GH CORC Model Solutions
Fall 2015

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.

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

(5g) Explain fair value accounting principles and describe International Accounting Standards (IAS)

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

Sources:

GHC-615-13 "International Financial Reporting Standard (IFRS) 4"

GHC-640-15 "CIA Research Paper IFRS Disclosure Requirements for Life Insurers"

GHC-641-15 "Practical Guide to IFRS Revised Exposure Draft Will Significantly Change Accounting For insurance Contracts"

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) Describe the disclosure requirements pertaining to insurance risk.

Commentary on Question:
Many candidates addressed disclosure requirements for actuaries as opposed to those in regards to insurance risk (IFRS 4: 39a, 39c, 39d, 39e). As such, many candidates missed the key points of the question.

1. **Continued**

Risk objectives and policies for managing risk. Examples of insurance risk include:

- Longevity risk
- Mortality/morbidity risk
- Market risk
- Persistency risk
- Expense risk
- Product design and pricing risk, and
- Catastrophe

Additional information about the above risks:

- Sensitivities (before and after risk mitigation by reinsurance)
  - Analysis can be qualitative or quantitative
  - An analysis to show how profit/loss and equity would have been affected if changes in the relevant risk variable that were reasonably possible at the end of the reporting period had occurred
  - The methods and assumptions used in preparing the sensitivity analysis
  - Any changes from the previous period in the methods and assumptions
  - Relevant qualitative information about the sensitivity, and information about those terms and conditions of insurance contracts that have material effect on the amount, timing and uncertainty of the insurer's future cash flow
- Concentration
  - Describe the concentrations of insurance risk
  - Describe how management determines concentrations and a description of shared characteristic that identifies each concentration (e.g., type of insured event, geographical area, or currency)
- Claims
  - A comparison of actual and expected claims experience (i.e., claims development); comparison should go back to the period when the earliest material claims arose for which there is still uncertainty about the amount and timing of the claims payments, but limited to 10 years

Information about credit risk, market risk, liquidity risk if contracts were within scope of IFRS 7

Information about exposures to market risk arising from embedded derivatives

1. Continued

(b) The discount rate used to determine the insurance contract liability is 5.00%. However, you independently calculated a discount rate of 5.15%. After discussing this with your colleague, you discover that the two of you used different methods.

(i) Describe the two approaches to determining the discount rate and explain why they may not generate the same result in practice.

(ii) Last year, the insurance contract liability was valued using a discount rate of 4.00%. Explain the impact on the financial statements of the change in this assumption.

Commentary on Question:
Candidates were generally successful in this section.

(i) “Top Down” approach uses a replicating portfolio to identify the discount rate. The actuary then adjusts the base discount rate to reflect credit risk, duration mismatch, etc. Fewer adjustments are required if the replicating portfolio is similar to the actual liability.

- For debt instruments, objective is to start from total bond yields and eliminate factors not relevant to insurance contract (e.g. expected credit losses, market risk premium)
- For equity investments, more significant adjustments required due to greater differences in cash flow characteristics

“Bottom Up” approach starts with the risk free rate of return. The actuary then adjusts the rate by adding a risk premium on top of the risk free rate of return.

Theoretically both approaches should lead to the same outcome, but this is unlikely in practice due to the existence of components in asset yields other than credit and illiquidity (e.g. as a result of market inefficiency)

(ii) Higher discount rate will result in a lower liability and the gain would be reflected in Other Comprehensive Income. Disclosures required on impact to shareholder income, income statement and balance sheet.

2. 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

Sources:

Canadian Drug Insurance Pooling Corporation presentation – Canadian life and health insurance industry agreement to protect Canadians' drug coverage (September 2012)

Commentary on Question:

Candidates generally understood the concepts and scored well on the question.

Solution:

(a) Describe the key requirements of this agreement.

- Participating insurers must place all large drug claims, from all of their fully-insured group business, in a self-administered pool. No ability to opt out for fully insured plan sponsors.
- Participating insurers cannot experience rate based on the number or value of pooled drug claims for that particular plan sponsor.
- Participating insurers cannot experience rate and price a bid for new business from another participating insurer based on that plan sponsor's pooled drug claims.

(b) Describe the advantages of this agreement for eligible plan sponsors.

- The industry agreement is meant to address concerns for eligible groups by insulating eligible groups from the full financial impact of rare, but recurring, high cost drug claims.
- The arrangement is particularly beneficial to small and medium-sized businesses, which do not typically have the financial resources to absorb a significant increase in premiums. This also protects from any financial implication on large recurring claims (i.e. high cost drugs / emergency out of country)
- The arrangement also allows employers more ability to shop around for a new provider at reasonable prices, even if they experience a recurring high cost drug claim.

2. Continued

(c) Fairfield is considering the following three plan types:

(i) Fully insured, non-refund

(ii) Administrative Services Only

(iii) Administrative Services Only with a $35,000 stop loss pooling arrangement

Calculate the 2013, 2014 and 2015 claims amount that each applicable party is responsible for under each plan type. Show your work.

(i)

Insured, Non-Refund	EP3 Pool	Insurer	Plan Sponsor
2013	0	75,000	0
2014	$100,000	25,000 + 45,000	0
2015	0	18,000 + 75,000	0

(ii)

ASO	EP3 Pool	Insurer	Plan Sponsor
2013	0	0	75,000
2014	0	0	125,000 + 45,000
2015	0	0	18,000 + 75,000

(iii)

ASO with Pooling	EP3 Pool	Insurer	Plan Sponsor
2013	0	40,000	35,000
2014	0	90,000 + 10,000	35,000 + 35,000
2015	0	40,000	18,000 + 35,000

(d) Outline the considerations that Fairfield should address when choosing a plan type.

Fairfield should consider the following:

- The company's risk tolerance – how much is the company willing to be exposed to catastrophic claims, versus the cost of fully insured arrangement and pooling arrangement
- Fully insured plan with EP3 coverage offers most protection and may also provide most flexibility moving carriers with poor claims experience, but is likely the most costly approach
- Financial position of the company and the need for cash flow stability is also an important consideration

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.

(7e) Apply actuarial standards of practice to retiree benefit plans.

Sources:

Case study

GHC-633-14: CIA Standards of Practice - Practice-Specific Standards for Post-Employment Benefit Plans

GHC-632-13: IAS19

CSOP 6000

Commentary on Question:

Candidates had mixed levels of success. Candidates were required to pull together data from various portions of the case study to review assumptions and many candidates did not specifically analyze the assumptions based on the data available.

Solution:

(a) The last membership data was provided in September 2012. The client has advised that due to recent HR system changes, it will be more challenging to gather data this year and he has requested that you continue to use data from the last valuation.

Draft a response to the client.

I do not recommend we extrapolate the data beyond 3 years because:

- The demographics over time can deviate from the actual make-up of the employee population
- Significant changes in populations can occur over a 3 year period
- Standard of Practice provide guidance that 3 years is a reasonable period

3. Continued

(b) You and the client are reviewing the applicable assumptions.

(i) Define the key demographic assumptions that should be considered.

(ii) The client notes that the current trend rate assumption for extended health care is set at 8% for three years, then grading down by 0.5% per year to an ultimate rate of 5%. He has suggested using a flat trend rate such as 6% annually.

(1) Critique the client's suggestion.

(2) Propose a revised trend rate assumption for the new valuation, based on claims experience from 2012 to 2014. Show your work and justify your response.

(iii) The client inquires why the discount rate does not match the discount rate that the pension actuary is proposing.

(1) Describe how the discount rate is determined.

(2) Compare and contrast the expected percentage change in pension, extended healthcare, and life insurance liabilities resulting from a 1% increase in the discount rate.

(i)

- Mortality
- Turnover, termination, withdrawal
- Disability
- Retirement
- % with dependents
- Member elections
- Medical claims rates

(ii)

(1)

- The Standard of Practice specifically refers to separate short- and long-term trend assumptions:
  - Short-term component based on recent claims experience
  - Long-term component based on general economic conditions, i.e. GDP growth

3. Continued

- The actuary should also determine the grade down period, and provide justification on the duration of the grade down period
- Based on the above, a flat rate would not be appropriate for the purposes of the valuation

(ii)

(2)

We should use retiree claims experience from the case study:

- In order to review the trend, we should review the change in cost on a per capita basis to remove effects of changes in membership
- The calculation of trend is shown below.

Calendar year	**2012**	**2013**	**2014**
Total paid claims over and under 65	504,000	545,000	620,000
Total headcount over and under 65			
Single	126	142	171
Family	149	158	179
Total headcount adjusted for family size of 2.0 per case study	424	458	529
Average claims per covered person	1,189	1,190	1,172
Annual trend		0%	-2%

- Recent experience suggests a flat short-term trend rate
- However, given the size of the group I do not feel the experience is entirely credible. Typically short-term trend rate assumptions are in the range of 8% to 12% so given the low recent trend I recommend using the low end of the range of 8%.
- The proposed short term trend should transition to a long-term rate of 4.5% over a grade down period of 15 years. This is based on a reasonable period of time to reach the long term rate based on GDP growth.

Comments: Candidates were not expected to come to the exact conclusion presented above. Points were given for the appropriate analysis and defending any reasonable proposal with regards to future trend rates. Candidates were given equal credit for either including or excluding pooled claims as arguments for both ways can be made.

3. Continued

(iii)

(1)

- Per IAS 19 discount rate should reflect the estimated timing and amount of benefit payments
- While both the pension and post-retirement benefits have streams of expected future payments, the amount of the benefits, timing of the benefits and how this benefit changes over time will differ, resulting in a different discount rate

(iii)

(2)

- The discount rate sensitivity is different among life benefit, extended health care and pension benefits for the following reasons:
  - Life insurance is a single payment at death so will have a very long duration
  - Extended healthcare benefits increase annually with trend/aging so they have a longer duration
  - Pension benefits are typically a flat monthly amount so have a shorter duration. Even for the Pension with cost of living adjustment, the annual adjustment is likely tied to CPI (round 2%) and would be smaller compared to healthcare trend/aging
  - Based on this, life insurance will have the highest % change, followed by extended health, then pension.

(c) The client confirms that the plan design has not changed since the last valuation. Based on the updated assumptions and membership data, the overall liability has increased by 15%. The client is very cost-conscious and is looking for ways to redesign the plan to reduce its liability.

(i) Calculate the retiree claims cost assumption for the 2016 calendar year using a three year average, based on the extended healthcare claims information provided. Assume a trend rate of 8% per year. Show your work.

(ii) Recommend a plan design to cap annual retiree claim costs at the current level. Justify your response.

(iii) Describe the impact on accounting disclosures of implementing this type of change.

3. Continued

Commentary on Question:
Pooled claims can be addressed in either fashion, remove claims but include premium charge or exclude premium charge but include claims for full credit.

(i) The claims details from Exhibit 5 of Another Day are used to determine claims cost. I have combined over- and under-65 data since not requesting info split. Since we need to determine the cost per retiree, there is no need for single/family ratio.

2012: ($427,000 + $77,000 - $12,000) / (71+55+116+33) x 1.12 x 1.055 x 1.08^4 = $2,876

2013: ($457,000 + $88,000 - $43,000) / (75+67+123+35) x 1.12 x 1.055 x 1.08^3 = $2,491

2014: ($507,000 + $113,000 - $35,000 - $5,000) / (87+84+133+46) x 1.12 x 1.055 x 1.08^2 = 2,284

Average of the 3 years:

$2,876 + $2,491 + $2,284 / 3 = **$2,550**

(ii) The employer can implement:

- Health care spending account of $2,550 per year
- Adjusting the employee cost sharing such that employer cost is fixed

(iii) A plan change of this nature will reduce the EHC actuarial liability, reduce the future service cost and interest cost, other things being equal. This change will be considered as a plan amendment, and should be recognized immediately as a past service cost in the current year P&L (Profit & Loss) under IAS 19R.

(d) List the required statements of opinion that an actuary should provide in the valuation report.

- Statement regarding membership data, usually "In my opinion, the membership data on which the valuation is based are sufficient and reliable for the purposes of the valuation."
- Statement regarding assumptions, usually "In my opinion, the assumptions are appropriate for the purpose of the valuation."
- Statement regarding methods, usually "In my opinion, the methods employed in the valuation are appropriate for the purpose of the valuation."
- Statement regarding conformity, usually "This report has been prepared, and my opinion given, in accordance with accepted actuarial practice in Canada."

4. **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:

Group Insurance Ch. 45

Analysis for Financial Management Ch. 4

GHC-620-13 Sources of Earnings Calculations Group Life and Health

Case study

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a)

(i) Construct the same size income statement for both years. Show your work.

(ii) Identify the drivers of the change in profit margin from 2013 to 2014.

(iii) Outline any additional adjustments that would make this analysis more robust.

Commentary on Question:

Overall, candidates did quite well on this question.
For Part (i), candidates must show at least one calculation/formula to demonstrate how the results are calculated.

4. Continued

For Part (ii), candidates were expected to come up with at least two reasons to be awarded full marks.
For Part (iii), candidates needed to outline the adjustments (not just list) to obtain full marks. Approximately four well justified alternatives were required for full marks.

(i)

		2014	2013
Revenue	Premiums	7,660 / 9,874 = 77.6%	76.5%
	Other	15.6%	13.3%
	Total operating revenue	93.2%	89.7%
	Net investment income	3.6%	5.8%
	Net realized gains (losses)	3.3%	4.5%
	Total revenue	9,874 / 9,874 = 100.0%	100.0%
Expenses	Benefit expense	5,193 / 9,874 = 52.6%	62.7%
	Commissions	11.6%	11.5%
	General and administrative	7.4%	6.2%
	Premium taxes	1.5%	1.5%
	Interest expense	0.5%	0.5%
	Amortization of other intangibles	3.0%	3.0%
	Total expenses	7,578 / 9,874 = 76.7%	85.4%
Income before income taxes		2,296 (Revenue – Expenses) / 9,874 = 23.3%	14.6%
Income taxes		1,251 / 9,874 = 12.7%	13.3%
Net income		1,045 / 9,874 = 10.6%	1.3%

(ii)

(1) Operating revenue is a higher proportion (versus investment earnings)
(2) Benefit expenses (or Total expenses) decreased by approximately 10%
(3) Increase in General and Admin expenses slightly offsets the expense decreases

(iii) Reinsurance:

- Remove reinsurance recoveries from revenue
- Include reinsurance premiums as benefit expense, recoveries as offsets to benefit expense

4. Continued

Commissions:

- Include commissions in revenues
- Include commissions in admin expenses

Investment income:

- Already excluded from operating revenue, so no additional adjustment required

ASO:

- ASO products can be analyzed separately from insured products

PMPM:

- Figures can be normalized on a PMPM basis

First Year vs Renewal Years:

- Reflects different pricing approaches

Benefit Options:

- Benefit options may be analyzed separately

(b)

(i) Describe when SOE analysis is used for group insurance.

(ii) Describe the general principle of SOE analysis, and outline the major steps in performing the analysis.

Commentary on Question:
SOE analysis may be used for both short and long duration benefits. The SOE methodology described in the syllabus is for short duration group insurance. Candidates were given marks either way. The solution below is for short term.

(i) Describe when SOE analysis is used for group insurance.

- The SOE analyse is used when we want to understand gains and losses by assumptions to identify which areas generate profit for the business.
- Typically, we compare the first year against the renewal to understand the effect of the new business on the book of business. We compare actual results against pricing or valuation assumptions.
- Long term benefits (LTD, Life waiver) driven by variance to valuation assumptions (CALM valuation).
- Short term benefits (medical, dental) driven by variance to pricing assumptions (simplifying approximation).

4. **Continued**

(ii) Describe the general principle of SOE analysis, and outline the major steps in performing the analysis.

SOE analysis is used to analyze sources of earning and to identify areas where actual results differ from expected.

Actual SOE = expected profits plus experience gains
1. Identify average expected pricing margin as a percent of premium for
- Commissions
- Premium taxes
- Expenses
- Standard risk/profit margins

2. Identify general pricing philosophy by policy period
- e.g. marketing discounts

3. Identify expected percentage gains for the various sources of earnings
- Net risk/profit charge
- Interest
- Fee income
- Commissions
- Expenses
- Premium tax

4. Apply pricing margins to actual calendar year premiums by policy period

5. Determine sources of earnings separately for first year and renewal periods

(c)

(i) Calculate the projected sustainable growth rate for 2015. Show your work.

(ii) Critique the 2015 budget.

Commentary on Question:
(i) Multiple calculation approaches for sustainable growth were accepted for this question. Following is one example.
(ii) Various critique responses were accepted. Below are the most common.

4. **Continued**

(i) Sustainable growth rate = g* = P x R x A x T
Where,
P = profit margin = 8%
R = retention rate = 1 - dividend payout ratio = 90%
A = asset turnover = sales/assets = 9,874/31,510 = 31.3%
T = assets-to-equity = assets/BOY equity = 31,510/9,812 = 3.21
g* = PRAT = 8% x 90% x 31.3% x 3.21 = 7.2%

(ii)

(1) Revenue growth from 2013 to 2014 was less than 5%, no reason to expect 2015 will be double prior experience.
(2) Projecting a growth rate greater than sustainable growth rate. One strategy to address projected growth rate above sustainable growth rate is to reduce payout ratio (not increase it); however, insurer is likely a large, mature firm that may be expected to pay dividends.
(3) 8% profit margin is lower than 2014 profit margin, but this is not necessarily a problem– there may be reasons why higher costs are expected.
(4) 2014 may not be the right starting point given the significant variability from 2013.
(5) Consider if other ratios should change as a result of given changes.

5. Learning Objectives:

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

Learning Outcomes:

(6b) Describe the major applicable laws and regulations and evaluate their impact.

Sources:

McKay Ch. 13

GHC-631-13 Protection of Personal Information Under Group Benefits Plans

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) Outline the intent of the legislation governing discrimination issues for Ontario employers.

Commentary on Question:
Candidates generally provided fair answers to this part of the question.

- ensure non-discrimination and equality
- ensure equal treatment with respect to employment opportunities.
- non-discrimination in benefits, pay equity, equal pay for equal work

(b) Identify potential discrimination concerns with your client's desired plan design, and propose alternatives that are in line with legislation. Justify your response.

Commentary on Question:
Candidates must indicate the area of discrimination, the reason why it is discrimination, and propose an alternative to address the discrimination. Additionally, candidates are awarded with full marks if any 4 of the following are included with the above noted detail.

- Age discrimination
  - Cannot terminate benefits prior to age 65
    - Termination age 65 or over is okay in ON
  - HSA contributions cannot vary by age
    - If you are trying to reward individuals that have been with the organization for a long time, suggest varying by service instead

5. Continued

- Gender discrimination
  - Basic life premiums (optional/voluntary life would be okay) – blend to a single rate
    - No actuarial basis for females to pay more than males
    - More typical to blend to a single rate
    - Optional/voluntary life are commonly split by age/gender
- Spousal eligibility discrimination
  - Cannot deny benefits to same-sex spouses
  - Should either deny benefits for all spouses or provide benefits for all spouses
- Benefits while on leave discrimination
  - Cannot differentiate between maternity leave and other types of leave
  - If do not want to provide benefits during parental leave, cannot provide benefits for any leave
  - ON does not allow change in employee contributions due to maternity leave
- Eligibility discrimination
  - CEO has ability to move employees into Class 1 at his/her discretion
  - Eligibility for benefit should be clearly defined and applied equally to all employees.

(c) Draft a statement to be included in the employee benefits handbook that outlines Pender's access to employees' personal enrollment and health information.

Commentary on Question:
A range of answers are considered acceptable for full marks. The following is a sample answer.

Your personal data is collected for the administration and management of the employee benefit program and only necessary data for such purposes will be collected.

While you are responsible for the accuracy of the data, we will be responsible for the safety and privacy of the data. We have an internal privacy policy to protect your personal data.

Your personal benefits information will not be disclosed to the employer except when essential to fulfill the purposes of the benefit program, such as planning for an employee's return to work from disability, administrating payroll deductions, certifying eligibility for a claim. Detailed medical or other personal information that is not essential to the specific purpose will not be disclosed.

5. Continued

When disclosing your personal benefits information to employer, we will adhere to any and all regulations and requirements. Your consent is required for us to disclose any information related to your claims to any third party.

If you have any questions regarding the above, you can contact our privacy department at privacy@company.com or call 1.800.123.4567.

6. Learning Objectives:

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

Learning Outcomes:

(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:

GHC-605-13 National Pharmacare Coverage

GHC-628-13 Quebec Act Respecting Prescription Drug Insurance

Mercer Communique: Passage of New Brunswick's Prescription and Catastrophic Drug Insurance Act

GHC-600-13 Benefits Legislation in Canada

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) Describe the sources of drug benefit coverage available to Canadians.

1. Private group insurance plan for active employees
   - Common for employers to provide group insurance plan to attract and retain employees
2. Private group insurance plan for retirees
   - For retention purposes, many employers provide post-retirement benefits to retain employees or reward long services
3. Provincial drug coverage for low income citizens or families facing catastrophic claims, or for seniors over age 65
   - e.g. Ontario's Trillium Plan, BC's Fair PharmaCare, QC's RAMQ
4. Private insurance plan for individuals
   - Gaining popularity in Canada (e.g. Manulife's Follow Me, Sun Life's Flexcare, etc.)

6. Continued

(b)

(i) List the four major areas of concern that a national pharmacare program should resolve.

(ii) Compare and contrast current provincial pharmacare programs in Nova Scotia, Quebec, and British Columbia, based on plan design.

Commentary on Question:
Many candidates listed out the Canada Health Act principles. If this was done – had to tie them to the 4 areas of concern to get credit for the question – as the question asked specifically about a national pharmacare program

Part (ii) – Candidates need a high level summary of the pharmacare programs in each of the provinces with correct information. Provide some examples of particulars of the programs. Don't need to list out everything – but sufficient to show the differences between the provincial programs, making sure what's listed is correct.

(i) Four major areas of concern:
- Inadequate drug coverage
- Runaway inflation in drug costs
- Balancing health care priorities, costs and benefits
- Long-term sustainability of public policy on pharmacare

(ii) Provincial pharmacare programs:
- Nova Scotia
  - Senior's plan: Optional pharmacare, 30% copay, $382 OOP max, Second payer if also covered under private plan – pharamacare pays if private OOP more than $806
  - Family plan: Optional pharmacare if not covered under private plan, 20% copay, Maximum deductible/Copay income-tested
- Quebec
  - RAMQ requires all residents to have prescription drug coverage
  - Public plan covers social assistance recipients, under 65 but not eligible for group plan, over 65 but not enrolled in a group plan
  - If employer offers any type of A&S coverage, must include prescription drugs
  - Group plans must provide benefits at least as generous as RAMQ

6. Continued

- British Columbia
  - Deductible/OOP maximum are income-tested and vary by year of birth (pre/post-1939)
  - Pre-1940: deductible 0%-2% of family income if over $50K. OOP max = 1.25%-3% of family income if over $50K
  - Post-1939: deductible 0%-3% of family income if over $30K. OOP maximum = 2%-4% of family income if over $30K
  - Reimbursement = 75% (pre-1940) and 70% (post-1939)

Key differences include: mandatory versus optional, copays and deductibles differ in amounts and approach (income tested versus same for everyone).

(c) Draft a detailed proposal to the federal government for a national pharmacare program including the following:

(i) Outline some of the issues in designing a national pharmacare program, based on the lessons learned from public and private sector health plans.

(ii) Propose plan design characteristics and outline how they would address the issues identified above.

(iii) Describe the impact of your proposed program on employer-sponsored plans.

(iv) Recommend whether the government should implement a national pharmacare program. Justify your response.

Commentary on Question:
Part(i)- a list from the source reading. Only need four of the points to get full credit and can be in own words that touches on some of the issues

Part(ii) – important is showing how the plan design characteristics impact the points identified in Part (i). Many candidates just listed plan design characteristics without tying back to part (i)

Part (iii) – need to describe what employers could experience with the national program in place.

Part(iv) – There is no right or wrong answer. Candidates can get full credit for a "Yes" or a "No". The key is the justification..

6. Continued

(i)

- Should a public plan be designed to compete with private offerings?
- Should the program be publicly funded, or should it mandate a minimum level of coverage under private plans and cover only uninsured individuals under the public scheme?
- Should the program be administered by a single fiscal intermediary or by one intermediary in specific geographical areas, or should there be competing drug plans providing the benefits?
- Should a public plan provide a floor plan that could be topped up by private coverage?
- Should a public plan cover only catastrophic claims?
- What features can be built into the proposed public plan so that all players have incentives to use public resources wisely?

(ii)

Characteristics	Impact on program and/or individuals
Mandatory Providing catastrophic coverage Requirements for private plans Interaction with private plans (pharmacare second payer)	Reduce anti-selection concerns
Premiums (could have exemptions or income testing)	Helps to cover cost of program
Deductibles or coinsurance	Share cost with individuals. Would increase OOP costs
Maximum initial supply	Reduce waste if drug is not effective
Minimum supply for maintenance medication	Reduce dispensing fees, improve compliance
Annual lifetime limits	Caps program liability
OOP maximums	Caps individual costs
Have a formulary	Ensures plan covers drugs that are safe, efficient, and cost-effective

6. Continued

(iii)

- There would be increased cost to employers
- Employers may choose to discontinue coverage altogether rather than adhere to minimum standards?
- Employers could experience additional administration costs
- There will be some lost control over drug management (e.g. managed formularies)
- Could increase anti-selection
- Would want to implement pooling mechanism

(iv) If answer is "Yes" – some justification points are:

- Minimum standard of coverage for all residents
- Cost sharing between public and private plans
- Potential for more efficient management of formularies (greater scope and scale)
- Consistent with Canada Health Act principles

If answer is "No" – some justification points are:

- Likely increased cost to employers (claims plus additional admin)
- Increased cost to government
- Limited data/models available to assess impact of introducing such a program

7. 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-621-13: Canadian Life and Health Insurance Association: Guideline G3, Group Life and Health Insurance

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

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) Draft an email to Humboldt briefly describing which insurer (current versus go-forward) is responsible for providing each benefit to the disabled member, and which party is responsible for payment of premiums. State your assumptions.

Commentary on Question:

In general, candidates were successful in this section, however, were expected to address each benefit. Should Waiver of Premium be described for any benefit, its assumption would need to be explicitly stated. Although a draft email is expected, candidates can achieve full credit by mapping out the emails content in bullet point form.

To: Humboldt VP HR
From: SOA Exam Candidate

Below please find a summary chart of the various responsibilities by benefit, assuming Waiver of Premium (WOP) for Basic Life and AD&D, in a carrier transition:

7. Continued

<table>
<tr><th>Benefit</th><th>Responsibility to Pay Claims</th><th>Responsibility to Pay Premiums</th></tr>
<tr><td>Basic Life Insurance</td><td>Old insurer</td><td>No premium is required under WoP</td></tr>
<tr><td>Basic AD&D</td><td>Old insurer</td><td>No premium is required under WoP</td></tr>
<tr><td>Short Term Disability</td><td>Benefits not available for someone on LTD</td><td>Benefits not available for someone on LTD</td></tr>
<tr><td>Long Term Disability</td><td>Old insurer</td><td>No premium is required when employee on disability</td></tr>
<tr><td>Extended Health Care</td><td rowspan="3">Depending on the claims incurred date. Claims incurred prior to the transfer date are to be paid by the old insurer. Claims incurred on or after the transfer date are to be paid by the new insurer.</td><td rowspan="2">Client to new insurer</td></tr>
<tr><td>Dental</td></tr>
<tr><td>Health Spending Account</td><td>Client to new insurer (not a premium but claims plus expenses only)</td></tr>
</table>

Please let me know if you have any questions.

Thanks

(b) Assume both insurers would agree to take part in the arbitration process under CLHIA Guidelines to settle the dispute.

(i) Describe the arbitration process.

(ii) Describe the order and amounts of payments made between the current insurer, the go-forward insurer and the beneficiary assuming that:

(1) The current carrier was found liable for claim payment.

(2) The go-forward carrier was found liable for claim payment.

Commentary on Question:
Candidates should be able to describe the arbitration process and the potential liability for each of the insurers at each step.

7. Continued

(i)

- Signing of an agreement between both carriers that wish to undergo an arbitration, with a 30 day notice required for withdrawal
- One of the carriers, generally the new carrier, would immediately pay, or recognize the liability associated with the claimant, and would be reimbursed 50% by the other carrier
- The terms of the payment or recognition of liability would be based on the old carrier's policy terms
- A panel of three arbitrators would be selected, whom the carriers would agree to, and whom will review the Submission and Rebuttal of each party
- Arbitrators would set an arbitration proceeding and will determine the extent of the arbitration proceeding (i.e. whether to involve witnesses, formal inquiry, etc.)

(ii)

- The new carrier would pay immediately in either case
- The old carrier would reimburse the new carrier 50%
- All expenses incurred would be covered by the respective carrier, however, shared expenses will split 50/50

1) The old carrier would need to reimburse the new carrier the remaining 50%, along with interest from the date of the initial payment to the claimant at a rate equal to what the old carrier would have paid as interest to the claimant
2) The new carrier would need to return the old carrier's 50% payment, along with interest from the date of the initial payment to the claimant at a rate equal to what the new carrier would have paid as interest to the claimant

(c)

(i) Humboldt is concerned about the accuracy of employees' dates of birth in their data files. Describe the potential consequences of misstatement of age on a group insurance application.

(ii) Humboldt has also purchased individual coverage for certain employees. Describe the different renewal provisions under individual health policies.

Commentary on Question:
Candidates generally were successful in this section. Candidates were expected to recall from the source material.

7. **Continued**

(i) The go-forward insurer has the right to:

- Adjust the premium based on the true age of each insured employee
- Adjust the amount of benefits payable to what would have been provided for the same premium at the correct age
- Refuse to insure certain employees if their true age is over the termination age limit for a particular benefit (for example, age 65 for LTD benefit)
- Does not affect the validity of the group contract

(ii) Cancellable policy
The insurer has the right to terminate the policy at any time, for any reason, by notifying the insured. Excess premium must be refunded to the insured.

Optionally renewable policy
The insurer has the right to refuse to renew a policy on a date specified in the policy which is usually the anniversary date or any premium due date.

Conditionally renewable policy
The insurer has the right to refuse to renewal a policy at the end of a premium paying period based on one or more specific reasons stated in the policy.

Guaranteed renewable policy
The insurer is required to renew the policy for as long as the premium is paid, until the insured reaches the age limit. The insurer can increase the premium rate.

Noncancellable policy
The insurer is required to renew the policy, for as long as the premium is paid, until the insured reaches the age limit. The insurer cannot increase the premium rate for any reason

8. Learning Objectives:

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

Learning Outcomes:

(2c) Calculate and recommend assumptions.

(2d) Calculate and recommend a manual rate.

(2g) Apply actuarial standard of practice in evaluating and projecting claim data.

Sources:

Group Insurance, Chapters 31 and 33, ASOP 23, and Case Study

Commentary on Question:

Candidates must understand ASOP 23. Candidates must apply that knowledge and both critique a rating methodology AND recommend a preferred approach. The critique and recommendation should be separate items.

Solution:

(a) Describe the application of ASOP 23 to the rate development.

ASOP 23 is about data quality. When selecting data for the rate development the actuary should:

- Consider the data elements needed
- Decide if the data is appropriate for the analysis
- Review reasonableness, comprehensiveness, and consistency of the data
- Understand material limitations of the data
- Consider alternative data sources – cost and benefits of the data, along with feasibility of obtaining the data in a reasonable time frame
- Describe sampling methods, if used to collect the data
- Disclose reliance on data provided by others
- Review the data for any defects

(b) Critique the manual rate methodology suggested and recommend a preferred approach. Justify your response.

Commentary on Question:

Critique should be listed separately from the recommendation, or the recommendations should be clearly stated within the critique.

8. **Continued**

Critique:

- Paid claims were not completed which will understate actual costs.
- Did not adjust for difference in HMO and PPO data, such as provider network, utilization management, demographics, and benefits.
- A full calendar year was not used, which introduces seasonality issues and deductible/out-of-pocket maximum accumulator issues.
- Individual experience is not necessarily representative of small group.
- No demographic adjustments were made for assumed changes in the population.
- Trend only included unit cost changes, not utilization changes.

Recommendation:

- Use full year Jan 2014 – Dec 2014
- Use small group
- Use incurred claims
- Use unit cost and utilization trends
- Can use HMO and PPO, but adjust for differences between the two
- Apply demographic adjustments to reflect expected population

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:

(2c) Calculate and recommend assumptions.

(2d) Calculate and recommend a manual rate.

Sources:

Case Study, Bluhm Chapters 33 and 38

Commentary on Question:

This question asks candidates to calculate and recommend a manual rate for each of the coverages described. Candidates had to use formulas from the text and information provided in the question and case study to calculate the manual rate.

Solution:

(a) Calculate for each service category:

(i) Expected annual utilization per 1,000 members in 2016

(ii) Allowed cost per service in 2016

Show your work.

Commentary on Question:

Part a required calculating trends based on the case study and trending two years forward. Some candidates used the Individual table from the case study instead of the Small Group table. Candidates also missed points if they didn't use the two year trend calculated from the case study.

2016 values

Util/1000

Inpatient:

Trend rate to use: 0% (no incr. over 2014)

Formula: 2016 Util = 2014 Util * (1+Trend)^2

2016 = 281 x (1 + 0%)^2 = 281

Outpatient:

Trend rate to use: 0% (no incr. over 2014)

Formula: 2016 Util = 2014 Util * (1+Trend)^2

2016 = 1,325 x (1 + 0%)^2 = 1,325

9. Continued

Physician:

Trend rate to use: historical 2012 to 2014 annual trend, plus 2%

Historical trend: (15,360/14,500)^(1/2) – 1 = 2.9%

Trend to use: 2.9% + 2% = 4.9% annually

Formula: 2016 Util = 2014 Util * (1+Trend)^2

2016 = 15,360 x (1 + 4.9%)^2 = 16,902

Rx:

Trend rate to use: historical 2012 to 2014 annual trend, plus 2%

Historical trend: (10,520 / 9,530)^(1/2) – 1 = 5.1%

Trend to use: 5.1% + 2% = 7.1% annually

Formula: 2016 Util = 2014 Util * (1+Trend)^2

2016 = 10,520 x (1 + 7.1%)^2 = 12,067

Allowed cost per service

Inpatient:

Trend rate to use: historical 2012 to 2014 annual trend

Historical trend: (3550 / 3590)^(1/2) – 1 = -0.6%

Formula: 2016 Util = 2014 Util * (1+Trend)^2

2016 = 3550 x (1 – 0.6%)^2 = 3508

Outpatient:

Trend rate to use: historical 2012 to 2014 annual trend

Historical trend: (1435 / 1380)^(1/2) – 1 = 2.0%

Formula: 2016 Util = 2014 Util * (1+Trend)^2

2016 = 1435 x (1 + 2.0%)^2 = 1493

Physician:

Trend rate to use: historical 2012 to 2014 annual trend

Historical trend: (88 / 85)^(1/2) – 1 = 1.7%

Formula: 2016 Util = 2014 Util * (1+Trend)^2

2016 = 88 x (1 + 1.7%)^2 = 91

Rx:

Trend rate to use: historical 2012 to 2014 annual trend

Historical trend: (71 / 69)^(1/2) – 1 = 1.4%

Formula: 2016 Util = 2014 Util * (1+Trend)^2

2016 = 71 x (1 + 1.4%)^2 = 73

(b) Calculate the average annual per member claim cost trend between 2014 and 2016. Show your work.

Commentary on Question:

Part b required candidates to determine to overall trend based on total claim costs in 2014 and 2016. Candidates generally did well on part b if they attempted it. A point was deducted for calculating a 2-year trend instead of annualized trend.

9. Continued

Formula = ∑(Cost * Utilization) / 1000
Average 2014 per member claim cost (from Exhibit 6)
(3,550 x 281 + 1,435 x 1,325 + 88 x 15,360 + 71 x 10,520) / 1,000 = 4,998 (or can use 5,000 from Exhibit 5)
Avg. 2016 claim cost (from (d))
(3,508 x 281 + 1,493 x 1,325 + 91 x 16,902 + 73 x 12,067) / 1,000 = 5,383
Trend = (5,383 / 4,998) ^ (1/2) – 1 = 3.8%

(c) Calculate the projected average PMPM claims cost of the combined enrollment in 2016 using Exhibit 7 as the source of the Legacy III and SHOP HMO & PPO 2014 claim costs and your trend results from part (b). Show your work.

Commentary on Question:
Part c required candidates to blend Legacy and SHOP PMPMs to get a final manual rate. Very few candidates attempted part c. Those that did tended to blend the PMPMs incorrectly, if at all. Candidates also often missed the benefit adjustment to the Legacy block of business.

1. Legacy III costs:
   a. 2014 experience: 2014 Incurred Claims/2014 Members
      i. 13,455,071/ 52,280 = 257.37 PMPM
   b. Trend 2 years: 257.37x 1.038^2 = 277.30 PMPM
   c. Adjust to average SHOP benefit richness: 277.30 x 1.00 / 0.90 = **308.11 PMPM**

2. SHOP costs:
   a. 2014 experience: (2014 PPO Incurred Claims + 2014 HMO Incurred Claims)/(2014 PPO Members + 2014 HMO Members)
      i. 17,527,485 / 74,121 = 236.47 PMPM
   b. Trend 2 years: 236.47 x 1.038^2 = **254.78 PMPM**

3. Combine
   a. Legacy December 2014 enrollment: 3,830 x 50% = 1,915
   b. SHOP December 2014 HMO+PPO enrollment: 6,800
   c. Total: 1,915 + 6,800 = 8,715
   d. Legacy vs. SHOP weight: 22%/78%
   e. Weighted PMPM: 308.11 x 22% + 254.78 x 78% = **266.51 PMPM**

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

Learning Outcomes:

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

Sources:

Reading Sources: Group Ins, Ch 6; Group Ins, Ch 33

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) Explain why insurers prefer to have individuals share in the cost of a group benefits plan.

Commentary on Question:

Most candidates were successful in identifying and explaining the three areas of control present when individuals share in the cost of a group benefits plan. More affordable coverage (i.e. lower premium) was the most frequently overlooked explanation among candidates.

- Control of Utilization
    - Studies show reductions in utilization when there is cost sharing present
    - Brings individual into issue of cost concerns
    - Can reduce utilization to the point it can unfavorably impact health status – thus negating any reduction in costs
- Control of Costs
    - Lowers premium cost – more affordable coverage
- Control of Risk to the Insurer
    - Many benefits are not considered and insurable risk, increasing cost sharing results in benefit program that is more representative of insurable risk

(b) List and describe reasons for recent increases in prescription drug costs in the United States.

10. Continued

Commentary on Question:
Most candidates were successful in identifying and describing many of the reasons for recent increases. Those who were not successful limited their response to only a couple of reasons. At least 8 out of the 10 reasons below were necessary to receive full credit.

- Prescription drug pipeline – recovering R&D costs
- Biologics – expensive with no generic alternatives
- Patents – limits generic alternatives
- Direct to consumer advertising – more consumer awareness
- Member cost sharing offsets – increases utilization and potentially unnecessary demand
- Faster approval process – speed to market creates more supply and demand
- Brand name advertising – steers consumers away from generics
- Aging population – creates more demand
- Increase in awareness and test for disease – increases utilization
- Personalized medicine – leads to increased and potentially unnecessary utilization

(c) Management is considering replacing the specialty drug co-insurance of 80% with a co-payment of $500 per script. Calculate the employer coinsurance level for non-specialty drugs that will result in no change to overall expected plan costs. Assume there are no changes in utilization. Show your work.

Commentary on Question:
Most candidates were successful in calculating the correct employer coinsurance level. Common mistakes among candidates who were unsuccessful included calculating the employee, rather than the employer, coinsurance level or forgetting to remove the 80% plan-share coinsurance from the plan paid PMPM before calculating the new non-specialty coinsurance equivalent.

10. Continued

	Scripts/1000 (a)	Cost/Script (b)	Employee Cost Share/Script (c)=(b)*0.2	Plan Paid/Script (d)=(b)*0.8	Employee Paid PMPM (e)=((a)*(c))/12000	Plan Paid PMPM (f)=((a)*(d))/12000	Allowed PMPM (e)+(f)
Generic	16,000	$25.00	$5.00	$20.00	$6.67	$26.67	$33.33
Preferred Brand	5,000	$75.00	$15.00	$60.00	$6.25	$25.00	$31.25
Non-Preferred Brand	2,500	$150.00	$30.00	$120.00	$6.25	$25.00	$31.25
Specialty	30	$12,000.00	$2,400.00	$9,600.00	$6.00	$24.00	$30.00
Total					$25.17	$100.67	$125.83
	(a)	(b)	(c)	(d)=(b)-(c)	(e)=((a)*(c))/12000	(f)=((a)*(d))/12000	(e)+(f)
Revised Specialty	30	$12,000.00	$500.00	$11,500.00	$1.25	$28.75	$30.00
Revised Non-Specialty					($25.17-$1.25)= $23.92	($100.67-$28.75)= $71.92	$95.83
Revised Non-Specialty Coinsurance					($23.92/$95.83) = 24.96%	**($71.92/$95.83) = 75.04%**	

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:

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

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

(2a) Identify and evaluate sources of data needed pricing, including the quality, appropriateness and limitations of each data source.

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

Sources:

Mechanics and Basics of Long-Term Care Rate Increases, Long Term Care News Issue 36

Commentary on Question:

Generally, students only recalled the source material at a superficial level.

Solution:

(a)

(i) List key assumptions used to determine if LTC rate increases are required.

(ii) Identify challenges in correctly setting these assumptions.

Commentary on Question:

It was not enough to say that long term projections are 'difficult because of their long-term nature'. Students should have described specific challenges like those listed below. Some challenges were applicable to more than one assumption.

11. Continued

Morbidity:

- Product is priced on an issue age, not attained age basis.
- Large discrepancy between average issue age and average claimant age.
- Misses in original morbidity assumptions may not become credibly apparent for many years based on company experience.
- Experience in early years primarily reflects underwriting selection period.

Persistency:

- LTC rates are priced to be in effect over a period of 50 or more years.
- Original pricing assumptions may have been extrapolated from other products.
- Policyholders understand the value of LTC insurance and as a result are lapsing at a much lower rate than originally anticipated.
- Mortality has also improved over the years.

Interest:

- LTC insurance is designed to be pre-funded, so interest is key to ensuring that contract reserves grow enough to support future liabilities.
- Contract reserves held by the company to back its LTC liabilities earn less than originally expected.
- As a result of the economic recession that began in December 2007, many companies' long term investment earnings rates are much lower now than they were at the time of original pricing.
- When premiums come in or assets in the portfolio mature, companies are force to invest at a lower new money rate.

(b) State whether you agree or disagree with each of your manager's arguments and justify your responses.

Commentary on Question:
Some arguments were applicable to more than one sub-point.

1) Disagree: LTC products are not annually renewable

- LTC is guaranteed renewable.
- LTC is priced on an issue age basis.
- Misses in persistency and interest have a critical impact on performance, but may not unfold into history for several years.

11. Continued

2) Disagree: using historical loss ratios to determine performance is not appropriate

- Low historical loss ratios result from the pre-funding design of LTC.
- Historically low loss ratios do not mean the company has experienced profit.
- Unlike medical insurance, evaluating the need for a rate increase based on historical experience is inappropriate because it does not capture the pre-funding component of the product design.

3) Disagree: raising rates will not necessarily decrease profits

- The industry has generally seen relatively low shock lapses due to rate increases.
- Even if the company did experience high shock lapses, lower persistency would mean fewer policyholders would be exposed to the extremely high claim costs that comprise the tail of the claim cost curve.
- Higher shock lapses will not necessarily decrease profit.

4) Agree: rate increases on more recently priced LTC policy forms cannot be pursued until performance has deteriorated to be more than moderately adverse.

5) Disagree: the company cannot afford to wait to see if experience worsens

- Frequent analysis and early detection of trends is needed.
- As more time passes without a rate increase, the future premium base to which a rate increase can be applied continues to shrink.
- Need to strike a balance between early implementation and the amount of experience needed to determine whether a rate increase is needed.

6) Disagree: higher persistency does not mean the company will collect enough premium to pay claims.

- Higher persistency results in significantly higher claims over the lifetime of the product than originally expected.
- With higher persistency, more policyholders in later years are exposed to the extremely high claim costs that comprise the tail of the claim cost curve.
- Reserves held by the company will not likely be sufficient to cover increase in future costs, despite additional premium received in the early years.

12. **Learning Objectives:**

3. Evaluate and recommend an employee benefit strategy.

Learning Outcomes:

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

Sources:

Handbook of Flexible Benefits, Ch 14 and Ch 16.

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) Calculate the realistic price tags for 2015. Show your work.

Commentary on Question:
Candidates should be aware of what "realistic" price tags are (i.e. based on expected costs if everyone were in the option). This model solution normalizes the costs to the Core plan. Candidates could also normalize to the Enhanced plan. The majority of candidates did not normalize costs and therefore did not receive full marks.

According to the reading, "realistic" price tags reflect the expected claims of the whole group and are set independently, as if only one option were being offered.

Step 1: Calculate the number of members
Core: 75 + 121 * 2 + 50 * 3 = 467
Enhanced: 186 + 218 * 2 + 229 * 3 = 1,309

Step 2: Determine the per-member-per-year costs for 2015:
Core: $150,000 / 467 = $321.20
Enhanced: $1,000,000 / 1,309 = $763.94

Step 3 Normalize costs to Core option
Enhanced to Core = $763.94 / 1.7 (relative value) = $449.38

Step 4 Determine PMPY cost for Core, if everyone were in Core
PMPY cost = ($321.20 * 467 + $449.38 * 1,309) / 1,776 = $415.67

Step 5 Determine costs for Single/Couple/Family and Core/Enhanced

12. Continued

	Core	Enhanced (= 1.7 * Core)
Single	416	707
Couple (= 2 * single)	831	1,413
Family (= 3 * single)	1,247	2,120

Step 6 Add in retention (3.5% + 1.5% + $15) to each:

	Core	Enhanced
Single	451	757
Couple	888	1,499
Family	1,324	2,241

(b) Compare the realistic price tags from (a) to the actual price tags, and discuss how the differences have impacted the plan's participation and its costs.

Commentary on Question:
A full response will include the calculation of the costs vs. price tags, for both Core and Enhanced, candidate should realize that the additional costs being incurred by the Enhanced plan are being somewhat offset by lower costs on the Core.

From part a.) It appears that the Core plan is priced properly, but the Enhanced plan is underpriced. The result is evident in the participation, with over 70% of the employees electing the Enhanced plan.

The participation has increased the costs to the plan, as more employees are in a richer plan, and the price tags coming back to the employer are not enough:

Total costs for Enhanced = $1,000,000 * (1 + 1.5% + 3.5%) + $15 * 633 = $1,059,495

Total price tags received = $650 * 186 + $1,280 * 218 + $1,900 * 229 = $835,040

12. **Continued**

This is offset by the fact that the members in the Core plan are likely lower claimers than average:

Total costs for Core = $150,000 * (1 + 1.5% + 3.5%) + $15 * 246 = $161,190

Total price tags received = $450 * 75 + $890 * 121 + $1,320 * 50 = $207,440

(c) Draft a memo to Company XYZ management recommending a set of 2016 price tags. Justify your position.

Commentary on Question:
A complete response will include trending the price tags by 5%, applying expenses and understanding the company's desire to cap the increase at 10%.

First need to trend forward price tags from part a.) by 5.0%
Compare 2016 realistic price tags to 2015:

	Core	Enhanced
Single	+5.2%	+22.2%
Couple	+4.7%	+22.9%
Family	+5.3%	+23.8%

Apply company-imposed cap of 10%; only on Enhanced. So final tags are:

	Core	Enhanced
Single	473	715
Couple	932	1,408
Family	1,390	2,090

While this still underprices the Enhanced plan, it better-represents the cost differential between Core and Enhanced, so participation in the Enhanced plan will be impacted, which should lead to lower overall plan costs.

13. **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:

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

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

Sources:

Group Ins, Ch 4

Commentary on Question:

Question was trying to test knowledge of group versus individual life insurance and financial implications of varying the benefit. Full credit was given for detailed descriptions of plan provisions, calculations that included tax impacts, and a thorough recommendation based on employer and employee impact.

Solution:

(a) List and describe typical group term life insurance plan benefit designs.

Commentary on Question:
Description required to receive full credit

- Flat Dollar Plan – pays $x,000 per employee
- Multiple of earnings - pays Y times salary
- Salary bracket plans – pays X based on salary level; grouped by intervals of salary level: ie, <$20k has $10,000 of coverage, $20-$40k has $20,000 of coverage, etc.
- Position plans – pays salaried employees receive a different benefit than hourly employees, etc.

(b) List and describe typical features of group term life insurance plans that are intended to protect employees from a lapse in coverage due to disability.

Commentary on Question:
Description required to receive full credit

13. **Continued**

- Waiver of Premium- waves premium if disability occurs younger than 60 or 65, and remains disabled continuously until death
- Total and Permanent Disability- provides a monthly benefit less than or equal to death benefit. Provides difference in death benefit upon death
- Extended Death Benefit- Benefit is payable if coverage ceases before age 60 and insured dies within the year, while being continuously and permanently disabled between coverage end date and death

(c) Calculate the financial impact of increasing the group life insurance benefit to three times salary on:

(i) Smithe Inc.
(ii) Each individual employee

Show your work.

Commentary on Question:
Many students did not understand the imputed income calculation in terms of an employee impact

Impact to Smithe Inc.:

Paid premium: $Benefit / 1000 * 12 * premium_rate$

Current premium at 1x salary:
$(250{,}000 + 150{,}000 + 90{,}000 + 75{,}000) / 1000 * 12 * 0.35$ = \$2,373
Premium at 3x salary with discount:
$3 * (250{,}000 + 150{,}000 + 90{,}000 + 75{,}000) / 1000 * 12 * 0.35 * 0.9$ = \$6,407

So impact to Smithe = \$6,407 - \$2,373 = \$4,034

Impact to individual employees is based on the sum of their individual premium and the tax on imputed income from the employer-provided insurance:

Individual premium: $\frac{2 * Salary}{1{,}000} * \text{individual premium rate} * 12$
Olga: \$300
Jackie: \$3,600
John: \$540
Steve: \$450

Tax on imputed income formula:
$\frac{Salary\ less\ \$50{,}000}{1{,}000} * \text{IRS Uniform Monthly Premium Rate per } \$1{,}000 * 12 * \text{Tax rate}$

13. **Continued**

Olga: $221
Jackie: $181
John: $183
Steve: $95

So current employee expenses =
Olga: $300 + $221 = $521
Jackie: $3,600 + $181 = $3,781
John: $540 + $183 = $723
Steve: $450 + $95 = $545

After the change, individual premiums are assumed to be nil, but the taxes on the imputed income increase:
Tax on imputed income formula: $\frac{3* \text{Salary less } \$50{,}000}{1{,}000} *$
$\text{IRS Uniform Monthly Premium Rate per } \$1{,}000 * 12 * \text{Tax rate}$
Olga: $773
Jackie: $722
John: $1,006
Steve: $667

Therefore, impact =
Olga: $733 - $521 = $252
Jackie: $722 - $3,781 = ($3,058)
John: $1,006 - $723 = $283
Steve: $667 - $545 = $122

(d) Draft a memo to Smithe Inc. recommending one of the options under consideration. Justify your response.

Commentary on Question:
Needed to discuss impact (financially) to both employee and employer, as well as employee ability to purchase individual insurance to get full credit

Smithe Inc should consider the health spending account of $1,000 per employee. While increasing its group life insurance policy to 3x salary is especially helpful to Jackie S., the other three employees – including the lowest-paid employee Steve R. – will be out-of-pocket more money than currently. Furthermore, Smithe Inc will also be out of over $4,000. The health spending account option is favorable to all employees, carries the same costs (roughly) for Smithe Inc, and would presumably at least help Jackie S with her individual premiums by subsidizing any out-of-pocket medical costs she currently has.

14. Learning Objectives:

3. Evaluate and recommend an employee benefit strategy.

Learning Outcomes:

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

Sources:

[Handbook of EE Benefits, Chapters 1, 24, 32]

Commentary on Question:

This question tested candidates' ability to understand the important factors that must be considered when a small employer attempts to offer a health benefits plan to its employees. In particular, candidates were expected to recognize the difficulties in dealing with a diverse workforce and how vital it is to tailor the communication to an audience that varies in its knowledge of and interest in medical products.

Candidates tended to do well on part (a) and part (b)(ii). These two areas were covered well on study note-cards, so it was often an exercise in recall for the candidates. Part (b)(i) required a deeper understanding of the problem in context of the small employer's limitations. Most candidates stumbled on this part.

Although the rubric was quite rigid, points were given when candidates alluded to certain themes without specifically hitting the main point. For example, in part (a), one of the items to list was "What are the objectives of the employer or employee". If the candidate mentioned the employer/employee's 'goals' or 'strategy' or 'benefits philosophy', points were still awarded.

Solution:

(a) List the overall questions to be considered in evaluating any existing or newly created employee benefits plan.

- What are the Employer and Employee Objectives in Establishing the Plan?
- What Benefits Should Be Provided Under the Plan?
- Who Should Be Covered Under the Benefit Plan?
- Should Employees Have Benefit Options?
- How Should the Benefit Plan Be Financed?
- How Should the Benefit Plan Be Administered?
- How Should the Benefit Plan Be Communicated?

(b) Explain reasons why:

(i) Communicating employee benefit programs is challenging to plan sponsors.

14. Continued

- The workforce could be diverse in composition, with various levels of education, financial sophistication, and interest in understanding plan provisions.
- Some benefits may be of little/no interest to a majority of employees until access is needed. It is difficult to find a medium of communication that would successfully engage such employees.
- Multiple regulatory requirements often affect plan features and lead to confusion, thus making it difficult for both employees and sponsors to keep up with the changes.

(ii) Employees of a small company should share in the costs of medical benefits.

- Most employees are accustomed to paying some level of contribution in today's benefit climate.
- It is much easier to set policy and precedent, and plan for future growth, by introducing contributions at the inception of the plan. Because the company is no longer new, introducing employee contributions now would run the risk of employee anxiety and ill will.
- Employee contributions can help avoid legal problems (arise from not clear on who is covered)
- Requiring a contribution motivates employees who have other coverage to decline the employer's plan. The current plan is "free" for all employees, so all will enroll.
- Employees are more responsible when using benefits that they have paid for. It helps them understand the value of the benefit and promotes a culture of consumerism. It also helps the employer in the form of reduced utilization of services and cost containment.