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**SOCIETY OF ACTUARIES**  
**Group and Health Core Exam – U.S.**

**Exam GHCORU**

**AFTERNOON SESSION**

**Date:** Wednesday, April 30, 2014

**Time:** 1:30 p.m. – 3:45 p.m.

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**INSTRUCTIONS TO CANDIDATES**

**General Instructions**

1. This afternoon session consists of 5 questions numbered 10 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 GHCORU.
6. Be sure your written-answer envelope is signed because if it is not, your examination will not be graded.



**\*\*BEGINNING OF EXAMINATION\*\***

**Afternoon Session**

***Beginning with Question 10***

- 10.** (5 points) You were recently hired as an actuarial assistant to the chief actuary of Robert Loblah, Inc., which is a smaller company that specializes in selling banana stands. You have been asked to review some of the policies and procedures with the benefits offered to its employees.
- (a) (1 point) Describe challenges small companies face when offering group medical insurance.
  - (b) (1 point) Small companies want to attract top talent and have considered not requiring employee contributions for medical care insurance. Describe why small companies should require employee contributions.
  - (c) (1 point) Describe reasons why insuring an STD plan may be more efficient than small companies self-insuring the risk.
  - (d) (2 points) Describe the communication process you would use when educating various types of employees on their benefits:
    - (i) New Employees
    - (ii) Annual Open Enrollment
    - (iii) Communications through the year
    - (iv) Retirees

11. (12 points) You are given the following 2012 experience for Lou Case E HMO:

Services	2012 Annual Services per 1,000 Members	Service Units	2012 Average Cost per Service	2012 Copay Amount
<b>Hospital Inpatient</b>				
<i>Medical</i>	120	Days	\$5,000	\$250
<i>Surgical</i>	100	Days	\$9,500	\$250
<b>Hospital Outpatient</b>				
<i>ER</i>	175	Cases	\$1,300	\$100
<i>Radiology</i>	310	Cases	\$700	\$25
<i>Surgery</i>	125	Cases	\$3,400	\$100
<b>Office Visits</b>	5,000	Visits	\$120	\$25
<b>Surgery</b>				
<i>Inpatient</i>	50	Procedures	\$3,000	
<i>Outpatient</i>	600	Procedures	\$600	
<b>Outpatient Mental Health</b>	600	Visits	\$150	

(a) (4 points)

You are given:

Services	Annual Trend	
	Cost	Utilization
Hospital Inpatient	3%	4%
Hospital Outpatient	2%	3%
Physician	1%	3%

Calculate the 2014 PMPM total gross and net cost assuming no change in benefits. Show your work.

(b) (3 points)

(i) Describe the components of medical trend.

(ii) Calculate the gross cost annual trend of Gross Cost from 2012 to 2014 for each of hospital, physician, and all services. Show your work.

## 11. Continued

- (c) (2 points) Calculate the required increase in hospital inpatient copay to reduce 2014 net cost PMPM by \$10, assuming the following. Show your work.
- 5% reduction in utilization
  - No other benefit changes
- (d) (2 points) Describe the different retentions on net premium used to calculate gross premiums.
- (e) (1 point) You are given the following:
- Expenses: 10%
  - Pooling Charge: \$50 PMPM
  - Profit: 3%
  - Explicit Margin: 2%

Calculate the required 2014 premium PMPM based on the new hospital inpatient copayment. Show your work.

- 12.** (8 points) At the annual family barbeque, your uncle, knowing your expertise as an actuary, corners you to discuss the latest alternative arrangements for medical insurance for his employees. Hoping for a spot in his will, you gladly comply.
- (a) (3 points) Describe the managed care continuum and the makeup of existing plans from low to high.
  - (b) (2 points) Between puffs from his cigar, your uncle expresses interest in hearing more about ACOs.
    - (i) Describe an ACO.
    - (ii) Describe the structural requirements of an ACO.
  - (c) (3 points) Your uncle has heard about Patient-Centered Medical Homes (PCMH) from a business associate but doesn't fully understand how they work.
    - (i) List the key characteristics of PCMHs.
    - (ii) Explain the similarities and differences to HMOs.

**13.** (9 points)

- (a) (3 points) List and describe the components of gross premiums.
- (b) (2 points) Outline considerations in developing and allocating administrative expenses.
- (c) (1 point) List common rating characteristics and group specific adjustments used in determining and using manual rates for group insurance.
- (d) (1 point) Describe the three characteristics which set pricing GLTC apart from other group product pricing.
- (e) (2 points) Describe key pricing considerations for group long term care which aren't considered in other group pricing.

**14.** (6 points) You move from Detroit to Vancouver. In Detroit, you have a Health Savings Account. Your new employer in Vancouver offers Health Spending Accounts as well as Personal Accounts.

- (a) (3 points) Describe the similarities and differences between Health Savings Accounts and Health Spending Accounts.
- (b) (2 points) Calculate the remaining balances after Years 1-3 in your Health Spending Account using the Roll over unused balance approach and then Roll over unpaid claims approach.

	Date	Activity	Description	Amount
<b>Year 1</b>	1-Jan	Deposit	Account Deposit	\$2,000
	26-Mar	Claim	ER Visit	(\$600)
	1-May	Claim	Dental Visit	(\$100)
	21-Jun	Claim	Eyeglasses	(\$350)
	31-Oct	Claim	Doctor Visit	(\$100)
<b>Year 2</b>	1-Jan	Deposit	Account Deposit	\$1,500
	28-Jun	Claim	Dental Visit	(\$150)
	10-Jul	Claim	Doctor Visit	(\$450)
	5-Oct	Claim	Surgery	(\$950)
<b>Year 3</b>	1-Jan	Deposit	Account Deposit	\$1,000
	28-Jun	Claim	Dental Visit	(\$200)
	10-Jul	Claim	Doctor Visit	(\$400)
	5-Oct	Claim	Eyeglasses	(\$300)

- (c) (1 point) Describe the tax issues of a personal account.

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



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