
SOCIETY OF ACTUARIES
Group and Health – Advanced

Exam GHADV

AFTERNOON SESSION

Date: Thursday, November 3, 2016

Time: 1:30 p.m. – 3:45 p.m.

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This afternoon session consists of 5 questions numbered 9 through 13 for a total of 40 points. The points for each question are indicated at the beginning of the question. Questions 9 – 12 pertain to the Case Study, which is enclosed inside the front cover of this exam booklet.
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.

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.
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 because 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 GHADV.
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.

CASE STUDY INSTRUCTIONS

The case study will be used as a basis for some examination questions. Be sure to answer the question asked by referring to the case study. For example, when asked for advantages of a particular plan design to a company referenced in the case study, your response should be limited to that company. Other advantages should not be listed, as they are extraneous to the question and will result in no additional credit. Further, if they conflict with the applicable advantages, no credit will be given.

****BEGINNING OF EXAMINATION****

**Afternoon Session
Beginning with Question 9**

*Questions 9 through 12 pertain to the Case Study.
Each question should be answered independently.*

- 9.** (6 points) Moonraker asked you to analyze the possibility of self-funding its benefit plan.
- (a) (2 points) Describe underwriting considerations for:
- (i) Specific Stop-Loss
 - (ii) Aggregate Stop-Loss
- (b) (1 point) Describe steps to set aggregate attachment factors based on past claims experience.

Royale Health has proposed the following Stop-Loss quotes:

	<u>Quote #1</u>	<u>Quote #2</u>
Contract type	Paid	Paid
Expected losses PMPM	\$575	\$575
Expected certificate-months	11,500	11,500
Specific stop loss deductible	\$25,000	\$50,000
Aggregate attachment factor	110%	105%
Minimum attachment point	95%	95%

You have been provided the 2014 large claims experience in Exhibit 17 and the monthly claims experience in Exhibit 18.

- (c) (2 points) Calculate the reimbursed losses under each quote using the 2014 experience for:
- (i) Specific Stop-Loss
 - (ii) Aggregate Stop-Loss
- Show your work.
- (d) (1 point) Recommend whether or not Moonraker should pursue Stop-Loss coverage. Justify your response.

**Questions 9 through 12 pertain to the Case Study.
Each question should be answered independently.**

- 10.** (6 points) Le Chiffre asked you to review the effectiveness of the HoldEM disease management (DM) program.
- (a) (1 point) Describe requirements of a valid DM evaluation methodology.
 - (b) (1 point) Describe control group methodologies that could be used to evaluate a DM program.
 - (c) (2 Points) For propensity scores
 - (i) Describe their purpose.
 - (ii) Explain the approach used to calculate them.
 - (d) (2 Points) Evaluate
 - (i) (1 point) The propensity matched and unmatched DM results from Exhibit 9.
 - (ii) (1 point) Whether or not the program was successful based on the propensity matched results.

Justify your response.

**Questions 9 through 12 pertain to the Case Study.
Each question should be answered independently.**

11. (5 points) You work as a consultant at Skyfall and consult to Thunderball on their long-term disability (LTD) product.

(a) (1 point) Describe studies for evaluating LTD claim reserve adequacy.

For a 40-year-old male claimant, you are given:

- interest rate of 5%
- 6 month elimination period
- 24 month own-occupation period
- a benefit of \$6,000 per month payable until age 65
- continuance rates are identical for monthly benefits of \$3,000 and \$6,000

Utilize the information provided in Exhibits 11-14.

(b) (4 points)

(i) (2 points) Calculate the open claim reserves using both the new and old valuation tables at the end of:

- month 9
- month 18
- month 27

Show your work.

(ii) (2 points) Explain the quantitative and qualitative drivers of the change in reserve balances.

**Questions 9 through 12 pertain to the Case Study.
Each question should be answered independently.**

12. (7 points) Madeleine Swann, CFO of Spectre Accountable Care Organization (SACO), advised you that SACO has been meeting the quality performance measures prescribed by the Centers for Medicare and Medicaid Services (CMS).

- (a) (1 point) List the domains CMS uses to group quality performance measures.
- (b) (1 point) List two measures within each domain in part (a).

In addition to Accountable Care Organizations (ACOs), CMS has developed programs to incentivize improved quality and outcomes.

- (c) (1 point) List four of these programs.

You are given the following:

- SACO participated in the 1-sided Medicare Shared Savings Program (MSSP) in 2014
 - SACO participated in the 2-sided MSSP in 2015
 - SACO is not subject to minimum savings rates or caps on shared savings or losses
 - The 2014 incurred claims are \$515,400,000
 - The 2014 quality performance score is 80%
 - The average annual beneficiaries assigned in 2014 is 50,000
 - The average annual beneficiaries assigned in 2015 is 60,000
 - No change in beneficiary mix or risk scores between years
 - The benchmark data in Exhibit 10
- (d) (3 points) Calculate the 2015 claims cost that would result in \$0 shared savings over the two years. Assume the 2015 quality performance score is 80%. Show your work.
- (e) (1 point) Calculate the impact to shared savings over the two years if the 2015 quality performance score increases to 100%. Show your work.

13. (16 points) You are a pricing actuary responsible for the profitability of two blocks of individual health insurance policies. One of the blocks is composed of ACA-compliant policies sold through public exchanges (on-exchange) while the other block is off-exchange. The management at your company is concerned about their strategy.

- (a) (2 points) Differentiate:
- ACA-compliant and non-ACA-compliant policies
 - on-exchange and off-exchange policies
- (b) (1 point) List measures to control antiselection in the individual market that are prohibited under the ACA.
- (c) (1 point) Define the requirements imposed on health plans by ACA to mitigate market-level selection risk.
- (d) (4 points)
- (i) (3 points) Describe mathematical and conceptual tools used to model antiselection.
- (ii) (1 point) List the assumptions required by antiselection models.

You are given the following catastrophic experience for your policies in 2014:

	Total Members	Member A	Member B	Member C
On Exchange, ACA compliant	1,000	\$50,000	\$85,000	\$300,000
Off Exchange, ACA compliant	300	\$100,000	\$200,000	\$300,000

- (e) (2 points) Calculate the net cost or benefit of the transitional reinsurance program for each block of policies based on:
- (i) Original parameters
- (ii) Revised parameters

Show your work.

13. Continued

You are given the following for your block of ACA-compliant policies:

Premiums	\$6,000,000
Incurred claims	\$3,600,000
Claim reserves	\$500,000
Payment from risk adjustment	\$240,000
Receipts from transitional reinsurance	\$210,000
Quality expenses	\$330,000
Health care information technology	\$360,000
Non-claim costs	\$270,000
Taxes/fees	\$150,000
Profits	\$600,000
Tax rate	0.0%

- (f) (4 points)
- (i) (2 points) Calculate the risk corridor ratio. Show your work.
 - (ii) (1 point) List the thresholds and sharing amounts for all possible outcomes of the risk corridor ratio.
 - (iii) (1 point) Describe potential pitfalls to consider when calculating the risk corridor ratio.
- (g) (2 points) Recommend whether or not your off-exchange block should be offered on-exchange for 2016. Justify your recommendation.

****END OF EXAMINATION****
Afternoon Session

USE THIS PAGE FOR YOUR SCRATCH WORK