

# Exam GHDP

**Date:** Tuesday, April 29, 2025

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## INSTRUCTIONS TO CANDIDATES

### General Instructions

1. This examination has 10 questions numbered 1 through 10 with a total of 70 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 in the Excel file.** Graders will only look at work in the Excel file.
  - a) 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, as long as your work and assumptions are clear to an individual with average Excel experience reviewing the submitted file.
  - b) 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 Excel file, the file should be saved and renamed with your five-digit candidate number in the filename.
4. The Excel file that contains your answers must be uploaded before the five-minute upload period expires.

*The Excel spreadsheet has  
additional data and information applicable to this question.*

**1.**

(9 points) You are a trend actuary working for a health insurer and provide insights to pricing and financial reporting teams.

- (a) (2 points) Compare and contrast financial reporting trends and pricing trends.

*All responses are to be provided in the Excel spreadsheet.*

In the Excel spreadsheet, you are given plan data for 20X1 and projections for 20X2.

- (b) (2 points) Calculate the following projected trends for 20X2.
- (i) Unit cost trend.
  - (ii) Severity trend.
  - (iii) Core cost trend.

State your assumptions and show your work.

*All responses are to be provided in the Excel spreadsheet.*

In the Excel spreadsheet, you are given actual data for 20X2.

- (c) (2 points) Calculate the following actual trends for 20X2.
- (i) Unit cost trend.
  - (ii) Severity trend.
  - (iii) Core cost trend.

State your assumptions and show your work.

*All responses are to be provided in the Excel spreadsheet.*

## 1. Continued

Your medical management team informs you that a new technology was introduced for CPT Code 00006 in 20X2.

- (d) (1 point) Describe the four stages of the technology curve.

*All responses are to be provided in the Excel spreadsheet.*

- (e) (2 points)

- (i) Evaluate the impact of the new technology on CPT code 00006.
- (ii) Recommend a pricing trend development approach to account for CPT code 00006.

Justify your response.

*All responses are to be provided in the Excel spreadsheet.*

*The Excel spreadsheet has additional data and information applicable to this question.*

**2.**

(8 points)

- (a) (1 point) Describe the three faces of anti-selection.

*All responses are to be provided in the Excel spreadsheet.*

In the Excel spreadsheet, you are given plan experience and employee information for Al's Toy Barn.

- (b) (3 points) Calculate:

- (i) The premium leakage per member.
- (ii) The buy-down effect per member.

Show your work.

*All responses are to be provided in the Excel spreadsheet.*

- (c) (1 point) Evaluate the impact of a catastrophic claim on premium leakage and buy-down effect.

*All responses are to be provided in the Excel spreadsheet.*

- (d) (2 points) Construct a graph of the cumulative antiselection effects for members in the Healthy and Chronic risk categories by completing the table below.

The x-axis is the % premium increase over trend.

The y-axis is the lapse rate.

Show your work.

*All responses are to be provided in the Excel spreadsheet.*

- (e) (1 point) Describe the cumulative impact of premium increases over trend on the stability of Al's health insurance offering.

*All responses are to be provided in the Excel spreadsheet.*

*The Excel spreadsheet has additional data and information applicable to this question.*

**3.**

(8 points)

(a) (2 points)

- (i) List Medicaid risk-sharing strategies between states and managed care organizations (MCOs).
- (ii) Explain how each strategy mitigates financial risks.

*All responses are to be provided in the Excel spreadsheet.*

(b) (2 points) Identify and describe capitation rate development process components that are unique to the Medicaid program.

*All responses are to be provided in the Excel spreadsheet.*

You are a Medicaid actuary working with State ABC on its Medicaid rate certification for the state fiscal year from July 1, 20X3 to June 30, 20X4.

In the Excel spreadsheet, you are given rate development information.

(c) (2 points) Calculate the following PMPMs to include in the Medicaid rate certification:

- (i) Adjusted base data.
- (ii) Projected medical.
- (iii) Total capitation rate.

Show your work.

*All responses are to be provided in the Excel spreadsheet.*

### 3. Continued

State ABC conducted a retrospective review in 20X5 and found that the actual claims PMPM in state fiscal year July 1, 20X3 to June 30, 20X4 was \$305.00 PMPM.

- (d) (1 point) Evaluate the results from the perspective of each stakeholder.
- (i) State ABC.
  - (ii) Managed care organizations.

Justify your response.

*All responses are to be provided in the Excel spreadsheet.*

The Chief Financial Officer (CFO) of a managed care plan that operates within State ABC expressed concern with the capitation rates: “We believe the capitation rates are inadequate. Our health plan sustained losses for three years in a row. Claims PMPMs are consistently higher than what is included in the capitation rates by at least \$30.00 PMPM.”

- (e) (1 point) Critique the CFO’s statement based on guidance from ASOP #49.

*All responses are to be provided in the Excel spreadsheet.*

*The Excel spreadsheet has  
additional data and information applicable to this question.*

**4.**  
(8 points)

- (a) (2 points) Describe employer considerations between self-funding and fully-insuring long-term disability (LTD) plans.

*All responses are to be provided in the Excel spreadsheet.*

Member A, employed by ABC Company, becomes ill and is out on LTD leave. While on LTD, Member A becomes employed in a part-time job.

In the Excel spreadsheet, you are given disability benefits and earnings information.

- (b) (2 points) Calculate the LTD benefit that Member A receives under the following income offset approaches:
- (i) Proportionate loss formula
  - (ii) 50% offset
  - (iii) Work incentive offset

Show your work.

*All responses are to be provided in the Excel spreadsheet.*

You are an actuary pricing a group LTD plan for ABC Company.

In the Excel spreadsheet, you are given pricing information.

- (c) (2 points) Calculate the monthly premium per employee for ABC Company. Show your work.

*All responses are to be provided in the Excel spreadsheet.*

#### 4. Continued

The actual claim experience for a 35-year old female materializes as a 40-49 female in the claim incidence rate table.

- (d) (1 point) Calculate the premium surplus or shortfall.

Show your work.

*All responses are to be provided in the Excel spreadsheet.*

ABC Company management reviewed the results and is evaluating their funding arrangement.

- (e) (1 point) Identify methods ABC Company can use to mitigate risks of self-insuring the LTD plan.

*All responses are to be provided in the Excel spreadsheet.*

*The Excel spreadsheet has  
additional data and information applicable to this question.*

**5.**

(5 points)

- (a) (2 points) Describe unintended consequences of the Affordable Care Act (ACA)'s individual market design.

*All responses are to be provided in the Excel spreadsheet.*

You are a state regulator reviewing on-exchange rates for the individual market.

In the Excel spreadsheet, you are given plan and insurer information.

- (b) (3 points) Assess compliance concerns with the rates shown for each insurer.
- (i) Insurer A
  - (ii) Insurer B
  - (iii) Insurer C
  - (iv) Insurer D

Justify your response.

*All responses are to be provided in the Excel spreadsheet.*

*The Excel spreadsheet has  
additional data and information applicable to this question.*

**6.**

(6 points)

- (a) (1 point) Contrast paid contracts and incurred contracts in stop loss insurance (SLI).

*All responses are to be provided in the Excel spreadsheet.*

- (b) (1 point) Explain causes of volatility in claim payment cash flow timing for self-insured medical claims.

*All responses are to be provided in the Excel spreadsheet.*

Your employer client is a self-insured plan covering 500 members.

You are pricing SLI contract options using Monte Carlo simulations of aggregate group claims for the self-insured group medical plan.

In the Excel spreadsheet, you are given assumptions.

- (c) (4 points) Calculate the annual stop loss premium under the following SLI contract options:
- (i) \$50,000 specific deductible
  - (ii) \$50,000 specific deductible with 105% aggregate attachment point
  - (iii) 105% aggregate-only attachment point

Show your work.

*All responses are to be provided in the Excel spreadsheet.*

*The Excel spreadsheet has additional data and information applicable to this question.*

**7.**

(7 points)

- (a) (1 point) Describe the roles of the following stakeholders within the prescription drug benefits system framework:
- (i) Pharmaceutical manufacturers
  - (ii) Pharmaceutical wholesalers
  - (iii) Pharmacies
  - (iv) Pharmacy Benefit Managers (PBMs)

*All responses are to be provided in the Excel spreadsheet.*

In the Excel spreadsheet, you are given a claim probability distribution (CPD) table of projected expenses for a commercial pharmacy plan.

- (b) (2 points) Calculate the value of a \$150 deductible.

Show your work.

*All responses are to be provided in the Excel spreadsheet.*

In the Excel spreadsheet, you are given pharmacy benefit information.

- (c) (3 points) Calculate the expected net plan liability.

Show your work.

*All responses are to be provided in the Excel spreadsheet.*

- (d) (1 point) Propose ways to reduce the net plan liability.

*All responses are to be provided in the Excel spreadsheet.*

*The Excel spreadsheet has additional data and information applicable to this question.*

**8.**

(8 points)

- (a) (1 point) Compare and contrast prospective and retrospective experience rating methods.

*All responses are to be provided in the Excel spreadsheet.*

You are a pricing actuary for Big Fish Insurance Company, which markets to large groups with at least 5,000 employees.

- (b) (2 points) Describe risk mitigation techniques Big Fish could use under the following retrospective rating options:
- (i) Deficit recovery arrangement
  - (ii) Unilateral arrangement
  - (iii) Bilateral arrangement

*All responses are to be provided in the Excel spreadsheet.*

You are pricing a retrospective experience rating option with a deficit recovery arrangement.

In the Excel spreadsheet, you are given experience data.

- (c) (5 points) Calculate the following:
- (i) Adjusted premium amount for each of 20X1, 20X2, and 20X3.
  - (ii) Cumulative surplus/deficit, if any, to be recovered at the end of 20X3.
  - (iii) Total premium rate PMPM for 20X5.

Show your work.

*All responses are to be provided in the Excel spreadsheet.*

*The Excel spreadsheet has additional data and information applicable to this question.*

**9.**

(6 points)

- (a) (1 point) List the three methods described in the NAIC Accelerated Benefits Model Regulation to finance long-term care (LTC) accelerated benefits as part of a hybrid life and LTC insurance policy.

*All responses are to be provided in the Excel spreadsheet.*

- (b) (2 points) Describe the impact of experience changes to financial performance by completing the table in the Excel spreadsheet.

*All responses are to be provided in the Excel spreadsheet.*

In the Excel spreadsheet, you are given policyholder and policy benefit information.

- (c) (3 points) Calculate the total policy benefits paid to Policyholder A under each of the following insurance policy options described below:

- (i) Standalone LTC
- (ii) Hybrid WL and LTC Option #1
- (iii) Hybrid WL and LTC Option #2

Show your work.

*All responses are to be provided in the Excel spreadsheet.*

*The Excel spreadsheet has  
additional data and information applicable to this question.*

**10.**

(5 points)

- (a) (1 point) List advantages and disadvantages of self-funding arrangements for group medical insurance.

*All responses are to be provided in the Excel spreadsheet.*

- (b) (2 points) Describe four risks that are transferred to the insurer in an employee benefit plan with a fully insured contract.

*All responses are to be provided in the Excel spreadsheet.*

You are an actuary evaluating a level funded contract.

In the Excel spreadsheet, you are given level funding terms and claims experience.

- (c) (2 points) Calculate the shared surplus for Year 20X1.

Show your work.

*All responses are to be provided in the Excel spreadsheet.*

**\*\*END OF EXAMINATION\*\***