
SOCIETY OF ACTUARIES
Group and Health – Advanced

Exam GHADV

AFTERNOON SESSION

Date: Friday, May 2, 2014
Time: 1:30 p.m. – 3:45 p.m.

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This afternoon session consists of 6 questions numbered 9 through 14 for a total of 40 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.

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.

****BEGINNING OF EXAMINATION****

Afternoon Session
Beginning with Question 9

- 9.** (9 points) You are an actuarial student for Sherman Health Plan (SHP) and have been asked to prepare a presentation for the company's contracting staff on different types of provider payment arrangements.

You are given:

Service Type	Knee Replacement Billed Charges
Facility	\$30,000
Medical Supplies and Equipment	\$30,000
Professional (excluding therapy)	\$20,000
Professional (post-discharge therapy)	\$5,000

- (a) (2 points) Calculate the provider payments that would be due under each of the following arrangements for a knee replacement. Show your work.
- (i) Straight Charges
 - (ii) 60% discount on facility charges and supplies; 40% discount on professional charges
 - (iii) Surgical case rate of \$15,000 which covers professional charges; 60% discount on facility charges and supplies.
 - (iv) Bundled payment of \$40,000
 - (v) Pay for performance – Charges paid as in (ii) with an additional 10% discount, 5% bonus paid at year end (on discounted charges) since the provider met the quality targets.
- (b) (3 points)
- (i) Evaluate each of the above payment arrangements from SHP's perspective.
 - (ii) Identify the arrangement that is most beneficial to SHP. Justify your answer.

9. Continued

You are given the following:

- Current utilization is 300 days/1000 members
 - The current cost per day is \$2,000
 - The current mix of membership is expected to remain constant
 - SHP and the hospital system agree on a capitation rate that generates 5% more revenue per member for the hospital system than the current payment arrangement.
- (c) (2 points) Calculate the monthly capitation rate that would be due to the hospital system based on this arrangement. Show your work.

You are given the following:

- Target Facility charges are \$50 PMPM
- Actual Facility charges are \$45 PMPM
- Savings/Cost variances are shared 50/50 between SHP and the hospital system up to \$20 PMPM
- The quality index score is 1.2 times the target
- A bonus is payable to the hospital system based on the value of a quality index. The bonus is determined as follows:

Ratio of Quality Index vs. Target	Bonus Amount
< 1.0	\$0 PMPM
1.0	\$2 PMPM
> 1.0 and < 1.5	Quality Index \times \$2 PMPM
≥ 1.5	\$3 PMPM

- (d) (2 points) Calculate the settlement that would be due or receivable based on this arrangement. Show your work.

10. (7 points) You are the consulting health actuary for Zumba Health Plan (ZHP). ZHP has implemented Disease Management (DM) programs in order to assist chronic members with their conditions.

- (a) (2 points) Outline considerations for determining exposure with regard to population measurement.
- (b) (3 points) Determine the issues and assumptions for evaluating a DM savings outcomes study.

You are given:

	Baseline period	Measurement period
Period	1/1/2013 – 12/31/2013	1/1/2014 – 12/31/2014
Average total population	300,000	300,000
Average chronic population	100,000	100,000
Chronic member months	1,200,000	1,200,000
Chronic population inpatient admissions	60,000	57,600
Chronic population inpatient admissions/1,000/year	1,200	1,152
Cost/admission	15,000	16,000
Utilization trend	N/A	5.3%

- (c) (1 point) Calculate the savings from averted admissions using the Actuarially-Adjusted Historical Control Group Methodology. Show your work.
- (d) (1 point) Recommend whether or not this is a useful measure of the program. Justify your answer.

11. (6 points)

- (a) (2 points) Outline considerations in pricing the two basic forms of stop loss insurance.
- (b) (1 point) Outline the advantages and disadvantages of Aggregating Specific Stop Loss Insurance.

You are given the following:

- Specific stop loss deductible = \$75,000
- Annual Medical Trend = 8%
- Assume the number of claims by category are the same in years 1 and 2.

Claimant Category	Number of claims	Annual Per Claimant Dollar Amount Year 1
A	2,500	\$ -
B	7,000	\$5,000
C	375	\$25,000
D	100	\$50,000
E	16	\$75,000
F	6	\$100,000
G	3	\$150,000
Total	10,000	\$51,625,000

- (c) (2 points) Calculate the leveraged trend. Show your work.
- (d) (1 point) Recommend approaches to reduce leveraged trend.

12. (5 points)

- (a) (1 point) Define both fraud and abuse in health care.
- (b) (2 points) Describe efforts for identifying and preventing health care fraud.
- (c) (2 points) Describe the challenges and forces that complicate effective health care fraud and abuse control.

13. (6 points) You have been asked by your manager to work closely with Product Development to offer your actuarial expertise on new group health products for upcoming years.

- (a) (1 point) Describe why understanding your company's strategic perspective is important when developing products.
- (b) (1 point) Identify the dynamics that lead to creation of new products.
- (c) (1 point) List and describe the steps in designing a product.
- (d) (2 points)
 - (i) Describe steps in building the product.
 - (ii) Describe considerations of risks and opportunities when building the product.
- (e) (1 point) List and describe the teams involved in product development.

14. (7 points)

(a) (2 points)

- (i) Describe Retrospective and Prospective experience rating for employer sponsored health insurance.
- (ii) Describe factors that would influence a group to choose retrospective over prospective experience rating.

You are given the following:

Experience Period 7/1/2011 – 6/30/2012

Total Premium	\$11,133,333
Total Paid Claims	\$8,350,000
Total Paid Claims > \$50,000	\$918,500
Number of Employees	2,500

Time Period	Monthly Trend Rate
1/1/2011 – 12/31/2011	1.0%
1/1/2012 – 12/31/2012	1.5%
1/1/2013 – 12/31/2013	2.0%

No investment earnings on amounts held.

Administrative Expenses Per Employee Per Month (PEPM)	\$18.00
Effective 1/1/2013 Pooling Charge PEPM for claims > \$50,000	\$55.00
Commission (% of Gross Premium)	5.0%
Contribution to Rate Stabilization Reserve (% of Gross Premium)	3.0%
Risk/Profit Load (% of Gross Premium)	3.0%
Prior fund balance	\$875,000

- (b) (3 points) Calculate the retrospective experience refund as of 6/30/2012. Show your work.
- (c) (2 points) List and describe the alternative funding arrangements used for large experience rated accounts.

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

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