
SOCIETY OF ACTUARIES
Group and Health – Design & Pricing

Exam DP-GH

AFTERNOON SESSION

Date: Thursday, November 1, 2007

Time: 1:30 p.m. – 4:45 p.m.

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This afternoon session consists of 11 questions numbered 11 through 21 for a total of 60 points. The points for each question are indicated at the beginning of the question.
2. Failure to stop writing after time is called will result in the disqualification of your answers or further disciplinary action.
3. While every attempt is made to avoid defective questions, sometimes they do occur. If you believe a question is defective, the supervisor or proctor cannot give you any guidance beyond the instructions on the exam booklet.
3. The answer should be confined to the question as set.
4. When you are asked to calculate, show all your work including any applicable formulas.
5. When you finish, insert all your written-answer sheets into the Essay Answer Envelope. Be sure to hand in all your answer sheets since they cannot be accepted later. Seal the envelope and write your candidate number in the space provided on the outside of the envelope. Check the appropriate box to indicate morning or afternoon session for Exam DP-GH.

Written-Answer Instructions

1. Write your candidate number at the top of each sheet. Your name must not appear.
2. Write on only one side of a sheet. Start each question on a fresh sheet. On each sheet, write the number of the question that you are answering. Do not answer more than one question on a single sheet.
6. Be sure your written-answer envelope is signed because if it is not, your examination will not be graded.

Tournez le cahier d'examen pour la version française.

****BEGINNING OF EXAMINATION****
DP-GH: GROUP AND HEALTH – DESIGN & PRICING
Afternoon Session

11. (4 points) ABC Company is in negotiations with its union. ABC currently has minimal controls in its pharmacy benefits but is interested in reducing future increases in pharmacy costs. The union opposes any attempt by ABC to shift benefit costs to its members through changes in current deductible or coinsurance arrangements. Describe alternatives for ABC to control pharmacy benefit costs in light of the union's position.

12. (5 points) You are the pricing actuary of Trad Insurance Company. Your best group sales representative wants to enhance the current LTD benefit offerings for several of his clients. He has asked you to consider adding a supplemental disability income plan or a critical illness benefit to Trad's portfolio.

For each option:

- (a) Describe the plan designs that could be offered.
- (b) Outline pricing issues to consider.
- (c) Describe steps that could be taken to limit anti-selection.

- 13.** (9 points) You are working for a large self-funded group of 2,000 U.S. employees that currently has an indemnity plan with 85% coinsurance. The employer is considering managed care alternatives to assist with controlling ongoing costs. A consultant has recommended a Point of Service (POS) plan with 90% In-Network and 70% Out-of-Network coinsurance. He claims that this change will reduce claims by \$1,000,000 in the next year. You are given the following assumptions:

Assumption	Indemnity	In-Network	Out-of-Network
Annual Trend	16%	12%	18%
Managed Care Savings	N/A	2%	N/A
Provider Discount	N/A	10%	N/A
Changes in coinsurance are assumed to have no impact on utilization			

Your employer wants to continue employee contributions at 25% of expected claims costs. Current year employer funding costs are expected to be \$6,000,000.

- (2 points) Compare the key features of managed care alternatives with indemnity plans.
- (4 points) Determine whether the consultant's claim of \$1,000,000 savings is viable and explain your results. Show your work.
- (1 point) Calculate the employer expected claim cost under the indemnity plan and POS plan in the following year, using the consultant's assumptions and your results from (b). Show your work.
- (2 points) Describe utilization management programs that can be used to help control costs under managed care plans.

- 14.** (5 points) ABC Company provides a group term life policy with a benefit of one times salary. The contributions are paid for by ABC. Information for the group of employees covered under ABC's global policy is summarized in the table below:

Number of Employees	Age	Average Salary	Gross Monthly Premium Rate per \$1,000 of Coverage
10	33	\$60,000	\$0.09
15	45	\$75,000	\$0.15
5	55	\$90,000	\$0.40

Colin Meloy, 33, earns \$80,000 and is considering moving from ABC's U.S. office to its Canadian office. In Table I of Section 79 of the U.S. Internal Revenue Code, the rate applicable to the cost per \$1,000 of coverage for a 33 year old is \$0.08.

- (a) Calculate the annual taxable benefit value associated with Colin Meloy's group term life insurance benefit in the U.S. and in Canada. Show your work.
- (b) Describe other types of group life insurance that ABC could offer its employees.

- 15.** (3 points) The CEO of your health insurance company is meeting with Congressional staff from your district to discuss issues surrounding health care reform. Your CEO knows that Canada's health care system will be a topic, and she has asked you to prepare information to help educate her.

Describe the following:

- (a) Describe the main principles of the Canada Health Act.
- (b) Describe challenges faced by the Canadian medicare system.
- (c) Describe benefits typically covered under private plans to supplement provincial medicare plans.

- 16.** (9 points) As the VP of Human Resources for YoungCo, a U.S. Company, you are considering the implementation of a retiree group medical benefit plan. You are considering a traditional medical only plan with a \$200 deductible and 85% coinsurance. Your company's first potential retiree, Mr. Senior, is single and will be 65 next year.

In 2006, Mr. Senior had the following claims:

Date incurred	Services	Amount
March 14	Hospital stay of 6 days	\$12,000
July 12	Medical services	\$5,000

You also are given the following information for 2006:

Medicare	Deductible	Coinsurance
Part A	\$952	N/A
Part B	\$124	80%

You are preparing a report on retiree benefits for your President.

- (a) Outline coverages offered under Medicare plans and their eligibility requirements
- (b) Discuss the advantages and disadvantages to YoungCo of offering retiree group benefits.
- (c) Describe plan design elements that should be considered in a retiree group benefit plan to limit YoungCo's liability.
- (d) Calculate YoungCo's claims cost for Mr. Senior based on his 2006 claims when coordinating benefits with Medicare under the following two methods:
 - (i) Carveout
 - (ii) Exclusion

Show your work.

17. (4 points) You are the group benefits consultant for XYZ Corporation. The HR manager of XYZ Corporation is concerned about LTD claims experience because group disability premium rates have increased significantly over the last three years.

- (a) Discuss the types of analysis you could undertake to review the experience.
- (b) Describe components of a well-designed disability claims process.

18. (3 points) You are an actuary at ABC Health Company, which started doing business in 2005. ABC has an HMO product and a PPO product. You are given the following information:

Description	HMO Product	PPO Product
2005 Claims Paid	\$24,144,578	\$148,596,327
2005 Average Number of Covered Members	10,156	49,878
2006 Claims Paid	\$77,283,449	\$169,255,734
2006 Average Number of Covered Members	30,156	51,133

The CFO is preparing his financial report to the Board of Directors and wants to disclose the combined trend rate and recommend its use for pricing purposes.

- (a) Calculate the combined 2006 HMO/PPO trend rate for ABC and explain its relationship to the HMO and PPO trends. Show your work.
- (b) Describe the advantages and disadvantages of disclosing only the combined trend rate.
- (c) Describe external sources of trend information available for ABC to use to supplement its own experience for pricing purposes.

- 19.** (7 points) You are the Actuarial Director for Di Minimis Insurance Company. The company is launching a new Medicare Supplement benefit.

You are given the following information:

Issue Age Methodology		
Discount Rate: 5%		
Annual Premium: \$2,500		
Policy Year	Expected Incurred Claims	Expected Premium
1	\$1,569,780	\$2,500,000
2	\$1,359,485	\$2,029,770
3	\$1,225,058	\$1,721,473
4	\$1,087,079	\$1,442,717
5	\$948,887	\$1,193,036

- (a) Describe the factors and assumptions that will be part of your pricing review.
- (b) Describe the loss ratio tests applicable to Medicare Supplement policies.
- (c) Determine whether the proposed premium meets the loss ratio requirements. Show your work.

- 20.** (7 points) USA Inc. is expanding its operations into Canada and has hired you to provide information on a Canadian benefit plan design for its employees. The U.S. plan currently has a flexible spending account. You are given the following sample flexible spending account claims information:

Date	Credit	Expense	Expense Type
1- Jan Year 1	\$500.00		
10 Mar Year 1		\$375.00	Glasses
22 Jun Year 1		\$125.00	Massage
25 Dec Year 1		\$92.00	Prescription Drugs
1- Jan Year 2	\$500.00		
15- Jan Year 2		\$250.00	Hospital charge
2 Aug Year 2		\$150.00	Dental check up

The expenses are eligible in both Canada and the U.S.

- (a) Compare the benefit plan discrimination rules of Canada and the U.S.
- (b) Compare the health spending account requirements of Canada and the U.S.
- (c) Calculate the expense reimbursement for the above claims in Years 1 and 2
 - (i) Under the proposed health spending account in Canada using the various carryforward methods,
 - (ii) Under the flexible spending account in the U.S.

Show your work.

- 21.** (4 points) You are the Vice President of Actuarial Services for ABC Insurance. The CEO has heard about long term care policies and thinks ABC should consider offering this product.
- (a) Describe the types of benefits typically available in long term care policies.
 - (b) Outline plan features included in long term care policies.
 - (c) Explain how the following pricing assumptions differ from long term care and typical group medical products.
 - (i) Investment earnings
 - (ii) Profit

****END OF EXAMINATION****