by the employees
- Determine levels of benefits
  i. If the benefits are too rich, then could be too costly for value
  ii. If not rich, then of little value to the employee
- Consider probationary periods
  i. The longer the probationary period, the greater the exposure of employees and others to a loss not covered by the plan
  ii. Helps manage the loss exposures of the plan
- Determine eligibility requirements
  i. Cover appropriate population (ex: retirees, actives, etc)
  ii. The greater covered, the greater the cost
- Determine contribution requirements
  i. Contributions can impact participation and how well the plan meets the needs of the employee group as a whole
  ii. Trade-off on cost of employer and participation of employees
- Determine flexibility available
  i. The more flexibility employees have the more likely the benefit will meet their needs
  ii. Too much flexibility and employees may misperceive or not understand their needs
- Consider bundling products
  i. Lowers costs by combining predictable benefits with less predictable benefits

(d) Describe the advantages of voluntary benefits.

- Employer Perspective
  i. Can offer more benefits without significant added cost to employer
  ii. Can supplement or replace employer sponsored benefits that have been reduced or eliminated
  iii. Can act as a recruitment or retention tool
  iv. Employer could only pay for administrative costs
  v. Can use as incentive by providing benefits to employees that meet performace targets
  vi. Can offer some benefits to a specific subset of employees (e.g. vision)

10. Continued

- Employee Perspective
  i. Benefits are generally portable
  ii. Benefits are generally cheaper under group plans vs individual plans
  iii. Benefits may have tax advantages

(e) Explain how Company ABC can control adverse selection in choosing its voluntary benefits.

- Limit the frequency of choice
  - The longer the period of coverage the more difficult it is for the employee to predict expenses or influence the timing of incurring expenses
- Limit the degree of change
  - Makes it difficult for an employee to make makor changes based on knowledge of upcoming expenses
- Level the spread between options
  - Promotes a larger covered employee group, thereby spreading the financial risk over a wider population
- Group certain coverages together
  - Reduced employee's ability to predict specific benefit plan utilization
- Delay full payment
  - Prevent a "windfall" accruing to employees included to move in and out of coverage
- Offer a health spending account
  - Reduces insurance element from these types of elections (thereby fixing the benefit cost)
- Maintain parallel plan design
  - Consistency in plan option design helps to avoid differences in coverage that employees can manipulate
- Test the program with employees
  - Testing may bring to light potential weaknesses in the design that later could produce adverse selection
- Add/increase participation requirements
  - Provides a better mix of healthy vs unhealthy insured's

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

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

Learning Outcomes:
(2d) Recommend a manual rate.

Sources:
Group Insurance, Bloom, Chapter 5 and Chapter 34

Commentary on Question:
This question was testing candidates understanding of some basic disability provisions typically found in policies, and to apply some of those concepts while calculating disability claims.

Solution:
(a)

(i) Define the any occupation definition of disability.

(ii) Define the own occupation definition of disability.

(iii) Explain how and why insurers use these definitions in combination in a policy.

Commentary on Question:
In general, candidates performed very well on section (a).

(i) Disability defined as the inability to perform the duties of any job

(ii) An insurance policy that covers individuals who become disabled and are unable to perform the duties that they have been trained to perform.

(iii) Typically, an insurer will use "own occupation" for a set time period, and then enforce the "any occupation" provision, which is more restrictive. This accomplishes the following:

11. Continued

- Keeps claim costs down because fewer qualify
- Prevents malingering with less severe disabilities
- During the "own occupation" elimination period, provides a time period for training for another job

(b) Define each of the following LTD benefit provisions and assess how each incents a change in claimants' behavior:

(i) Elimination period

(ii) Benefit period

(iii) Benefit amounts

(iv) Offsets for other sources of income

(v) Pre-existing condition exclusion

Commentary on Question:
In general, candidates also performed well for section (b).

(i) Elimination Period: A period of time that covered employees must be disabled before they are eligible to collect disability income benefits...often 3-6 months. This reduces the costs of the program by eliminating less severe claims

(ii) Benefit Period: An insurer will establish a fixed time period over which benefits are paid. Typically 12 or 24 months, or to age 65. A shorter benefit period just eliminates claims cost, but doesn't actually alter behavior.

(iii) Benefit Amounts: Monthly benefits are typically equal to a defined percentage of pre-disability earnings. A lower percentage of income replacement will incent more people to return to work faster.

(iv) Offsets for other sources of income: The LTD benefit is usually offset by income from other sources. This ensures that the sum of disability income does not exceed pre-disability earnings. Examples of offsets include Social Security, worker's compensation, or part-time work. Depending on the offset method, insureds may be dis-incentivized to seek part time work.

(v) Pre-existing condition exclusion: The plan would not pay benefits for conditions that already exist. For instance, a plan may not pay for disabilities during the first 12 months of the policy for conditions which manifested themselves within 3 to 12 months prior to the issuance of the policy. This reduces anti-selection in the plan.

11. Continued

(c) Calculate the expected claim payments for each of the first three years since disability. Show your work.

Commentary on Question:
Candidates were more challenged in this section. It was common for candidates to not apply the elimination period in Year 1 claims. It was even more common for candidates to not correctly apply the implication of "own occupation" in Year 3 claims.

Number disabled in year 1 = 10,000 x .005 = 50
Benefit payments = $200,000 x 60% = $120,000

Determine 3 years of claims for the cohort of 50 disableds:

Year 1 claims: *due to elimination period, claims occur for only half the year…*
50 disables x $120,000 x .5 (half a year) = $3,000,000
Year 2 claims: *no more elimination period; 84% remain disable for more than 12 months*
50 disableds x 84% x 120,000 = $5,040,000
Year 3 claims: *70% remain disabled for more than 24 months; also, any occupation definition starts half way through year since that point is 24 months from beginning of disability payments, so need to apply 38% halfway through year. Therefore there are two components to year 3 claims…*
Payments for months 24-30 = 50 x 70% x $120,000 x .5 = $2,100,000
Payments for months 30-36 = 50 x 70% x 38% x $120,000 x .5 = $798,000
Total Year 3 claims = $2,100,000 + $798,000 = $2, 898,000

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.

Sources:
Group Ins 6th Ch 9 - Prescription Drug Benefits in the US

ASOP No. 23

Commentary on Question:
Commentary listed underneath question component.

Solution:
(a) List and describe different prescription drug coverage types that are typically available.

Commentary on Question:
Most candidates were successful in listing and describing both types of coverage. Those that were unsuccessful described specific benefit designs instead of the coverage types.

1. Drug Card Program
   - Not integrated with medical benefits
   - Self-contained, often administered by a PBM
   - Benefits obtained through the use of a card
   - Can have broad or narrow networks
2. Major Medical Integrated
   - Integrated with medical benefits – under same deductible and MOOP
   - Common with HDHPs

12. Continued

(b) List and describe different formulary options that are available for prescription drug plans.

Commentary on Question:
Most candidates were successful in listing and describing the three formulary options. Those that were unsuccessful focused solely on the benefit designs of a tiered formulary.

1. Closed formulary
   - only covers drugs on the formulary
   - must have process to allow for coverage of non-formulary drugs based on medical necessity
2. Open formulary
   - Typically covers all drugs
   - Usually affects the cost of the drug only based on copays or coinsurance
3. Tiered Formulary
   - More than one cost sharing tier
   - Most are open, but can be closed

(c) Explain how ASOP 23 applies to this situation.

Commentary on Question:
Candidates that were most successful covered each of the main points covered in ASOP 23 with explanations. Most candidates focused solely on the details of a single part of ASOP 23 and did not discuss it in its entirety.

1. Selection of data
   - consider the scope of the assignment and the intended use of the analysis being performed in order to determine the nature of the data needed and the number of alternative data sets or data sources

2. Reliance on Data Supplied by Others:
   - accuracy and comprehensiveness of data supplied by others are the other's responsibility
   - subject to the guidance in section 3.5
   - reliance on data from others should be disclosed

3. Reliance on Other Information Relevant to the Use of Data
   - may rely on such information supplied by another, unless apparent to the actuary during the time of the assignment that the information contains material errors or is otherwise unreliable

12. Continued

4. Review of Data
   a. Data Definitions
      - Make reasonable effort to define of each element in the studies
   b. Identify Questionable Data Values
      - data values that are materially questionable or relationships materially inconsistent
      - questionable or inconsistent data values: if possible material effect on the analysis, the actuary should consider further steps, when practical, to improve the quality of the data.
   c. Review of Prior Data
      - If similar work has been previously recently, review the current data for consistency with the data used in the prior analysis.
      - If no prior data, should consider requesting the prior data.
      - If no review, it should be disclosed.

5. Limitation of the Actuary's Responsibility: actuary does not have to :
   - Determine if the data from others is falsified or intentionally misleading
   - Develop add'l data solely for the purpose of searching for questionable or inconsistent data.
   - Audit the data

6. Use of Data: professional judgment as to if the data is :
   - sufficient quality to perform the analysis;
   - require enhancement before the analysis or needs to be adjusted for judgmental or assumptions to perform the analysis. If data with adjustments may cause material may cause material bias or uncertainty, it may be disclosed
   - contains material defects, the actuary should determine nature of extent and checking before doing the analysis.
   - Is so inadequate, actuary should obtain other data or decline to complete the analysis.

7. Documentation: comply with the requirements of ASOP No. 41, *Actuarial Communications*,
   - process to evaluate the data, including the review or consideration of prior data
   - description of any material defects
   - description of any adjustments or modifications made to the data, including their rationale
   - other documentation necessary to comply

12. Continued

(d) Calculate the expected utilization and plan cost, both by tier and in total, for 2015 for the proposed benefits. Show your work.

Commentary on Question:
Most candidates were successful in understanding and applying the concepts of the question. However, the most common error was applying the trend incorrectly.

Tier	(Step 1) Trend & Distribute Utilization	(Step 2) Trend & Distribute Cost
1	900,000 * (1.02)^2 * 0.70 = 655,452	$45,000,000 * (1.02)^2 * (1.1)^2 * 0.45 = $25,492,401
2	900,000 * (1.02)^2 * 0.15 = 140,454	$45,000,000 * (1.02)^2 * (1.1)^2 * 0.20 = $11,329,956
3	900,000 * (1.02)^2 * 0.10 = 93,636	$45,000,000 * (1.02)^2 * (1.1)^2 * 0.20 = $11,329,956
4	900,000 * (1.02)^2 * 0.05 + 100,000 * (1.04)^2 * 1.00 = 154,978	$45,000,000 * (1.02)^2 * (1.1)^2 * 0.15 + $15,000,000 * (1.04)^2 * (1.25)^2 * 1.00 = $33,847,467
Total	*SUM (Tiers 1-4) = 1,044,520*	*SUM (Tiers 1-4) = $81,999,780*
Tier	**(Step 3) Calculate Member Cost**	**(Step 4) Calculate Plan Cost**
1	655,452 * $10 = $6,554,520	$25,492,401 - $6,554,520 = $18,937,881
2	140,454 * $25 = $3,511,350	$11,329,956 - $3,511,350 = $7,818,606
3	93,636 * $40 = $3,745,440	$11,329,956 - $3,745,440 = $7,584,516
4	$33,847,467 * 0.25 = $8,461,866.75	$33,847,467 - $8,461,866.75 = $25,385,600.25
Total	*SUM (Tiers 1-4) = $22,273,176.75*	*SUM (Tiers 1-4) = $59,726,603.25*

13. Learning Objectives:

2. The candidate will understand the concepts of prospective and retrospective experience rating concepts.

Sources:
Bluhm Ch. 37

Commentary on Question:
Commentary listed underneath question component.

Solution:

(a) Define prospective experience rating and retrospective experience rating.

Commentary on Question:
Candidates receive 2 grading points for each definition, one grading point per item

Prospective rate calculations are

- the evaluation of past experience to predict the probable experience for a future rating period,
- leading to gross premium rates to be charged. The coverage period is most often (but by no means always) an upcoming policy year.

Retrospective rate calculations are

- the evaluation and measurement of financial experience for a past period of time, usually a contract year,
- determined in great part by the cost of providing insurance for that period to the policyholder.

(b) Define each component listed above with respect to retrospective experience rating.

Commentary on Question:
Candidates receive 1 grading points for each definition, no credit should be given for naming only as the items are named in the question, if more than one item in the definition one grading point can be given for each item, with maximum of 1 grading point per item

Prior Formula Balance carried forward - If the prior year's formula balance has not been eliminated, the remaining balance is usually carried forward into the next year's formula.

13. Continued

Premiums –
- the premium paid by the policyholder for the contract year,
- possibly adjusted with interest charges or credits for the timing of premium payments

Investment earnings on money held - the crediting of investment income earned on large balances held by the insurer on behalf of the policyholder needs to be considered

Claims charged –
- Determine the historical claims experience and
- any modifications needed for the claims experience

Expenses charged - Expenses for an insurance company are generally allocated to lines of business based upon corporate-wide expense studies.

Risk charge –
- This is a generic term that may be used to cover charges for a multitude of risks.
- Usually, however, it refers to the charge made by the insurer to cover the risk that the policyholder will leave the insurer in a loss position.

Rate stabilization reserve addition - Some carriers will try to reduce their risk of being in a deficit position by accumulating a portion of policyholder surplus in a reserve that can be used to offset experience fluctuations.

Profit - Most carriers are reluctant to show an explicit profit charge on experience exhibits which are shown to policyholders. Rather, profit margins are often built into other assumptions, such as expenses, risk charges, or even claims charged.

(c) Calculate the retrospective refund. Show your work.

Commentary on Question:
Candidates receive 2 grading points for the formula, 1 grading point for the appropriate values for revenues, and 1 grading point for the appropriate values for expenses

(Prior Formula Balance carried forward)
+ (Premiums)
+ (Investment earnings on money held)
– (Claims charged)
– (Expenses charged)
– (Risk charge)
– (Rate stabilization reserve addition)
– (Profit)

13. Continued

Add: Premiums: $500,000, Investment earnings on money held: $15,000, Prior Formula Balance carried forward: $75,000
Subtract: Claims charged: $475,000, Expenses charged: $50,000, Risk charge: $20,000, Rate stabilization reserve addition: $10,000, Profit: $30,000
Answer: $5,000