SOCIETY OF ACTUARIES
Group and Health – Design & Pricing

Exam DP-GH

AFTERNOON SESSION

Date: Thursday, May 2, 2013
Time: 1:30 p.m. – 4:45 p.m.

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This afternoon session consists of 7 questions numbered 8 through 14 for a total of 60 points. The points for each question are indicated at the beginning of the question. There are no questions that pertain to the Case Study in the afternoon session.
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 since 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 DP-GH.
6. Be sure your written-answer envelope is signed because if it is not, your examination will not be graded.

Tournez le cahier d'examen pour la version française.

475 N. Martingale Road
Schaumburg, IL 60173-2226

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Exam DP-GH

****BEGINNING OF EXAMINATION****
AFTERNOON SESSION
Beginning with Question 8

8. (*6 points*) Annual trend rates for prescription drugs in 2011 and 2012 averaged 2%, and your CFO wants to use that as the annual trend assumption for his 2013 through 2016 forecast.

(a) (*2 points*) Explain risks with the CFO's prescription drug trend assumption. Include facts and industry developments to support your answer.

(b) (*2 points*) Outline contractual elements with your PBM which should assist in keeping prescription drug trends low for the 2013 through 2016 period.

(c) (*2 points*) Calculate the average Allowed and Net PMPMs for 2012 given the frequency and cost information below. Show your work.

2012 Utilization and Cost Statistics:

	Annual Scripts per 1,000	Average Allowed Cost per Script	Copay	Coinsurance	OOP Max
Tier 1	2500	$24	$10		
Tier 2	5000	$80	$25		
Tier 3	1500	$160	$50		
Specialty	100	$3000		20%	$2,000

Specialty Drug Claims Probability Distribution:

Range of Claims	Frequency	Average Annual 2012 Claims
$0	0.83	$0
$0.01 - $1000	0.11	$435
$1000.01 - $2000	0.03	$1,405
$2000.01 - $10,000	0.02	$4,500
>$10,000	0.01	$12,000

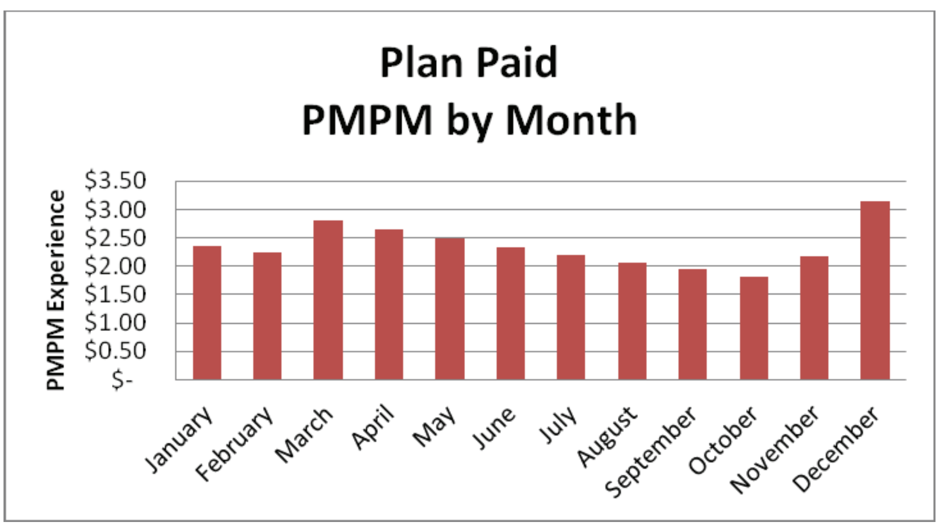
9. (*6 points*) CrinklePuppy, a small internet startup with a workforce comprised mostly of young single employees, offers a vision benefit for employees only.

The current benefit is a $50 deductible, $1,500 plan maximum.

During the October open enrollment the group announced a benefit change to a $75 deductible and a $1,000 plan maximum.

You are a consultant retained by CrinklePuppy to evaluate the experience of the vision plan shown in the table and graph below.

Month	Members	Plan Paid PMPM
January	45	$2.35
February	72	$2.25
March	121	$2.81
April	180	$2.64
May	200	$2.49
June	245	$2.34
July	400	$2.20
August	514	$2.06
September	800	$1.94
October	900	$1.82
November	924	$2.19
December	1,074	$3.15
Composite		$2.32



9. Continued

(a) (*4 points*)

(i) Explain the shape of the graph for the experience year.

(ii) Explain the expected shape of the graph in the next twelve months.

(iii) Sketch the graph for the two year period.

(iv) Annotate the graph with labels describing the behaviors observed.

(v) Provide another example of a plan offering that would have similar patterns.

(b) (*1 point*) Explain considerations in setting claims reserves at the end of the current year for this group's vision plan.

(c) (*1 point*) The group suggests that they would offer the vision plan on a voluntary basis as a cost savings measure. Outline the likely effects of going to a voluntary plan.

10. (*15 points*) CANMANAGE Inc. is a Canadian company that implemented a flexible benefit program for its 1,500 salaried employees five years ago. The program has been operating well and the CEO wants to explore the possibility of negotiating the same program for all 500 unionized employees. The CEO expects first year savings of at least 10% of current union program costs if the change is made.

You are given the following information for salaried and union designs and 2012 costs:

Flexible Benefits for Salaried Employees
Plan Design:
CANMANAGE pays 100% of the cost for the same life insurance and LTD coverage for all employees. All employees use Flex credits to purchase health and dental benefits with any remaining credits directed to the HSA.

Benefit	Plan Design
Life insurance	1× salary
LTD	70% of salary
Health	Option 1: 80% drugs, $300 annual maximum for paramedical services
	Option 2: 100% drugs, $500 annual maximum for paramedical services, $300 per 2 years maximum for vision care
Dental	Option 1: 80% basic, 50% major, 50% ortho
	Option 2: 100% basic, 60% major, 60% ortho
HSA	Remaining credits (if any)

Credits, Pricing and Participation:
Annual Flex Credits: $3,000 per employee

Benefit	Participation	Experience Rate	Annual Price Tag – Single	Annual Price Tag – Family
Life insurance	100%	$0.180 per $1,000 benefit	n/a	n/a
LTD	100%	1.5% of salary	n/a	n/a
Health Option 1	60%	$90 PEPM	$700	$1,400
Health Option 2	40%	$175 PEPM	$1,000	$2,800
Dental Option 1	70%	$85 PEPM	$600	$1,300
Dental Option 2	30%	$150 PEPM	$900	$1,800

"PEPM" means per employee per month
Percentage of employees with family coverage for health and dental: 75%
Average annual salary: $80,000
Credibility applied to experience for all benefits: 100%

10. Continued

Benefits for Unionized Employees

Plan Design:

All employees receive the same life insurance, LTD, health and dental benefits. CANMANAGE pays 100% of the cost of life and LTD, and 80% of health and dental premiums.

Benefit	Plan Design
Life Insurance	2× salary
LTD	70% of salary
Health	100% drugs, \$500 annual maximum for paramedical services, \$300 per 2 years maximum for vision care (same as flex option 2 for management)
Dental	100% basic, 60% major, 60% ortho (same as flex option 2 for management)

Pricing:

Benefit	Experience Rate	Manual Rate	Credibility
Life insurance	\$0.150 per \$1,000 benefit	\$0.220 per \$1,000 benefit	30%
LTD	2.20% of salary	1.86% of salary	40%
Health	\$90 PEPM single \$180 PEPM family	n/a	100%
Dental	\$80 PEPM single \$160 PEPM family	n/a	100%

Average annual salary: \$60,000

Percentage of employees with family coverage for health and dental: 75%

(a) (*1 point*) Explain the reasons why flexible benefit programs have been slower to emerge within unionized workforces and describe elements that can be included to help ensure the program's success.

(b) (*7 points*) Calculate what CANMANAGE's 2012 costs would have been under the salaried flexible benefit plan design for both salaried and unionized employees if:

(i) The unionized and salaried employees were combined for rating purposes using the current salaried plan's price tags and credits.

(ii) The unionized plan was separately rated from the salaried plan with credits and price tags determined using the average credit approach.

Assume the following relative values of option 1 to option 2:

- Health: 0.65
- Dental: 0.75

State your assumptions and show your work.

Question 10 is continued on the next page

10. Continued

(c) (*4 points*) The Director of HR is concerned that the flexible benefit plan could adversely impact unionized employees. Assess the validity of the Director's concerns by performing a winners and losers analysis. Assume the unionized employees are separately rated and use the average credit approach. Show your work.

(d) (*2 points*) Recommend an alternative flexible benefit pricing strategy that would meet the CEO's cost objective and minimize the number of losers. Justify your recommendation.

(e) (*1 point*) CANMANAGE's collective bargaining agreements are signed for a three-year period. Describe approaches that may be used to address costs for a multi-year contract.

11. (*7 points*) A block of Long Term Care (LTC) policies launched 5 years ago is performing poorly and you have been asked to re-evaluate the original pricing assumptions.

Beneficiaries must meet all of the following requirements in order to be eligible for benefits:

- Activities of Daily Living (ADL) Requirement: 1 or more ADLs should be impaired to qualify for coverage.
- Duration of Condition Requiring Long-Term Care: Medical practitioner must expect condition to last at least 60 days.
- Medical Necessity Requirement: The long-term care required must be medically necessary.

(a) (*3 points*) Explain how each of the following could impact premium adequacy.

(i) Higher voluntary lapses than expected in early durations

(ii) Higher voluntary lapses than expected in later durations

(iii) Higher mortality than expected

(iv) Higher morbidity than expected

(v) Higher interest rates than expected

(b) (*1 point*) Describe the "rate stability law" and the impact it has had on LTC premium rating.

(c) (*2 points*)

(i) Describe the requirements for an LTC plan to be tax-qualified.

(ii) Assess whether the current eligibility requirements fulfill the requirements for a tax-qualified LTC plan and propose changes as necessary.

(d) (*1 point*) Explain the tax benefits of a tax-qualified plan to both the insured and the insurance company.

12. (*9 points*) You are reviewing your company's previous small group rates for the Pecksniff line of insured medical products effective January 1, 2010.

It was based on the following information for claims incurred January 1, 2008 to December 31, 2008.

Service Category	Utilization Per 1,000 Per Year	Allowed Cost Per Service	Annual Contract Trends	Historical Annual Use Trend
Inpatient	52.1	$5,122.00	4.0%	2.0%
Outpatient	450.0	$674.00	5.0%	5.0%
Physician	6,700.0	$132.00	2.0%	2.0%
Rx	9,124.0	$32.00	6.0%	4.0%

The head of health services estimated that the new 2010 program to manage chronic disease members would result in the following changes in services in the first year.

Service Category	Estimated Change
Inpatient	1% Decrease
Outpatient	6% Decrease
Physician	3% Increase

(a) (*2 points*) Calculate the calendar year 2010 expected total medical base rate that would have been filed, incorporating the impact from the chronic disease program.

(b) (*1 point*) The plan has these expenses:

Claims and Customer Service	6%
Group Service	5%
Health Management	4%
Risk Charge	5%
Other Administrative	2%

Calculate the filed rate using this information. Show your work.

12. Continued

(c) (*2 points*) Identify normalizing factors that you would incorporate into the development of the manual rate and describe considerations for developing each factor.

(d) (*2 points*) The state has adopted the NAIC model legislation with a literal interpretation.

(i) Describe the maximum rate a group could be charged for its first year.

(ii) Describe the maximum rate increase that can be given to a group after the first year, assuming there are no changes to the group or the offering.

(e) (*2 points*) Describe changes you would make to this filing to make it applicable for an effective date of January 1, 2014.

13. (*5 points*)

(a) (*2 points*) Describe issues that a state should consider regarding the creation of a health exchange under the Patient Protection and Affordable Care Act (PPACA).

(b) (*1 point*) Describe the advantages of various organizational structure options when establishing a state-run health exchange.

(c) (*2 points*) Describe operational considerations for a state-run health exchange to function. Include an example from Massachusetts, Utah, Connecticut or Washington.

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14. (*12 points*) You are the consulting actuary for Torrent, a large group based in the U.S., which has three classes of employees - Actives, Early Retirees, Medicare Supplement Retirees with Pharmacy Coverage.

Torrent plans a layoff of 10,000 employees based on seniority and plans further cost cutting.

The Torrent benefits committee recommends the following cost cutting measures:

- Since early retirees are so expensive, they should pay a larger share of their benefits.
- Prevention benefits should have a small cost share.
- Deductibles for actives should be increased from $100/$300 to $500/$1500.
- All other cost share is a coinsurance.
- Medicare retiree pharmacy benefits should have a larger cost share.
- Mental Health inpatient benefits will have a limit on days covered.

The Torrent HR department analyst, Kandi, prepares the following forecasting model:

	Actives				Early Retirees				Medicare Retirees			
	Annual Trends Assumptions		Average Cost Share		Annual Trends Assumptions		Average Cost Share		Annual Trends Assumptions		Average Cost Share	
Inpatient	Use	Cost Per Service	Base Period	Forecast Period	Use	Cost Per Service	Base Period	Forecast Period	Use	Cost Per Service	Base Period	Forecast Period
Medical/ Surgical	3%	4%	6%	10%	3%	4%	6%	10%	3%	4%	0%	0%
Pregnancy/ Birth	3%	4%	12%	15%	3%	4%	12%	15%	3%	4%	0%	0%
Mental Health	-50%	4%	8%	14%	-50%	4%	10%	14%	-50%	4%	0%	0%
Outpatient												
Surgery	3%	4%	6%	10%	3%	4%	6%	10%	3%	4%	0%	0%
ED	3%	4%	12%	20%	3%	4%	12%	20%	3%	4%	0%	0%
Other	3%	4%	8%	14%	3%	4%	10%	14%	3%	4%	0%	0%
Physician												
Office Visits	3%	4%	6%	10%	3%	4%	6%	10%	3%	4%	0%	0%
Maternity	3%	4%	12%	20%	3%	4%	12%	20%	3%	4%	0%	0%
Prevention	-50%	4%	0%	5%	-50%	4%	0%	5%	-50%	4%	0%	0%
Other	3%	4%	6%	10%	3%	4%	6%	10%	3%	4%	0%	0%
Pharmacy												
Brand	3%	4%	10%	17%	3%	4%	10%	17%	3%	4%	10%	17%
Generic	3%	4%	20%	34%	3%	4%	20%	34%	3%	4%	20%	34%
Specialty	3%	4%	0%	0%	3%	4%	0%	0%	3%	4%	5%	9%

14. Continued

Criticize the committee recommendations and the HR forecast as they apply to the following for each of the classes (Actives, Early Retirees and Medicare Supplement) and all service categories (Inpatient, Outpatient, Physician, Pharmacy).

(a) (*3 points*) Cost per unit trend assumptions.

(b) (*3 points*) Utilization assumptions.

(c) (*3 points*) Cost share equity between classes.

(d) (*3 points*) Compliance with regulations.

****END OF EXAMINATION****
AFTERNOON SESSION

USE THIS PAGE FOR YOUR SCRATCH WORK