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**SOCIETY OF ACTUARIES**  
**Group and Health – Advanced**

# Exam GHADV

## AFTERNOON SESSION

**Date:** Thursday, November 2, 2017

**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 10 through 15 for a total of 40 points. The points for each question are indicated at the beginning of the question. Questions 10 - 13 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 10***

*Questions 10-13 pertain to the Case Study.*  
*Each question should be answered independently.*

**10.** (3 points)

- (a) (1 point) List the measurement issues encountered when developing study designs for disease management (DM) programs.
- (b) (2 points) Evaluate the reasonableness of the data provided to you by HoldEm DM in Exhibits 8 and 9. Justify your response.

*Questions 10-13 pertain to the Case Study.  
Each question should be answered independently.*

**11.** (7 points)

- (a) (1 point) Describe the contract negotiation process between payers and providers.
- (b) (1 point) Describe a hospital's goals in negotiating with payers.

You represent Lynd Hospital. Lynd acquired Montenegro Hospital, and is in the process of negotiating a bundled payment contract for kidney transplants with Quantum for 2018. You are given:

- The current contracts for Lynd and Montenegro in Royale Health Email 3.
- Under the bundled payment contract, Lynd will be responsible for distributing payments to professionals and suppliers.
- The following claims distribution for kidney transplants performed at Montenegro Hospital:

Portion of Cases	Montenegro Billed Charges per Case	Length of Stay per Case	Pre-Op Professional Allowed per Case	Post-Discharge Professional Allowed per Case
20%	\$160,000	5	\$7,000	\$27,000
20%	\$188,000	6	\$4,000	\$26,000
20%	\$202,000	7	\$7,000	\$31,000
20%	\$252,000	8	\$5,000	\$23,000
10%	\$285,000	9	\$7,000	\$26,000
10%	\$348,000	10	\$5,000	\$27,000

- (c) (3 points) Calculate a bundled payment rate for kidney transplants such that Lynd's expected revenue for Montenegro Hospital is unchanged, when assuming facility charges are based on:

- (i) Lynd's contract effective 1/1/2018.
- (ii) Montenegro's contract effective 1/1/2018.

Show your work.

- (d) (2 points) Recommend contract terms Lynd should include in a bundled payment contract with Royale Health. Justify your response.

**Questions 10-13 pertain to the Case Study.  
Each question should be answered independently.**

**12.** (10 points) You are the opening actuary for Quantum at Skyfall.

- (a) (2 points) List governing documents for the setting of reserves and liabilities in United States and Canada.
- (b) (2 points) Describe the considerations in setting claim reserves.

You are given Exhibit 1. Assume all losses are completely paid after 12 months.

- (c) (4 points) Calculate the incurred but not reported (IBNR) reserve for the incurred months July 2016 – September 2016 for the Quantum Legacy III Individual block of business as of December 31, 2016 under the following scenarios:
  - (i) The loss development pattern of July 2015 is representative of all expected future payments.
  - (ii) The loss development pattern of December 2015 is representative of all expected future payments.

Show your work.

- (d) (1 point) Critique the difference in results obtained in (c).
- (e) (1 point) Recommend a reserving approach that may produce more accurate claim reserve values. Justify your response.

*Questions 10-13 pertain to the Case Study.  
Each question should be answered independently.*

**13.** (10 points) You are the consulting actuary at Skyfall assigned to Moonraker, which is exploring if it is advantageous to replace its fully-insured plans with self-insured plans and an administrative services only (ASO) arrangement.

(a) (2 points) Describe the advantages and disadvantages of offering a self-insured plan with an ASO arrangement.

In addition to Exhibits 15 and 16, you are given the following information for 2016:

Risk Class	Enrolled Plan	Net Premium Per Member Per Month (PMPM)
Low Risk	HDHP	\$425
Medium Risk	PPO	\$700
High Risk	PPO	\$700

- Expected annual claims trend between 2016 and 2017 is 9%

- (b) (2 points) Calculate the anti-selection cost for 2016. Show your work.
- (c) (2 points) Calculate the relative health status factor for each option in 2017, assuming that premiums for all options are increased by the anti-selection cost. Show your work.
- (d) (1 point) Recommend specific plan design changes so that each option becomes profitable without charging the anti-selection cost. Justify your response.

You are given the following additional information regarding Exhibit 17:

- All large claims were incurred in 2016.
  - The deductible of the stop loss coverage for 2016 is \$100,000.
- (e) (2 points) Calculate the required increase in the pooling charge for 2017, assuming that the stop loss deductible for 2017 will stay at \$100,000. Show your work.
- (f) (1 point) Explain why the answer obtained in (e) is different from the expected trend rate.

14. (6 points) You are given the following Evaluation & Management (E&M) claims information for one Medicare enrollee over the past 12 months. Each doctor listed below is employed by a different accountable care organization (ACO).

Date of Service	Allowed Cost	Physician	Physician Type
2/1/2016	\$500	Doctor A	Primary Care Physician
2/7/2016	\$650	Doctor B	Primary Care Physician
3/15/2016	\$600	Doctor C	Specialist
4/23/2016	\$300	Doctor A	Primary Care Physician
6/5/2016	\$400	Doctor B	Primary Care Physician
8/4/2016	\$525	Doctor C	Specialist
10/15/2016	\$125	Doctor A	Primary Care Physician

- (a) (1 point) Identify which provider the enrollee will be attributed to under the Medicare Shared Savings Program (MSSP). Justify your response.

One of the ACOs is participating in the MSSP and has asked you to audit information provided by the Centers for Medicare and Medicaid Services (CMS). CMS used the following experience in its baseline cost estimates:

Calendar Year	Allowed Medical Claims ('000s)	Members	Risk Score	Assumed Annual Trend
2014	\$8,000	10,000	1.05	4%
2015	\$7,500	10,000	1.10	5%
2016	\$8,250	10,000	0.95	3%

- (b) (2 points) Calculate the spending benchmark for 2017 under the MSSP. Show your work.

The ACO participates in a 2-sided agreement with CMS. CMS reports the following information for the attributed population in 2017:

- Actual claims experience for 2017: \$825 per member per month (PMPM)
- Risk score: 1.0
- Quality score: 100%

- (c) (1 point) Calculate the ACO's share of any savings or losses generated under the MSSP on a PMPM basis. Show your work.



**14. Continued**

Your analysis indicates the ACO's quality score could vary between 50% and 100%.

(d) (2 points) Critique the ACO's decision to participate in a 2-sided agreement.

**15.** (4 points) As a strategy of public and private health organizations:

- (a) (1 point) Describe the purpose of the Triple Aim.
- (b) (1 point) Describe the potential outcome measures for each dimension of the Triple Aim.
- (c) (2 points) Compare and contrast the Triple Aim to traditional disease management program interventions.

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

**USE THIS PAGE FOR YOUR SCRATCH WORK**

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