

Exam GHSPC

Date: Friday, October 30, 2020

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This examination has 6 questions numbered 1 through 6 with a total of 40 points.

The points for each question are indicated at the beginning of the question.
2. 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 provided in this document.

Written-Answer Instructions

1. Each question part or subpart should be answered either in the Word document or the Excel file as directed. Graders will only look at work in the indicated file.
 - a) In the Word document, answers should be entered in the box marked ANSWER. The box will expand as lines of text are added. There is no need to use special characters or subscripts (though they may be used). For example, β_1 can be typed as beta_1 (and ^ used to indicate a superscript).
 - b) In the Excel document formulas should be entered. Performing calculations on scratch paper or with a calculator and then entering the answer in the cell will not earn full credit. Formatting of cells or rounding is not required for credit.
 - c) Individual exams may provide additional directions that apply throughout the exam or to individual items.
2. The answer should be confined to the question as set.
3. The Word and Excel files that contain your answers must be uploaded before time expires.

Recognized by the Canadian Institute of Actuaries.

1. (6 points) You are an actuary supporting an Accountable Care Organization (ACO).

(a) (1 point) Describe features of a successful ACO care management program.

ANSWER:

(b) (2 points)

(i) Describe key elements of case management.

ANSWER:

(ii) List challenges case managers face in performing their work.

ANSWER:

(c) (3 points) Drug adherence can be measured in two ways.

(i) Write the formula for each measure.

ANSWER:

(ii) Compare and contrast the two measures.

ANSWER:

(iii) Explain ways to increase drug adherence.

ANSWER:

2. (7 points)

- (a) (1 point) Explain how *return* is understood by business decision makers in the return on investment (ROI) paradigm versus for employee health management (EHM).

ANSWER:

- (b) (2 points) Describe recommended financial metrics to measure healthcare cost savings from EHM.

ANSWER:

You are given the following information on an EHM program designed to reduce hospitalizations among diabetic members:

	Baseline Year (Y)	Measurement Year (Y+1)
EHM Members	1,000	1,000
Hospitalizations per 1,000 EHM members	50	48
Cost per hospitalization	\$12,000	\$12,000
Percent of diabetic members with LDL testing	50%	85%
Percent of diabetic members with LDL less than 100	30%	60%

- Cost of EHM per member per month (PMPM): \$1.75
- Annual utilization trend: 2%

- (c) (1 point) Calculate the reduction in hospitalizations per 1,000 members required to achieve a desired hurdle rate of 100%. Show your work.

The response for this part is to be provided in the Excel spreadsheet.

2. Continued

The CEO has requested a recommendation from you on whether to continue the EHM program.

(d) (3 points)

- (i) Explain reasons for and against continuing the EHM program. Show your work.

The response for this part is to be provided in the Excel spreadsheet.

- (ii) Recommend whether or not to continue the EHM program. Justify your response.

ANSWER:

3. (8 points)

- (a) (2 points) Describe four key principles of an effective enterprise risk management (ERM) framework.

ANSWER:

The following statements were made concerning the procedures of the Group Solvency Issues (E) Working Group for proposed changes, amendments and/or modifications to the NAIC Own Risk and Solvency Assessment (ORSA) Guidance Manual:

- I. The Working Group may only consider relevant proposals to change the Manual at national meetings.
- II. The Working Group publishes a formal submission form for proposals and may only consider proposals submitted in that format.
- III. Any proposal that would change the Manual will be effective immediately following the NAIC Summer National Meeting.
- IV. All proposals to be considered by the Working Group will be exposed for public comment.

- (b) (2 points) Critique the accuracy of each statement.

ANSWER:

- (c) (3 points)

- (i) Describe the considerations for the approach and assessment of group-wide capital adequacy.

ANSWER:

- (ii) Describe the insurer's considerations for a prospective solvency assessment.

ANSWER:

3. Continued

- (d) *(1 point)* List key information included in the ORSA Summary Report to aid the commissioner's understanding.

ANSWER:

4. (5 points)

(a) (2 points) Describe:

(i) Individual Disability Income (IDI) underwriting for reinsurance.

ANSWER:

(ii) Group Long Term Disability (GLTD) underwriting for reinsurance.

ANSWER:

Your company has the following in their Long Term Disability (LTD) portfolio:

- 100 LTD claims.
- Each claimant is exactly 63 years old.
- Benefit expires at attained age 65.
- Expected time on claim for each claimant is 24 months.
- Monthly benefit is \$2,000.
- Each claim is beyond the product's elimination period.
- The LTD block must be reinsured.

Your company has received the following offers from four equally rated reinsurance companies to reinsure their LTD block.

Company	A	B	C	D
Ceded Percentage or Monthly Amount	45%	60%	\$1,200	\$975
Reinsurer's Elimination Period	None	6 Months	3 Months	None
Total 2-year Reinsurer Premium (\$M)	\$1.2	\$1.1	\$1.5	\$1.4

(b) (3 points) Recommend which reinsurer your company should select. Justify your response. Show your work.

The response for this part is to be provided in the Excel spreadsheet.

5. (6 points)

- (a) (2 points) Describe issues with the Massachusetts risk adjustment and National risk adjustment processes.

ANSWER:

You are an actuary for Blue Note Insurance. There is only one other insurer in the state's small group ACA market, Yellow Bird Insurance.

You are given the following information:

	State	Blue Note	Yellow Bird
Actuarial value (AV)	0.7	0.7	0.7
Allowable Rating Factor (ARF)	1.952	1.952	1.952
Member Months	24,000	9,600	14,400
Risk x Induced Demand x Geographic	1.037	0.936	1.104

Average Premium PMPM	\$500	\$440	\$540
Total Premium	\$12,000,000	A	B
Target Loss Ratio for Pricing	N/A	85%	85%
Claims	\$10,200,000	\$3,590,400	\$6,609,600
ACA risk adjustment transfer amount (round to nearest \$10k)	C	D	E
Net Income		F	G
Net Income as % of Premium		H	I

- (b) (4 points) Calculate the values for A through I in the table above. Show your work.

The response for this part is to be provided in the Excel spreadsheet.

6. (8 points) The Department of Health and Human Services (HHS) developed a plan liability risk adjustment model in 2014 for the individual and small group markets.

(a) (3 points)

(i) Describe the plan liability risk adjustment model and how the plan liability was determined.

ANSWER:

(ii) Explain how the plan liability expenditures were determined, including the data source used.

ANSWER:

(b) (1 point) Compare and contrast drug-based risk adjustment grouper models and total medical grouper models.

ANSWER:

(c) (1 point) Explain why the Arizona Medicaid risk adjustment methodology for Temporary Assistance for Needy Families (TANF) is applicable to newborns but not applicable to other cohorts.

ANSWER:

6. Continued

- (d) (3 points) The following information is given for a Managed Care Organization (MCO) in the Arizona Medicaid program for the contract year ending 2017:

Cohort	Cohort Weight	Condition Episode Risk Group (ERG) Factor	Age/ Sex Factor
Long Cohort	0.8	0.36	0.4
Short Cohort	0.2	N/A	0.36

- Weighted Condition Factor for all MCOs in Arizona is 0.3652.

- (i) Describe how enrollment is determined for the Long Cohort.

ANSWER:

- (ii) Calculate the Relative Risk Score for the MCO. Show your work.

The response for this part is to be provided in the Excel spreadsheet.

- (iii) Explain how the risk adjustment factor is applied to the base capitation rates to develop the adjusted capitation rates.

ANSWER:

****END OF EXAMINATION****