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

Exam GHCORU

MORNING SESSION

Date: Wednesday, October 28, 2015
Time: 8:30 a.m. – 11:45 a.m.

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This examination has a total of 100 points. It consists of a morning session (worth 60 points) and an afternoon session (worth 40 points).

   a) The morning session consists of 9 questions numbered 1 through 9.

   b) The afternoon session consists of 7 questions numbered 10 through 16.

   The points for each question are indicated at the beginning of the question. Questions 2, 3, 10 and 11 pertain to the Case Study.

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 GHCORU.

6. Be sure your written-answer envelope is signed because if it is not, your examination will not be graded.

Printed in the U.S.A.
Exam GHCORU
475 N. Martingale Road
Schaumburg, IL 60173-2226

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****
Morning Session

1. (*7 points*) You are the consulting actuary for Robson, Inc. Robson offers retiree medical benefits to individuals with more than 10 years of service to the company.

One member of the plan had the following claims experience:

Claim Date	Allowed Cost	Medicare Covered Cost
1/1/2014	$500	$100
3/1/2014	$1000	$600
6/1/2014	$2000	$1500
Total	$3500	$2200

The benefit provisions in the Robson plan are as follows:

- $500 deductible
- 20% member coinsurance

(a) (*1 point*) List challenges associated with offering a medical insurance plan to retirees that generally do not exist with active employees.

(b) (*1 point*) Describe the characteristics of the ideal vehicle for prefunding retiree health benefits.

(c) (*2 points*) Robson creates a three year forecast with two scenarios: 3% gross trend and 6% gross trend.

(i) Draft an exhibit to illustrate the impact to net trend for two integration methods using the member claims provided.

(ii) Explain the result.

Show your work.

(d) (*1 point*) Define "Net Periodic Postretirement Benefit Cost" and list the components.

(e) (*2 points*) List four of the regulations from the Patient Protection and Affordable Care Act that will affect employer-sponsored retiree health plans and describe the expected impact of each.

Questions 2 and 3 pertain to the Case Study.
Each question should be answered independently.

2. (*7 points*) Dr. No's has been insured with Quantum since 2011. It is now 2013, and Dr. No's has received their renewal for the 2014 plan year. The renewal notes a portion of the increase is due to ACA provisions which are effective 1/1/2014. There are no changes in the plan design.

(a) (*2 points*) Describe guidance for actuaries provided within the Actuarial Standards of Practices (ASOPs) that apply to insured group rate filings.

(b) (*3 points*) Identify and describe ACA provisions that contributed to the 2014 renewal calculation.

(c) (*2 points*) The CFO is preparing a multi-year strategic plan and has asked you to explain the implications if Dr. No's discontinues its health plan in 2020. Assume there are no modifications to the ACA and Dr. No's employee growth is consistent with current projections.

(i) Outline additional regulations that Dr. No's will be subject to in 2020.

(ii) Calculate the cost impact to Dr. No's of discontinuing coverage in 2020.

Show your work.

Questions 2 and 3 pertain to the Case Study.
Each question should be answered independently.

3. (*8 points*) You have been hired by Goldfinger Insurance Company (GIC) to redesign its D-SNP.

(a) (*2 points*) Construct a table to compare and contrast the eligibility and benefit features of different SNPs.

(b) (*3 points*) GIC is considering changing its current Skilled Nursing Facility benefit to extend the copay to days 6 through 8. Calculate the largest copay applicable to days 1 through 8 that would reduce GIC's costs by at most $2 PMPM. Show your work.

(c) (*1 point*) Outline a memo explaining why the company may not encounter the same level of success in Tennessee as it did in Kentucky.

(d) (*2 points*) Describe additional information that GIC should obtain in order to more accurately project its performance in Tennessee.

4. (*6 points*) Doctor Trumpet, a non-Medicare Participating Provider, provides only the four services described in the table below.

Description	Service 1	Service 2	Service 3	Service 4
Unadjusted Work Value Unit	120	245	310	140
Unadjusted Practice Expense Unit	90	100	40	60
Unadjusted Malpractice Value Unit	45	40	55	5
Work Value Area Adjustment	1.20	1.30	1.10	1.00
Practice Expense Area Adjustment	1.15	1.20	0.85	0.55
Malpractice Value Area Adjustment	0.95	1.05	1.25	1.15
Typical Utilization Rate	80%	40%	5%	30%

Nationwide Conversion Factor = 1.45

Non-participation "load" = 1.0925

(a) (*3 points*) Calculate the maximum Medicare reimbursement Doctor Trumpet can receive for a typical Medicare-eligible patient. Show your work.

(b) (*1 point*) Explain how Medicare is financed.

(c) (*1 point*) Describe the long-term financing challenges faced by Medicare.

(d) (*1 point*) Outline some approaches that could improve Medicare solvency.

5. (*4 points*) You manage the Medical Cost Analysis and Reporting area within the actuarial department of Insura Health, a health insurer. Field Hospital is the largest hospital in Insura's provider network, providing 80% of all inpatient services. Field signed a shared savings agreement with Insura for inpatient services. Field offers health insurance benefits to their employees through Insura via a self-funded arrangement.

Your team has compiled the following information:

Description	Prior Year Utilization/1000	Current Year Utilization/1000	Prior Year Unit Cost (Allowed)	Current year Unit Cost (Allowed)
Hepatitis C Drug Treatment	96	88	$750	$8,125
Durable Medical Equipment	45	48	$733	$737
Anesthesiology (outpatient)	100	105	$900	$943
Readmission	2.7	4.3	$23,000	$23,500

(a) (*1 point*) Describe the types of financial reporting that may need to be provided to:

(i) Insura's management

(ii) Field Hospital

(b) (*3 points*) Draft reports with commentary on the experience for:

(i) Internal Management

(ii) Field Hospital as an employer and

(iii) Field Hospital as a contracted hospital

Show your work.

6. (*6 points*) The Long Term Disability (LTD) product team within Royal Life Insurance Company is developing a new large group product. You are the certifying actuary.

Premium rates have been approved in 10 states, and are still pending regulatory closure in five states. Rates are guaranteed for two years with a 3% increase to be applied in the second year. Sales and marketing efforts have begun in all the approved states. 40% of projected business by premium volume has been sold; all policies have an effective date of January 1, 2015.

You discover an error in the manual rate development and regulatory rate filings. Claim incidence rates were multiplied by a factor of 1.00 instead of 1.20. The administrative expenses were appropriately estimated using a per group policy method.

The following pro forma projection was created before the error was discovered:

Royal Life Financial Projections
Launch of LTD Product
(all figures are in $ thousands and exclude investment income, realized gains/losses, and interest expenses)

	2013 Actual	2014 Actual	2015 Projection	2016 Projection
Revenue	$57,686	$66,599	$76,000	$86,000
LTD revenue	$0	$0	$4,000	$8,000
Administrative fees income	$4,152	$5,050	$6,000	$7,000
Other revenue	$79	$45	$0	$0
Total Revenue	$61,917	$71,694	$86,000	$101,000
Medical claims	$49,252	$57,230	$65,000	$73,000
LTD claims	$0	$0	$2,800	$5,700
Commissions				
Medical	$1,591	$1,541	$1,800	$2,000
LTD	$0	$0	$200	$400
General administrative expenses	$8,143	$9,246	$12,000	$13,000
Premium taxes	$0	$0	$1,600	$1,900
Total Expenses	$58,986	$68,017	$83,400	$96,000

6. Continued

(a) (*1 point*) Describe the pricing components, other than claims cost, of group disability manual rates.

(b) (*3 points*) Calculate the dollar and percentage impact of the error to total revenue, claims, expenses, and profit margin. Show your work.

(c) (*2 points*) Recommend an action plan to correct the error with:

(i) Insurance departments

(ii) Internal departments and business partners

(iii) Existing and prospective customers

Identify relevant guidance from the applicable ASOPs.

7. (*9 points*) You are a new FSA at Leaders and Best Health Plan (L&B). L&B sells small group health insurance in the United States. You are responsible for ensuring L&B's compliance with the Affordable Care Act (ACA), including risk adjustment, reinsurance, and risk corridors (3Rs).

(a) (*1 point*) Explain how ACA risk adjustment is designed to promote competitive premium offerings in the small group marketplace.

(b) (*2 points*) Describe the rationale for developing a Commercial Risk Adjustment model rather than applying the Medicare Advantage Risk Adjustment model.

Senior executives at L&B are concerned about how small group plans filed under the ACA are performing in State M. L&B priced all of its small group plans with an 80% target loss ratio. You have been asked to evaluate the impact of the risk adjustment program to results based on information in the table below.

	L&B State M	All Other Companies State M
Member months	1,244	7,412
Billable member months	1,244	7,412
Claims (PMPM)	$301	$282
Premium (PMPM)	$323	$375
Medical expense ratio (MER)	93.2%	75.2%
Actuarial value	0.80	0.70
Age rating factor	1.22	1.44
Geographic cost factor	1.17	1.17
Induced demand	1.08	1.03
Tobacco factor	1.25	1.10
Plan liability risk scores	1.32	1.28

(c) (*4 points*) Calculate the risk adjustment transfer amount for L&B. Show your work.

(d) (*2 points*) Outline a memo to leadership describing the impact of ACA risk adjustment and subsequent action planning.

THIS PAGE INTENTIONALLY LEFT BLANK

8. (*7 points*) Retro Life Insurance Company is a market leader in large group life insurance coverage. Most groups have more than 20,000 lives and use the retrospective experience rating method.

You are given the following:

- The effective income tax rate is 35%
- 40% of earnings are retained

Retro Life Financial Pro Forma Before Merger (in $ thousands)			
	2014 Actual	2015 Projection	2016 Projection
Average face amount in-force	$25,000,000	$24,000,000	$20,000,000
Premium revenue	$100,000	$120,000	$125,000
Administrative fees income	$5,000	$10,000	$15,000
Net investment income on reserves & surplus	$1,000	$1,200	$1,300
Total Revenue	$106,000	$131,200	$141,300
Claims	$80,000	$96,000	$100,000
Commissions	$3,000	$3,600	$3,800
General administrative expenses	$13,000	$15,000	$20,000
Premium taxes	$2,000	$2,400	$2,500
Total Expenses	$98,000	$117,000	$126,300
Total Assets End of Period	$120,000	$160,000	$200,000
Average shareholder equity (rounded)	$43,700	$71,100	$103,200

Prospero Accident & Health Insurance Company specializes in mid-size localized employer groups. Most of the Prospero groups use the prospective experience rating method.

You are given the following:

- The effective income tax rate is 35%
- 30% of earnings are retained

8. Continued

Prospero A&H Financial Pro Forma Before Merger (in $ thousands)			
	2014 Actual	2015 Projection	2016 Projection
Average face amount in-force	$32,000,000	$35,000,000	$40,000,000
Premium revenue	$160,000	$210,000	$240,000
Administrative fees income	$10,000	$20,000	$30,000
Net investment income on reserves & surplus	$1,800	$2,300	$2,600
Total Revenue	$171,800	$232,300	$272,600
Claims	$124,800	$168,000	$198,000
Commissions	$8,000	$10,500	$12,000
General administrative expenses	$24,000	$30,000	$33,000
Premium taxes	4,000	$5,300	$6,000
Total Expenses	$160,800	$213,800	$249,000
Total Assets End of Period	$200,000	$250,000	$300,000
Average shareholder equity (rounded)	$64,200	$121,400	$149,000

Retro Life Insurance has merged with Prospero Accident & Health effective January 1, 2015.

You are given the following post-merger information:

- Underlying morbidity and mortality rates remain unchanged
- Effective income tax rate remains unchanged
- Total administrative expenses are expected to be 20% lower than pre-merger
- Target profit ROE > 15%
- Overall and net margins > 5%
- Average Shareholder Equity ($ thousands)
  - 2015: $188,000
  - 2016: $247,000

Question 8 continued on next page

8. Continued

(a) (*3 points*) Calculate the following pre- and post-merger financial metrics for each year from 2014 to 2016:

- ROE
- Net margin
- Dividend growth rate

Show your work.

(b) (*3 points*) Critique if the post-merger financial metrics from (a) achieve targets. Justify your position.

(c) (*1 point*) Recommend changes to rating methods to improve the sustainable growth rate of the merged company.

9. (*6 points*) You are an expert in population health management. You have been engaged by a state Medicaid authority to discuss creative alternatives to improve health outcomes and reduce costs for their large Medicaid population.

(a) (*2 points*) Describe the types of waivers and approval processes for alternative Medicaid programs.

(b) (*1 point*) List the changes to Federal Medicaid guidelines from the ACA.

(c) (*1 point*) List common requirements imposed on firms providing utilization management services to HMOs.

(d) (*1 point*) List components of effective LTC care management programs and the role of care managers for each component.

(e) (*1 point*) The state has large LTC costs and you propose a waiver program of deploying care managers in the community to move people from nursing homes to a community setting. The state has 750,000 Medicaid members of which 17% are Aged, Blind, or Disabled (ABD).

Care Category (ABD)	PMPM Cost
Acute Inpatient	$275
LTC	$150
Outpatient Emergency Room	$80
Outpatient Other	$120
Physician Care	$220
Pharmacy Costs	$95

You have made the following assumptions for the waiver program:

- Reduce acute care costs by 10%
- Move 20% of the nursing home residents to a community setting at 70% of the cost
- Reduce Emergency Room costs by 15%
- No change in Outpatient other costs
- Increase pharmacy costs by 18%
- Increase physician costs by 8%

Calculate the maximum amount the state can spend on community care workers to have the waiver approved. Show your work.

****END OF EXAMINATION****
Morning Session

USE THIS PAGE FOR YOUR SCRATCH WORK