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

Exam GHCORU

MORNING SESSION

Date: Wednesday, April 25, 2018
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 7 questions numbered 1 through 7
   b) The afternoon session consists of 6 questions numbered 8 through 13.

   The points for each question are indicated at the beginning of the question. Questions 5 and 10 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.

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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. (*5 points*) Your company is considering entering the individual ACA Exchange Market in 10 states. You are part of a task force with the goal of evaluating opportunities in the exchange and recommending which states to participate in, if any.

(a) (*2 points*)

(i) (*1 point*) Describe the consumers most likely to seek coverage on the individual exchange.

(ii) (*1 point*) Identify the financial incentives for consumers to buy on the individual exchange.

(b) (*1 point*) Describe elements of the exchanges that can vary at the state level.

Plan premiums are as follows:

Age	Bronze Premium PMPM	2nd Lowest Silver Premium PMPM
25	$276	$300
60	$828	$900

Assume that 100% of FPL is $12,000.

(c) (*2 points*) Calculate whether the bronze plan will be premium free for these two age groups at the 150% FPL. Show your work. Justify your answer.

2. (*7 points*) You are a small group health insurance pricing actuary in a state that has adopted the Small Employer Health Insurance Availability Model Act. A small group is defined consistently with the HIPAA definition.

You have been given the following renewal information for the following groups:

Group	Affordable Care Act Grandfathered	Eligible employees	Enrolled Employees	Change in Age	Change in New Business Rates	Relation to Index Rate	Recommended Rate Increase
Able	Yes	12	11	1%	8%	1.20	3%
Baker	Yes	21	18	-1%	8%	0.82	8%
Charlie	No	37	35	1%	7%	1.00	7%
Dog	Yes	53	48	4%	8%	1.00	8%

(a) (*2 points*) Describe the core components of the rate filing requirements that pertain to group Charlie.

(b) (*4 points*) For each group:

(i) (*3 points*) Calculate the minimum and maximum allowable rate increases. Show your work.

(ii) (*1 point*) Evaluate the recommended rate increases and provide your own renewal recommendations. Justify your response.

(c) (*1 point*) Describe the components of the Actuarial Certification of the small group business.

3. (*11 points*) You are an actuary advising Company ABC on its retiree medical program.

ABC provides the following benefits to its retirees:

Medical
- Deductible: $400 per person
- Coinsurance: 10%
- Annual Out-of-pocket maximum: $3,000 per person
- Full Coordination of Benefits (COB) for Medicare-eligible retirees

Prescription Drug
- Same plan design as for active employees
- ABC is applying for the Retiree Drug Subsidy (RDS) for Medicare-eligible retirees
- Not integrated with Medical

Assume the following provisions for Original Medicare in 2016:

Medicare Part A:
- Deductible: $1,300 per person
- Coinsurance: 0%

Medicare Part B:
- Deductible: $150 per person
- Coinsurance: 20%

3. Continued

(a) (*5 points*) ABC is considering changing how it coordinates with Medicare in an effort to reduce the costs of its retiree medical plan.

(i) (*1 point*) List and describe the common methods of Medicare coordination.

(ii) (*4 points*) One retiree in the plan had the following claims experience:

Claim Date	Allowed Amount	Claim Type
02/01/2016	$900	Hospital
02/01/2016	$200	Medical
04/01/2016	$350	Medical
05/15/2016	$1,200	Hospital
05/15/2016	$100	Medical
08/01/2016	$600	Hospital
08/01/2016	$150	Medical

Calculate the savings for this retiree in changing from the current COB method to each of the other methods. Show your work.

(b) (*1 point*) Describe other options for providing prescription drug coverage for ABC's Medicare-eligible retirees.

(c) (*2 points*) Describe the effect that changing the benefit for current active employees to a fixed dollar subsidy would have on ABC's Accumulated Postretirement Benefit Obligation (APBO) and Net Periodic Postretirement Benefit Costs (NPPBC).

Question 3 continued on next page.

3. Continued

Under ABC's pension plan, the following employees are credited for service years at ages 35 and older, and full eligibility is reached after 30 years of service or at the normal retirement age of 65.

EE ID	EE Age	Years of Service
A	30	5
B	40	10
C	50	15
D	60	20
E	70	40

You have calculated an unrecognized prior service cost for this postretirement benefit plan in the amount of $100,000.

(d) (*2 points*) Design an amortization schedule for the unrecognized prior service cost based on the expected remaining years of service prior to full eligibility for the participating employees. Show your work.

(e) (*1 point*) Design an alternative schedule, allowable under FAS 106 for the amortization of these unrecognized costs. Show your work.

4. (*3 points*) You are a consulting actuary working with a client interested in learning more about health care regulations and the Affordable Care Act (ACA).

(a) (*1 point*) Identify the provisions of the ACA related to public programs.

(b) (*2 points*) Critique each of the provisions in part (a) with respect to the elements of the Triple Aim.

Question 5 pertains to the case study.

5. (*15 points*) You have been asked to review the financial statements of the Quantum Health Insurance Company.

(a) (*1 point*) Describe advantages of cash flow statements relative to income statements and balance sheets.

(b) (*1 point*) Define the components of cash flow from operating activities.

(c) (*2 points*) Explain possible reasons for negative cash flows from each of the following, and whether such negative cash flows are necessarily bad.

(i) Operations

(ii) Investing activities

(iii) Financing activities

(d) (*3 points*) Calculate the following financial measures for Quantum for 2013 and 2014.

(i) Return on equity

(ii) Administrative expense ratio

(iii) Health benefits ratio

(iv) Operating profit

(v) Operating profit margin

(vi) Net profit margin

Show your work.

5. Continued

You have calculated the following percentage increases from 2013 to 2014 in income statement values:

Quantum Income Statement			
(In Thousands)	For the Years Ending December 31,		
	2014	2013	2013 to 2014 Percentage Growth
Revenue			
Premiums	85,130	53,032	61%
Individual HMO	22,637	-	N/A
Individual PPO	6,407	-	N/A
Individual Grandfathered	18,780	32,298	-42%
Total Individual	47,824	32,298	48%
Small Group HMO	14,860	-	N/A
Small Group PPO	7,699	-	N/A
Small Group Grandfathered	14,747	20,734	-29%
Total Small Group	37,306	20,734	80%
Administrative Fees Income	32	22	45%
Miscellaneous Income	1,703	1,061	61%
Total Operating Revenue	86,865	54,115	61%
Net Investment Income	1,340	1,079	24%
Total Revenues	**$ 88,205**	**$ 55,194**	60%
Expenses			
Benefit Expense	67,118	43,401	55%
Individual HMO	18,338	-	N/A
Individual PPO	5,232	-	N/A
Individual Grandfathered	15,223	25,850	-41%
Total Individual	38,793	25,850	50%
Small Group HMO	10,435	-	N/A
Small Group PPO	5,586	-	N/A
Small Group Grandfathered	12,304	17,551	-30%
Total Small Group	28,325	17,551	61%
Commissions	1,541	757	104%
General Insurance Expenses	9,534	5,780	65%
Insurance Taxes, Licenses, and Fees, Excl. FIT	1,703	1,061	61%
Write-in	752	576	31%
Total Expenses	**$ 80,648**	**$ 51,575**	56%
Income Before Income Tax Expense	7,557	3,619	109%
Income Tax Expense	2,568	1,230	109%
Net Income	**$ 4,989**	**$ 2,389**	109%

Question 5 continued on next page.

5. **Continued**

(e) (*4 points*) Interpret the 2013 to 2014 percentage changes in income statement values and changes in the financial measures calculated in part (d).

(f) (*4 points*) Explain how Quantum's participation in the exchanges beginning in 2014 may impact their income statement.

6. (*12 points*) A state's Medicaid agency has hired your actuarial consulting firm to review their program and suggest improvements. The state does not cover the ACA Medicaid expansion population, offers no optional benefits other than pharmacy and uses minimum eligibility standards.

(a) (*3 points*) Describe the degree of flexibility allowed to state Medicaid programs in beneficiary categories, covered services and cost-sharing.

(b) (*2 points*) Differentiate the state and federal components in financing Medicaid programs.

You are provided with the following experience on 2016 Medicaid fee-for-service claims for non-disabled adults under age 65.

	2016 Experience		Projected Annual Trends	
	Average Unit Cost	Utilization Per Thousand Members Per Year	Unit Cost	Utilization
Hospital Inpatient	$ 2,299	328	0.5%	-0.5%
Hospital Outpatient	$ 438	1,970	1.5%	2.0%
Professional Services	$ 71	9,852	1.0%	1.5%
Pharmacy - Retail Drugs	$ 33	13,137	5.0%	2.5%
Other Services	$ 438	547	1.0%	-0.5%

(c) (*4 points*) Calculate the projected 2018 claims per member per month (PMPM). Show your work.

(d) (*3 points*) The state is instituting a program to reduce premature births by creating a multi-faceted prenatal benefit for expectant mothers, including nutritional supplements, remote blood pressure monitoring, nurse visits and peer support.

(i) (*1 point*) Explain how this program fulfills the Triple Aim of health care, by component.

(ii) (*1 point*) Comment on the suitability of this program for this population.

(iii) (*1 point*) Propose another program for the state to implement to fulfill the Triple Aim. Justify your proposal.

7. (*7 points*) XYZ Insurance Company offers a defined standard Medicare Part D plan, with a deductible of $310, initial coverage limit of $2,830, and TrOOP maximum of $4,550.

(a) (*1 point*) Describe the components of Medicare Part A and B that must integrate with Medicare Part D.

(b) (*2 points*) Describe the different types of income eligible members and compare and contrast the components in the Part D program that apply to each.

Management is concerned that the claims system is incorrectly processing claims. You have received the calendar year 2010 claims for two members, Dan and Susy. Dan is an institutionalized dual eligible beneficiary. Susy does not qualify as a low income member.

Their claims, in chronological order, are as follows:

	Total Allowed Drug Cost Per Claim	
	Dan	**Susy**
Claim #1	$300	$500
Claim #2	$250	$875
Claim #3	$400	$1,200
Claim #4	$150	$600
Claim #5	$600	$400

The claims system data shows that Dan paid $657.50 and Susy paid $1,375.00.

(c) (*2 points*) Verify Dan and Susy's cost sharing. Show your work.

(d) (*2 points*) Management is considering changing the plan deductible to $100.

(i) (*1 point*) Calculate the impact of the proposed change to Dan and Susy in 2010. Show your work.

(ii) (*1 point*) Describe the considerations for the plan when changing cost sharing from the defined standard.

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

USE THIS PAGE FOR YOUR SCRATCH WORK

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