

Exam GHRM

Date: Friday, November 3, 2023

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This examination has 8 questions numbered 1 through 8 with a total of 60 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.

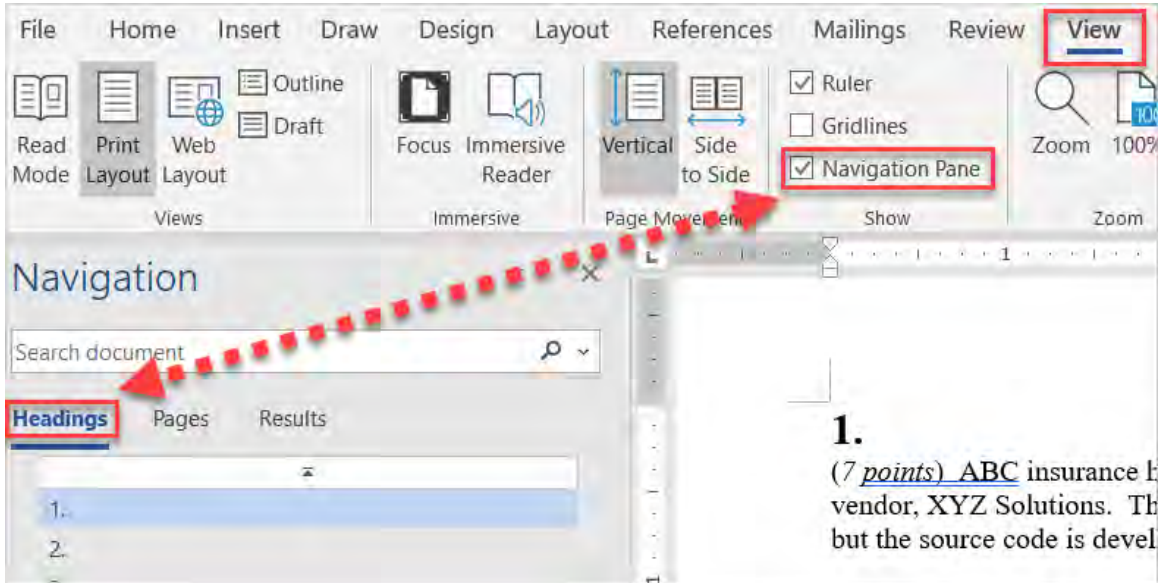
Written-Answer Instructions

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. Prior to uploading your Word and Excel files, each file should be saved and renamed with your five-digit candidate number in the filename.
4. The Word and Excel files that contain your answers must be uploaded before the five-minute upload period expires.

Navigation Instructions

Open the Navigation Pane to jump to questions.

Press Ctrl+F, or click View > Navigation Pane:



1.

(6 points)

(a) (3 points)

(i) Describe the Opportunity Analysis process.

ANSWER:

(ii) Explain the purpose and considerations for each of the following steps in the Opportunity Analysis process when designing a care management program:

- Analytics
- Evidence
- Economics

ANSWER:

The human resources director for your company is concerned about the amount of work involved in performing opportunity analysis and asks why we should not allow physicians or other clinicians to develop a care coordination program instead.

(b) (1 point) Assess the merits of Opportunity Analysis in response to the director's concern.

ANSWER:

You are considering an external vendor's care management program and comparing their population data with your company's covered population data.

(c) (2 points) Describe adjustments to consider for material differences between the two populations.

ANSWER:

2.

(8 points) You are evaluating a disease management program offered by your employer.

- (a) (1 point) Describe how to initially classify targeted members for the disease management program.

ANSWER:

- (b) (1 point) Describe reasons for excluding members from the measured population.

ANSWER:

- (c) (2 points)

- (i) Describe an often-implicit assumption on which the actuarially adjusted historical control methodology relies.

ANSWER:

- (ii) Describe challenges of an actuarially-based disease management savings calculation.

ANSWER:

- (iii) Describe how actuaries can address these challenges.

ANSWER:

You have led a transition state analysis on high-risk, medium-risk, and low-risk chronic members in Periods 1, 2, and 3. The analysis leads to the following observations in Period 1:

| Risk Members | Cost Per Member Per Year (PMPY) | Risk-Mix |
|--------------|---------------------------------|----------|
| High | \$50,000 | 5% |
| Medium | \$5,000 | 55% |
| Low | \$500 | 40% |

2. Continued

For Period 2, you observe that the risk-mix of high-risk members increased 100 basis points, while the low-risk members' risk-mix did not change. For Period 3, the risk-mix of low-risk members increased 200 basis points, while the high-risk members' risk-mix did not change.

You are also given the following:

- There are no other categories of risk members
- The cost PMPY remains the same from Period 1 to Period 2
- From Period 2 to Period 3, the high-risk members cost PMPY decreased 10% while the low-risk members cost PMPY increased 10%

- (d) (2 points) Calculate the trend from Periods 1 to 2 and from Periods 2 to 3. Show your work.

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

You are given the following on a different member cohort:

| | Units per 1000 | Unit Cost |
|----------|----------------|-----------|
| Baseline | 100 | \$8,000 |
| Trend | 1.05 | 1.10 |
| Actual | 99 | \$8,800 |

- (e) (2 points)

- (i) Verify if Per Member Per Month (PMPM) savings for the member cohort is equivalent on a utilization unit basis and cost basis. Show your work.

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

- (ii) Explain the importance of the results in (i).

ANSWER:

3.

(7 points) Two companies are merging. The parent company uses Carrier A to provide health insurance. The acquired company uses Carrier B to provide health insurance.

You are given the following:

| Carrier | Plan Design | Subscriber Count | Claims Per Employee Per Month (PEPM) | Actuarial Value Without Account Funding | Cost of Care Adjustment to Parent Carrier |
|---------|---------------|------------------|--------------------------------------|---|---|
| A | CDHP with HSA | 6,300 | \$765 | 79.0% | 1.000 |
| A | CDHP with HRA | 5,750 | \$694 excludes claims paid with HRA | 77.0% | 1.000 |
| B | PPO High | 2,100 | \$1,150 | 86.0% | 0.980 |
| B | PPO Core | 6,300 | \$709 | 77.0% | 0.980 |

CDHP – Consumer Driven Health Plan

HSA – Health Savings Account

HRA – Health Reimbursement Account

PPO – Preferred Provider Organization

- (a) (3 points) Calculate the claims PEPM if the parent company transitions all subscribers to Carrier A's CDHP with HSA, using simplified underwriting. Show your work.

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

- (b) (2 points) Evaluate reasons for and against the parent company offering alternative plan design options besides only a CDHP with HSA.

ANSWER:

3. Continued

You are given the following information for a different company:

| Division | Full Time Employees (FTEs) | Actuarial Value | Monthly Contribution for Single Coverage | Number of FTEs Covered |
|----------|----------------------------|-----------------|--|------------------------|
| X | 26,000 | 79.0% | \$92 | 24,000 |
| Y | 600 | 75.0% | \$400, no employer subsidy | 500 |

- One of Division X's FTEs who was not offered coverage, enrolled in an Exchange plan and received a federal subsidy
- One of Division X's FTEs who was offered coverage, enrolled in an Exchange plan
- Six of Division Y's FTEs enrolled in Exchange plans and receive federal subsidies
 - All six have household incomes of less than \$30,000 per year

(c) (2 points) Assess whether each division is subject to penalties under the Employer Shared Responsibility rules included in the Patient Protection and Affordable Care Act. Justify your response.

ANSWER:

4.

(10 points) You are the actuary on the network contracting team for a health insurer.

- (a) (2 points) Describe various provider payment models.

ANSWER:

You have been asked to address concerns regarding the cost volatility of certain procedures in the insurer's network of three hospitals. Your first focus is cardiac stent procedures.

You are given the following information for cardiac stent procedures:

| | Hospital A | Hospital B | Hospital C | Hospital D | Hospital E |
|--------------------------------|------------|------------|------------|------------|------------|
| Annual Admits | 450 | 200 | 325 | 150 | 500 |
| Average Length of Stay (Days) | 3.5 | 2.4 | 4.1 | 2.7 | 4.0 |
| Paid Cost per Day | \$3,200 | \$3,600 | \$3,800 | \$4,100 | \$2,900 |
| Member Coinsurance at Hospital | 20% | 20% | 20% | 20% | 20% |

- (b) (3 points)

- (i) Calculate a bundled payment for cardiac stent procedures. Show your work.

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

- (ii) Recommend which hospital(s), if any, should be re-contracted for this procedure. Justify your response.

ANSWER:

4. Continued

Your leadership has proposed a bundled payment to all five hospitals. The CEO of Hospital C has threatened to terminate their contract with the insurer over this proposal. You have been asked to evaluate the following actions to resolve the issue with Hospital C.

| Action | Description |
|--------------------------------------|---|
| Implement Tiered Payment System | Tier Member Coinsurance at Hospital C |
| Implement Shared Savings Arrangement | Set a benchmark for cardiac stent procedures, and share 50% of the surplus or deficit with Hospital C |
| Terminate Hospital C | Hospital C becomes out-of-network where member coinsurance is increased. Allowed costs for Hospital C will increase 10% |

- (c) (2 points) Describe advantages and disadvantages of each action for addressing the issue.

ANSWER:

- (d) (3 points) Calculate the member coinsurance or benchmark required for each action in part (c) to generate the same savings as the bundled payment proposal. Show your work.

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

5.

(10 points) You are a consulting actuary specializing in reinsurance. A reinsurance company providing life reinsurance approaches you for advice as it wants to expand into the group health and disability lines of business.

- (a) (3 points) Describe nonproportional reinsurance methods common for health and disability insurance

ANSWER:

An HMO plan sponsor wants you to propose reinsurance arrangements, and provides you with annual medical claims data for 2022. The only member cost sharing feature is copays, which the HMO plan sponsor would like to keep flat.

- (b) (3 points)
- (i) Propose three arrangements based on different reinsurance methods. Justify your response.

ANSWER:

- (ii) Calculate the reinsured and retained claims under each arrangement using 2022 claims. Show your work.

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

The contracted rates with network providers for 2024 are currently under negotiation. Citing rising costs for supplies and general inflation, their initial demands are estimated to raise discounted average costs by approximately 15%.

You are also given the following assumptions:

- Reinsurance profit load of 3% of premium
- Reinsurance administrative cost of 2% of premium
- Annual cost trend of 5%
- Annual utilization trend of 1.5%
- Constant frequency distribution by claim range

- (c) (3 points) Calculate expected costs for 2024 under each of your proposed reinsurance arrangements. Show your work.

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

5. Continued

- (d) *(1 point)* Recommend whether the HMO plan sponsor should proceed with a reinsurance arrangement. Justify your response.

ANSWER:

6.

(8 points)

- (a) (2 points) Explain why a functional approach is needed when planning, designing, and administering employee benefits.

ANSWER:

- (b) (3 points)

- (i) Describe common attributes of private exchanges.

ANSWER:

- (ii) Compare and contrast elements of public and private exchanges.

ANSWER:

- (c) (2 points) Describe how high deductible health plan (HDHP) enrollees' behaviors are modified by membership in a HDHP.

ANSWER:

Company ABC offers two HDHPs to its employees.

- Plan A has a monthly premium of \$200.
- Plan B has a monthly premium of \$400 with richer benefits than Plan A.

ABC wants to encourage greater employee enrollment in Plan A and is concerned about budget variations due to unexpected enrollment across plans.

6. Continued

(d) (1 point)

(i) Calculate the monthly employee payroll contribution for each of the following contribution approaches. Show your work.

1. Defined benefit at 75% employer subsidy
2. Defined contribution at \$150 employer subsidy

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

(ii) Recommend which contribution approach ABC should use. Justify your response.

ANSWER:

7.

(6 points) You are an actuary for XYZ Insurance Company, a Medicaid Managed Care Organization (MCO) in a single state.

- (a) (2 points) Describe steps for implementing risk adjustment into a Medicaid Managed Care Program.

ANSWER:

You are given the following:

| Temporary Assistance for Needy Families (TANF) | XYZ Insurance Company | | | All MCOs | | |
|--|-----------------------|------------------------|-------------------|---------------|------------------------|-------------------|
| | Cohort Weight | Condition (ERG) Factor | Age/Gender Factor | Cohort Weight | Condition (ERG) Factor | Age/Gender Factor |
| Short Cohort | 0.1400 | n/a | 0.3702 | 0.1628 | n/a | 0.3829 |
| Long Cohort | 0.8600 | 0.3680 | 0.3810 | 0.8372 | 0.3791 | 0.3791 |

| XYZ Insurance Company | TANF | Supplemental Security Income (SSI) with Medicare | Non-Medicaid |
|--|-------|--|--------------|
| 07-01-2021 Capitation Rate Per Member Per Month (PMPM) | \$111 | \$167 | \$167 |
| Bid Risk Contingency PMPM | \$3 | \$4 | \$11 |
| Bid Admin PMPM | \$9 | \$13 | \$44 |
| Premium Tax PMPM | \$3 | \$4 | \$11 |
| Risk Adjustment Factor | ? | 1.0281 | 1.0032 |

- Risk adjustment factors will be retrospectively applied to the capitation payments from 7/1/2021 forward.
 - “Phase-in” weights the condition-based score and the unadjusted capitation rate 80% and 20%, respectively.
 - Budget neutrality adjustment is 1.1.
- (b) (1 point) Calculate the total average risk score for XYZ Insurance Company. Show your work.

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

7. Continued

- (c) (3 points) Calculate the risk adjusted capitation rates for XYZ Insurance Company. Show your work.

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

8.

(5 points)

- (a) (1 point) Explain the process for constructing physician cost-profiles.

You are given the following:

| Physician #1 Episode A | Units | Cost/Unit |
|-------------------------------|--------------|------------------|
| Office Visits | 3 | \$100 |
| Hemoglobin | 2 | \$25 |
| Daily Drugs | 365 | \$1 |
| Lipid Profile | 1 | \$40 |
| Physician #2 Episode B | Units | Cost/Unit |
| Office Visits | 4 | \$90 |
| Hemoglobin | 2 | \$25 |
| Daily Drugs | 365 | \$1 |
| Lipid Profile | 2 | \$35 |

- (b) (1 point) Calculate the summary cost-profiles for each physician. Show your work.

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

- (c) (2 points) Describe differences between traditional physician profiling and episode-based profiling.

ANSWER:

- (d) (1 point) Describe physician implications of episode-based profiling.

ANSWER:

****END OF EXAMINATION****