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

**Exam GHCORU**

**AFTERNOON SESSION**

**Date:** Wednesday, October 30, 2013

**Time:** 1:30 p.m. – 3:45 p.m.

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**INSTRUCTIONS TO CANDIDATES**

**General Instructions**

1. This afternoon session consists of 6 questions numbered 7 through 12 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 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 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 7**

- 7.** (10 points) You work for a large employer that has contracted with a pharmacy benefit manager (PBM).
- (a) (1 point) Explain how PBMs add value.
  - (b) (1 point) Identify the main drivers of growth in pharmacy costs.
  - (c) (1 point) Explain reasons why pharmacy cost growth has slowed in recent years.
  - (d) (1 point) Recommend strategies, other than increasing co-payments or switching to coinsurance, your company could use to control increasing pharmacy benefit costs.

You are given:

| Category | 2013 Average Wholesale Price (AWP) per Script | 2013 Discount off AWP | 2013 to 2014 AWP Trend | 2013 – 2014 Dispensing Fee per Script |
|----------|---|-----------------------|------------------------|---------------------------------------|
| Brand    | \$80.00                                       | 15%                   | 11.0%                  | \$1.00                                |
| Generic  | \$10.00                                       | 50%                   | 2.0%                   | \$1.50                                |

|                                   | 2013 | 2014 |
|-----------------------------------|------|------|
| Average Annual Scripts per Member | 25.0 | 27.0 |
| Percent generic utilization       | 74%  | 75%  |

- (e) (2 points) Construct a table with the projected unit cost and utilization levels for each of brand and generic drugs in 2013 and 2014. Show your work.
- (f) (1 point) Calculate the overall PMPM trend for 2014 with the existing PBM. Show your work.

**7. Continued**

- (g) (3 points) You are considering a new PBM for 2014 which has an additional \$1.00 per script fee but deeper generic discounts.

| Category | Proposed Discount Off AWP |
|----------|---------------------------|
| Brand    | 10%                       |
| Generic  | 65%                       |

Evaluate whether switching PBMs would generate savings. Show your work and explain your conclusion.

8. (7 points) Lovestar, Inc. is a small U.S. software development business offering insurance to its five employees. Lovestar provides basic life insurance equal to one times an employee's annual salary at no cost to its employees, as well as offering supplemental term life.

The five employees are as follows:

| <u>Employee</u> | <u>Age</u> | <u>Gender</u> | <u>Annual Salary</u> |
|-----------------|------------|---------------|----------------------|
| Marie           | 25         | F             | \$60,000             |
| Joel            | 35         | M             | \$42,000             |
| Elise           | 45         | F             | \$125,000            |
| Jenny           | 35         | F             | \$70,000             |
| Mike            | 55         | M             | \$31,000             |

You are an actuary at XYZ Insurance, and your company uses the following tables:

| <u>Monthly Manual Claims Rate Per \$1,000 of Coverage</u> |             |               |            |             |               |
|---|-------------|---------------|------------|-------------|---------------|
| <u>Age</u>  | <u>Male</u> | <u>Female</u> | <u>Age</u> | <u>Male</u> | <u>Female</u> |
| 15  | \$0.09      | \$0.04        | 40         | \$0.16      | \$0.08        |
| 20  | \$0.09      | \$0.04        | 45         | \$0.22      | \$0.15        |
| 25  | \$0.09      | \$0.05        | 50         | \$0.34      | \$0.18        |
| 30  | \$0.09      | \$0.08        | 55         | \$0.64      | \$0.29        |
| 35  | \$0.12      | \$0.08        | 60         | \$0.83      | \$0.45        |

| <u>Industry</u>       | <u>Factor</u> |
|-----------------------|---------------|
| Insurance             | 0.95          |
| Construction          | 1.08          |
| Software & Technology | 1.05          |
| Education             | 0.90          |
| Other                 | 1.00          |

| <u>Central Date</u> | <u>Factor</u> |
|---------------------|---------------|
| January – March     | 0.97          |
| April – June        | 0.99          |
| July – September    | 1.00          |
| October – December  | 1.02          |

## 8. Continued

The U.S. IRS Table I Uniform Premium Rates are as follows:

| <u>5 Year Age Bracket</u> | <u>Rate per \$1,000</u> |
|---------------------------|-------------------------|
| Under 25                  | \$0.05                  |
| 25 to 29                  | 0.06                    |
| 30 to 34                  | 0.08                    |
| 35 to 39                  | 0.09                    |
| 40 to 44                  | 0.10                    |
| 45 to 49                  | 0.15                    |
| 50 to 54                  | 0.23                    |
| 55 to 59                  | 0.43                    |
| 60 to 64                  | 0.66                    |
| 65 to 69                  | 1.27                    |
| 70+                       | 2.06                    |

- (a) (3 points) For group basic and group supplemental term life:
- (i) Outline provisions common to both
  - (ii) Compare the tax treatment applicable to Lovestar and its employees
- (b) (3 points) Calculate the basic life renewal premium charged to Lovestar, assuming an administration and profit load equal to 20% of premium and a January 1 renewal date. Show your work.
- (c) (1 point) Compare the annual imputed income for Marie and Joel. Show your work.

- 9.** (5 points) You are the benefits manager for Loony Lakes Watercraft, Inc., a medium-sized company based in Bemidji, Minnesota. Long term disability (LTD) coverage is already provided by your company. You feel strongly that the company should also offer optional long term care (LTC) coverage. The executive team, with its newest member from Canada, disagrees because LTD is already offered.
- (a) (1 point) Compare the U.S. group LTC market to the U.S. individual and Canadian LTC markets.
  - (b) (2 points) Describe plan provisions common to both LTC and LTD.
  - (c) (2 points) Critique the position of the executive team.

**10.** (8 points) You are an actuary for Keene Health Consulting. Your current assignment is to assist two insurers, *DerbyHealth* and Churchill Insurance Company, with understanding and implementing the Minimum Loss Ratio (MLR) requirements of the Affordable Care Act (ACA) in the individual and small employer markets.

(a) (2 points) Summarize the changes created by the ACA and the associated pricing challenges in these markets.

*DerbyHealth* recently acquired another insurer, *OaksCare*. *DerbyHealth* management is trying to compare loss ratios. They have the following financial performance information:

|                    | (SPMPM) | Premium | Claims | Expenses |
|--------------------|---------|---------|--------|----------|
| <i>DerbyHealth</i> |         | \$200   | \$150  | \$50     |
| <i>OaksCare</i>    |         | \$225   | \$180  | \$45     |

(b) (2 points) Describe ways company management uses medical loss ratio information.

(c) (1 point) Describe considerations *DerbyHealth* should take into account when performing the loss ratio comparison.

Churchill has prepared the following information for the regulators in the state of Canetuckee.

| LOB         | Members | 2012 Filed Loss Ratio | ACA Loss Ratio Min Standard | Projected 2012 - 2014 Annual Medical Trend | 2013 Approved Rate Increase | 2014 Requested Rate Increase |
|-------------|---------|-----------------------|-----------------------------|--|-----------------------------|------------------------------|
| Individual  | 10,000  | 80%                   | 80%                         | 9%   | 9%                          | 9%                           |
| Small Group | 100     | 85%                   | 80%                         | 9%   | 9%                          | 10%                          |

(d) (1 point) List ways regulators might use this information.

(e) (2 points) Canetuckee's commissioner has questioned the proposed rate increases. Justify the 2014 rate increase for each line of business.

11. (7 points) Turkey Calls R Us is contracting with your benefits consulting company to begin offering a cafeteria plan for its employees. You have received the following email:

**From:** Wally Robinson,  
CEO and part-owner (17% of shares) of Turkey Calls R Us.

**Subject:** Cafeteria plan for Turkey Calls R Us

*We want the following benefits in our cafeteria plan:*

- \* *Dependent care assistance*
- \* *Adoption assistance*
- \* *Like to add a long-term care plan*
- \* *Life insurance benefit of \$65,000*
- \* *Set up a Flexible Spending Account large enough that employees can pay their own insurance premiums out of it*
- \* *Members should also have a debit card to charge medical out-of-pocket expenses against their FSA*

*We see that you charge to identify and prevent identity theft. That's nice, but it's not necessary, so give us a quote without this benefit. We don't want to offer any cash options with these benefits, or else too many employees will go without coverage. This cafeteria plan will cover everybody working here, including me. We're assuming these benefits will all be tax-free. We're assuming a cafeteria plan will rid us of all ERISA requirements.*

*~ Wally*

- (a) (3 points) Identify and explain the conflicts and errors in Wally's email.
- (b) (1 point) List the disadvantages of offering a cafeteria plan from an employer's perspective.
- (c) (3 points) Wally's brother, a part owner, questions your company's ability to administer benefits properly. Describe competencies in which a benefits director must be proficient.

**12.** (3 points) You are an actuary consulting to Blackhawk Insurers on the pricing of its block of Group Long Term Disability (LTD) business.

- (a) (1 point) Describe sources of data your firm could use to develop independent premium rates.
- (b) (1 point) Identify plan design features for which you would adjust the manual rates.

You are given the following information for a male, age 35 with a monthly benefit of \$1 and a 90 day waiting period:

- Reserve at time 0 is \$50
  - Incidence rate is 0.004
- (c) (1 point) Calculate the monthly premium for \$5,000 of monthly benefit based on the above information. Show your work.

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

**USE THIS PAGE FOR YOUR SCRATCH WORK**