GH DPC Model Solutions
Spring 2020

1. Learning Objectives:

2. The candidate will understand how to calculate and recommend a manual rate for each of the coverages described in Learning Objective 1.

Learning Outcomes:

(2b) Develop a medical cost trend experience analysis.

(2c) Calculate and recommend assumptions.

(2e) Identify critical metrics to evaluate actual vs. expected results.

(2g) Apply actuarial standard of practice in evaluating and projecting claim data.

Sources:

Timing's Everything: The Impact of Benefit Rush
Group Insurance Ch. 20
ASOP No. 41

Commentary on Question:

This question challenged candidates to calculate particular rate development factors, as well as justify and re-assess these factors based on commentary received. To provide additional breadth to the scenario the question then asks candidates to describe the disclosures necessary in an actuarial communication related to claims projection.

Solution:

(a)

(i) Calculate NCI's annual claims PMPM trend for each year. Show your work.

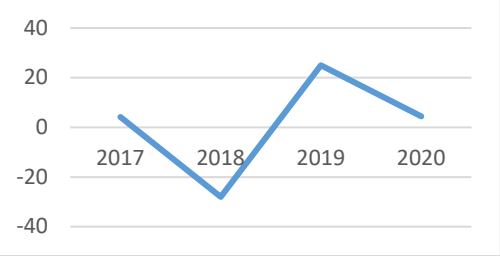
(ii) Sketch a line graph illustrating the year over year trends.

Commentary on Question:

Most candidates achieved full credit on this portion.

1. Continued

Year	NC Inc.'s Claims PMPM ($)	Trend
2016	240	
2017	250	250 / 240 – 1 = 4.2%
2018	180	180 / 250 -1 = -28.0%
2019	225	225 / 180 – 1= 25.0%
2020 projected	235	235 / 225 – 1 = 4.4%



(b)

(i) Critique the CEO's request.

(ii) Identify considerations that could account for the observed year over year fluctuation in NCI's claims trend.

Commentary on Question:
Candidates received full credit on Part b(i) by justifying the response in various ways, as long as the reasoning was relevant and supported their critique.

(i) The request is not reasonable based on the given information.

There was a one-time change in the employee benefits package which is not expected to affect trend past 2019. Additionally, NCI's trends have been much more volatile compared to the industry, and that volatility reduces the credibility and introduces additional risk.

(ii) General pattern of a high increase in 2017, decrease in 2018, very high increase in 2019

- Benefit rush in 2017 (i.e., members utilizing benefits prior to plan design change being implemented)
- Trend hush in 2018 (i.e., regularly occurring claims already incurred)
- Trend crush in 2019 (i.e., lower jump off and claims returning to normal level)

1. Continued

(c) Calculate the projected credibility weighted claims cost PMPM for NCI in 2020. Show your work.

Commentary on Question:
Most candidates achieved full credit on this portion.

2020 PMPM = Credibility x projected PMPM + (1-credibility) x industry PMPM
$241.25 = 75% x $235 + (1-75%) x $260

(d) List and describe disclosures required in your report on the 2020 claims projection.

Commentary on Question:
Candidates who performed well on this question listed and described considerations from Sections 3.3 and 4.1 of ASOP 41. Candidates received partial credit if they only listed assumptions and methodology related to the analysis (ex: plan design, trend, etc.).

Uncertainty or risk – Risks or uncertainties regarding results should be included in the report
Conflict of interest – disclose if actuary is not financially, organizationally, or otherwise independent in any matter related to the trend forecast, or if the actuary is acting as an advocate.
Reliance on other sources of data or information - Define the extent of any reliance
Responsibility for assumptions and methods – disclose if any methods were specified by applicable law or another party
Intended users of the actuarial report
Scope and intended purpose – Particular to the engagement or assignment
Qualification - Acknowledgement of qualification as specified in the Qualification Standards
Limitations - Constraints on the use or applicability of the actuarial findings contained within the communication
Deviations - State the nature, rationale, and effect of such deviation

2. Learning Objectives:

3. The candidate will understand how to evaluate and recommend an employee benefit strategy.

Learning Outcomes:

(3a) Describe structure of employee benefit plans and products offered and the rationale for offering these structures.

(3c) Recommend an employee benefit strategy in light of an employer's objectives.

Sources:

GHDP-130-19: Recommend an Employee Benefits Strategy

A Practical Guide to Private Exchanges, Health Watch, May 2015

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) List the advantages and disadvantages of a private exchange for Zorin.

Commentary on Question:

The responses listed were some of the most common, but this list is not exhaustive. Advantages and disadvantages that were not specific to private exchanges, such as the benefits of a fully-insured or self-insured arrangement, were not given credit.

Advantages

- Increased employee choice
- Cost-savings potential from increased competition across carriers and best-in-class carrier pricing in a multi-carrier model
- Increased consumerism from members buying the appropriate coverage
- Online decision support tools and customer service
- End-to-end benefits administration
- Improved cost transparency

Disadvantages

- Additional expenses for exchange operator
- Less control over plan design, clinical management, etc.
- Need to increase defined contribution over time
- Member concerns such as loss of plan sponsor support, less generous benefits, fear of change

2. Continued

(b) Describe the differences between funding models and carrier models in a private exchange.

Commentary on Question:
Candidates were expected to compare different combinations of funding/carrier models in an exchange. If candidates compared funding and carrier models separately, they could still receive full credit.

- Fully-insured, Single Carrier: Risk transfer but increased costs
- Fully-insured, Multi Carrier: Competition drives down costs, more employee choice, risk transfer – but less leverage over carrier
- Self-insured, Single Carrier: Traditional model
- Self-insured, Multi Carrier: Employee choice, best-in-market efficiencies – but less leverage over carriers and no risk transfer

(c) Recommend a private exchange model for Zorin. Justify your response.

Commentary on Question:
Any recommendation could receive full credit with appropriate, thorough justification. Recommendations that contradicted or ignored Zorin's stated goals did not receive full credit.

I recommend Zorin use a fully insured, multiple carrier model because it meets the following goals:

- Lower cost – reduces costs due to best-in-market cost efficiencies
- Avoid unnecessary risk – transfers financial risk to the carrier
- Offering lots of employee options – multiple carriers provide more options to employees

(d) Identify winners and losers from the perspective of VTK employees. Justify your response.

Commentary on Question:
Candidates were expected to identify specific groups, not simply identify the proportions of groups that saw an increase.

Singles who use the CDH plan are winners, as the majority will see lower out-of-pocket costs. Singles who use the PPO will see higher costs on average, so they would be losers in this arrangement. All families are losers, as families are expected to spend more regardless of which plan they use.

2. Continued

(e) Calculate the impact to employees if contributions are changed to a defined contribution approach. Show your work.

Commentary on Question:
Candidates generally did well on this section, outside of the occasional calculation error. One common mistake was giving the CDHP Employee Only tier a -$160 impact – which means Zorin would have to pay the employee. Full credit was given whether the impact was calculated as a dollar value or a percentage

Plan Type	Coverage Tier	Per Employee Per Month Premiums	% Premium Cost Share	DC EE	20% Employee Share	$ Impact
CDHP	Employee Only	$300	0%	$0	$60	-$60
	Employee + Spouse	$600	33%	$200	$120	$80
	Employee + Child(ren)	$400	0%	$0	$80	-$80
	Employee + Family	$1,000	60%	$600	$200	$400
PPO	Employee Only	$400	0%	$0	$80	-$80
	Employee + Spouse	$800	50%	$400	$160	$240
	Employee + Child(ren)	$600	33%	$200	$120	$80
	Employee + Family	$1,500	73%	$1,100	$300	$800

(f) Identify and describe areas of adverse selection Zorin will face when changing to a defined contribution approach.

Commentary on Question:
Any reasonable concerns or answers were accepted for credit. The list below contains some of the most common responses, but is not exhaustive.

- Healthier members switching to the CDHP, leaving unhealthier members in the PPO
- Employees covering spouses may seek coverage for their dependents elsewhere, while those staying may be higher risk
- Employees who have other coverage may enroll in employee-only coverage due to the low employee premiums, minimizing their costs at the plans expense
- If the defined contribution value does not increase enough over time, the relative subsidy will decrease leading to higher employee cost. More employees may change or buy-down plans at that point

3. Learning Objectives:

1. The candidate will understand how to describe plan provisions typically offered under:
   - Group and Individual medical, dental and pharmacy plans.
   - Group and Individual long-term disability plans.
   - Group and Individual short-term disability plans.
   - Supplementary plans, like Medicare Supplement.
   - Group and Individual long-term care insurance.

2. The candidate will understand how to calculate and recommend a manual rate for each of the coverages described in Learning Objective 1.

3. The candidate will understand how to evaluate and recommend an employee benefit strategy.

Learning Outcomes:

(1b) Describe each of the coverages listed above.

(1c) Evaluate the potential moral hazard and financial and legal risks associated with each coverage.

(2c) Calculate and recommend assumptions.

(3a) Describe structure of employee benefit plans and products offered and the rationale for offering these structures.

Sources:

Group Insurance, Seventh Edition. Skwire. Chapters 6, 21, 22, & 34.

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) Compare and contrast the following plan provisions between group dental and group medical plans:

(i) Deductibles

(ii) Plan Maximums

(iii) Covered Services

(iv) Exclusions & Waiting Periods

3. Continued

Commentary on Question:
Candidates were asked to articulate both similarities (compare) and differences (contrast) between selected group dental and group medical plan provisions. Many candidates struggled to articulate both similarities and differences and rather listed facts about dental and medical plans.

(i) **Deductibles**
Similarities:
-Both medical and dental plans typically have a deductible, which are used to limit plan cost and antiselection.
-Family deductibles are typically a multiple of the individual deductible in both medical and dental plans.
Differences:
-Deductibles are typically much lower for dental plans, due to the lower cost of dental services compared to medical.

(ii) **Plan Maximums**
Similarities:
-Like medical plans under the Affordable Care Act (ACA), dental plans for children sold on the Marketplaces may no longer have annual maximum limits.
-When plan maximums were used before the ACA, plan maximums limited plan cost and antiselection for both medical and dental plans.
Differences:
-The Affordable Care Act eliminated most medical plans' annual and lifetime maximums.
-However, most dental plans commonly have annual plan maximums, generally in the range of $1,000 to $2,500 per person.

(iii) **Covered Services**
Similarities:
-Overlap in coverage between medical and dental plans include: treatments required due to accidental injury to natural teeth, removal of impacted teeth, and coverage for surgical treatment for jaw disorders.
-Coordination of benefit provisions are used to avoid duplication of coverage.
Differences:
-Dental plans cover dental services, which are typically split into classes.
-Medical plans typically do not cover dental services, with exceptions noted above.

3. Continued

(iv) **Exclusions & Waiting Periods**
Similarities:
-Medical and dental plans both typically exclude services for cosmetic procedures and experimental treatments.
-Medical and dental plans both can impose waiting periods before benefits must be offered.
Differences:
-On Medical plans, The Affordable Care Act imposes a maximum waiting period of 90 days before benefits must be offered to eligible new employees.
-For dental plans, waiting periods can be much longer than on medical plans. Waiting period lengths generally range from three to twelve months, and can even extend to 24 months for some procedures.

(b) Describe two challenges facing the future of dental benefits.

Commentary on Question:
Few candidates were able to describe two challenges specific to the future of dental benefits.

-Shortages in dental capacity and supply are expected to continue. This may put pressure on the ability of dental plans to build and maintain sufficient dental networks in particular geographies. Dental providers may have the opportunity to be more selective in the networks they join and more power in the contract negotiation process.
-Private health benefit exchanges have recently proliferated and are a potential new distribution mechanism for both individual and group dental products. Many dental insurers are assessing whether these private exchanges fit into their distribution strategy, determining which exchanges might be most advantageous to join, and developing products specifically tailored to the private exchange customers.

(c) Calculate the 2019 plan paid claims cost for:

(i) Member 1

(ii) Member 3

(iii) Member 4

Show your work.

3. Continued

Commentary on Question:
Candidates who performed well on this question appropriately identified classes for each procedure and applied deductibles, plan rates, network discounts, and plan maximums to calculate the plan's paid claims costs.

Allowed = Billed * (1 – Network Discount %)
Plan Rate = 1 – Member Coinsurance %
Plan Cost = (Allowed – Member Deductible) * Plan Rate

(i) **Your Eyes Plan Paid Claims for Member 1**
Claim 1 Billed Charges = 80
Class I
Allowed = 80 * (1 – 35%) = 52
Plan Cost = (52 – 0)*100% = 52

Claim 2 Billed Charges = 600
Class II
Allowed = 600 * (1- 35%) = 390
Plan Cost = (390 – 50)*90% = 306

Your Eyes Plan Cost for Member 1 = 52 + 306 = **358**

(ii) **Your Eyes Plan Paid Claims for Member 3**
Claim 1 Billed Charges = 750
Class II
Allowed = 750 * (1- 20%) = 600
Plan Cost = (600 – 50)*90% = 495

Claim 2 Billed Charges = 1,000
Class II
Allowed = 1,000*(1-20%) = 800
Plan Cost = (800 – 0) * 90% = 720

Claim 3 Billed Charges = 1,400
Class II
Allowed = 1,400*(1-20%) = 1,120
Plan Cost = (1,120 – 0)*60% = 672 (before taking into account Annual Maximum)

Plan Costs for this member so far are 495 + 720 + 672 = 1,887
Plan has an Annual Maximum per Member of 1,500

Your Eyes Plan Cost for Member 3 = **1,500**

3. Continued

(iii) **Your Eyes Plan Paid Claims for Member 4**
Claim 1 Billed Charges = 50
Class I
Allowed = 50 * (1- 5%) = 47.50
Plan Cost = (47.50 – 20) * 80% = 22

Claim 2 Billed Charges = 250
Class II
Allowed = 250 * (1 – 5%) = 237.50
Plan Cost = (237.50 – 75)*60% = 97.50

Your Eyes Plan Cost for Member 4 = 22 + 97.50 = **119.50**

(d) Calculate the expected increase in paid claim costs in 2020 for:

(i) Member 1

(ii) Member 3

(iii) Member 4

Show your work.

Commentary on Question:
Candidates who performed well on part (c) generally did well on part (d) as well. Some candidates calculated the paid claims but did not calculate the increase in paid claims. Partial credit was given in those cases.

(i) **Increase in Paid Claim Costs for Member 1**
Claim 1
Allowed = 52 * 1.10 = 57.20
Plan Cost = (57 – 0)* 100% = 57.20

Claim 2
Allowed = 390*1.1 = 429
Plan Cost = (429-50)*90% = 341.10
2020 Expected Paid Claims for Member 1 = 57.20 + 341.10 = 398.30

Increase in Paid Claims Costs for Member 1 = 398.30- 358 = **40.30, or 11.3%**

3. Continued

(ii) **Increase in Paid Claims Costs for Member 3**
Claim 1
Allowed = 600 *1.1 = 660
Plan Cost = (660-50)*90% = 549

Claim 2
Allowed = 800*1.1 = 880
Plan Cost = (880 – 0)*90% = 792

Claim 3
Allowed = 1,120 * 1.10 = 1,232
Plan Cost = (1,232 – 0) *60% = 739.20 (before Annual Maximum)

Member 3 has reached the Annual Maximum.

Increase in Paid Claims for Member 3 = 1,500 – 1,500 = **0, or 0%**

(iii) **Increase in Paid Claims Costs for Member 4**
Claim 1
Allowed = 47.50 * 1.1 = 52.25
Plan Cost = (52.25 – 20)*80% = 25.80

Claim 2
Allowed = 237.50 *1.1 = 261.25
Plan Cost = (261.25 – 75)*60% = 111.75

2020 Expected Paid Claims for Member 4 = 25.80 + 111.75 = 137.55

Increase in Paid Claims Costs for Member 4 = 137.55 - 120 = **17.55, or 15.1%**

(e) Explain why the expected increase in paid claim costs for 2020 is different than the allowed cost trend factor.

Commentary on Question:
Many candidates were unable to explain why the increase in paid claims for 2020 was different than the allowed cost trend factor. Many simply described fixed cost leveraging.

3. Continued

Some members' expected claims increased by more than the allowed trend factor, and some members' expected claims increased by less than the allowed trend factor.
Member 1 increase 11.3% > 10%
Member 3 increase 0.0% < 10%
Member 4 increase 15.1% > 10%
Overall increase for these three members (2,036/1,978) -1 = 3.0% < 10%

Members who did not reach the plan annual maximum had a higher increase than the allowed trend factor, due to fixed cost leveraging. Fixed cost leveraging refers to the fact that the trend in plan costs will be greater than the trend in allowed costs whenever deductibles or copays are part of the plan design. The plan costs increase at a greater rate than the allowed costs if the deductible amounts stay the same.

Members who reached the plan annual maximum had a lower increase than the allowed trend factor. The annual maximum has a dampening effect on the overall plan liability.

There are two related but partially offsetting effects when comparing allowed to paid increases for this plan: fixed cost leveraging and the dampening effect of annual maximums. These two effects are why the expected increase in paid claims is different than the allowed trend factor.

(f) Recommend changes to Your Eyes' PPO50 plan that address the needs of both the CEO and the lead sales representative. Justify your response.

Commentary on Question:
Most candidates addressed the CEO's concerns but did not address the lead sales representative's concerns. Candidates who addressed both stakeholders' concerns in their recommendations received full credit, as long as the recommendation was justified.

I recommend the following changes, which address both the CEO's concern with high costs and the lead sales representative's concerns regarding membership retention.

-Add unique benefit components that are appealing to the employee: teeth whitening and oral cancer screenings. This will increase the marketability of the plan and also allow for early detection of oral cancer, which will save costs over time.

3. Continued

-Raise deductibles by $50 for Class II/III services from Non-Preferred providers. This will likely have an indirect effect of increasing penetration for In-Network, preferred providers. This will also have a direct effect of lowering some initial costs.

-Create a simple treatment cost estimator application that will allow members to compare costs in-network vs. out-of-network easily on their smartphones before treatment occurs. This will increase transparency, which leads to improved member retention.

4. Learning Objectives:

2. The candidate will understand how to calculate and recommend a manual rate for each of the coverages described in Learning Objective 1.

Learning Outcomes:

(2a) Identify and evaluate sources of data needed for pricing, including the quality, appropriateness and limitations of each data source.

(2c) Calculate and recommend assumptions.

(2d) Calculate and recommend a manual rate.

Sources:

GHDP-129-19: Pricing Critical Illness Insurance in Canada
Group Insurance, Skwire, Daniel D., 7th Edition, 2016; Ch. 24

Commentary on Question:

This question was intended to test candidates on their ability to assess data and identify adjustments needed to align data with its intended purpose. Most candidates did well if they understood that population statistics are not an ideal data source for insured populations and require significant modifications.

Solution:

(a) Compare and contrast how rates are developed for these two products.

Commentary on Question:

Some candidates misread the question and compared/contrasted Canadian and US products. Some candidates just listed facts about rating Critical Illness and term life, without any explicit comparison or contrast points. Full credit was only given to candidates who explicitly identified comparison and contrast points between the two products.

- Critical Illness uses population statistics to determine incidence rates of diseases covered by CI, and then adjusts for rate setting
- Term life rates are determined using industry generated manual rates (including SOA mortality tables) or internal tables adjusted for group specific characteristics
- Both develop incidence rates (incidence of disease (morbidity) vs incidence of death, i.e. mortality)
- Both adjust data for demographics, area, lifestyle, etc.
- Experience for both products is low frequency/high severity so credible experience is limited

4. Continued

(b) Describe advantages and disadvantages of using population statistics when developing pricing assumptions.

Commentary on Question:
The majority of candidates did well, although some candidates did not correctly identify what population statistics are.

Advantages:
- Large, credible data sets available - easy to obtain and free source of data
- Useful in estimating annual improvements in mortality/morbidity
- Useful in developing rates for the very young and the very old

Disadvantages:
- Population statistics may not reflect insured population, as general population typically has higher mortality/morbidity than insureds.
- Adjustments are needed to bring data in line with insured population.

(c) Identify and describe data selection considerations that apply when pricing the new CII product.

Commentary on Question:
Some candidates listed specific considerations for the data listed rather than more general considerations for any data set

ASOP 23 data considerations, including:
- Consider the scope and purpose of the analysis to determine what data is appropriate.
- Consider the degree to which it is sufficient for the analysis.
- Any known significant limitations in the data?
- Consider the availability of alternative data vs the benefit and practicality of obtaining it.

(d) Propose adjustments to the data that would allow development of incidence rates for this product. Justify your response.

Commentary on Question:
Good responses listed several specific adjustments to the population statistics provided, focusing on aspects of the data that do not align with our insured population

4. Continued

- Find relevant statistics relating US to Canadian utilization
- Split data into male / female incidence
- Rates should be trended, as vaping increased in popularity after 2018
- Adjust the data to convert the data from those that tried vaping to those that had a critical illness from vaping
- Adjust the data to represent group of insureds, not entire population

(e) Assess ways the emerging experience may be used to refine the original incidence assumptions.

Commentary on Question:
Some candidates attempted a calculation, but there is not enough information given to adequately calculate incidence rates. Rather, full credit was given for descriptions of analysis that could be performed to improve the original assumptions

- Perform actual to expected analysis and propose adjustments to original assumptions to better align with experience.
- Emerging experience can be used to create finer age bands than the original assumptions, including adding an age band for <18, and redistributing incidence to those <35
- Experience can be credibility weighted against original incidence assumptions
- Adjust original assumptions on other rating factors, for example, area factors and insured vs general population factors.

5. Learning Objectives:

1. The candidate will understand how to describe plan provisions typically offered under:
   - Group and Individual medical, dental and pharmacy plans.
   - Group and Individual long-term disability plans.
   - Group and Individual short-term disability plans.
   - Supplementary plans, like Medicare Supplement.
   - Group and Individual long-term care insurance.

2. The candidate will understand how to calculate and recommend a manual rate for each of the coverages described in Learning Objective 1.

Learning Outcomes:

(1b) Describe each of the coverages listed above.

(1c) Evaluate the potential moral hazard and financial and legal risks associated with each coverage.

(2c) Calculate and recommend assumptions.

(2d) Calculate and recommend a manual rate.

(2f) Describe the product development process including risks and opportunities to be considered during the process.

Sources:

Group Insurance, Chapters 13 and 26

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) Describe ways issue age impacts pricing considerations for group long term care (LTC) coverage.

Commentary on Question:

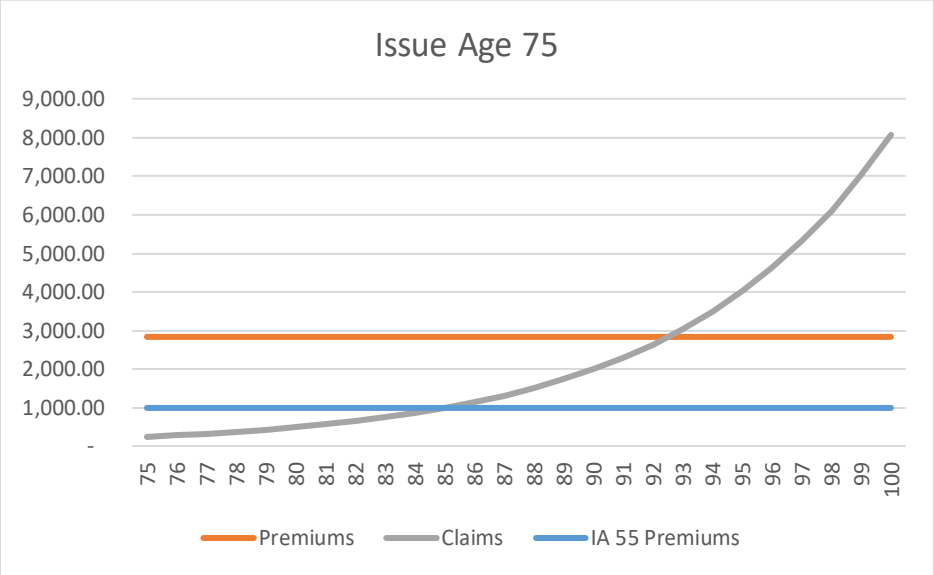
More candidates spoke to the impact on claims and morbidity assumptions while fewer candidates recognized pre-funding and lower/higher premium levels by issue age.

5. Continued

- LTC is an issue age rated product with pre-funding at younger ages to pay for higher claims at older ages, having a number of years where the premium exceeds the expected claim values in order to pay claims in future years when the expected claims exceed the premiums.
- Insureds at younger issue ages have more time to pre-fund for higher claims at older ages.
- More time to pre-fund means a larger number of premium payments and more time for premiums to be invested, which means premium payments can be lower.
- The steepness of the morbidity curve increases significantly with age.

(b) Sketch a graph that demonstrates the relationship between premiums, claims, and attained age for group LTC coverage.

Commentary on Question:
Candidates were generally successful capturing the steepness of the claims curve and level premium amounts.



(c) Describe ways the following incentivize the purchase of private LTC policies:

(i) Health Insurance Portability and Accountability Act (HIPAA)

(ii) Deficit Reduction Act

5. Continued

Commentary on Question:
Most candidates were able to describe incentives from HIPPA, but were less knowledgeable on the Deficit Reduction Act.

- HIPAA provides favorable federal tax treatment:
  - Deductibility of premiums paid by employers
  - Deductibility of premiums paid by employees (once qualified medical expenses meet the 7.5% of income threshold)
  - Employer contributions not treated as taxable to employee
  - Benefits not considered taxable to beneficiary
  - LTC premiums are a qualifying expenditure for Medical Savings Accounts (MSA), Health Savings Accounts (HSA), and Medical Reimbursement Accounts (MRA)
  - Standardized benefit triggers
- Deficit Reduction Act expanded Partnership LTC to all 50 states
  - Partnership LTC policies allow for individuals to protect an amount of personal assets greater than the amount normally permitted by state Medicaid programs.
- Additional asset protection is equal to the dollar amount of benefits received from the Partnership LTC insurance policy. Reciprocal agreements across states are allowed to give protection to insureds that reside in a state different from the state the Partnership policy was issued.
- Heightened public interest in LTC insurance to achieve retirement security

(d) Assess whether or not a rate increase is justified at the valuation date under the 2000 Model Regulation given:

(i) No prior rate increases

(ii) Prior rate increases

Show your work.

Commentary on Question:
Most candidates calculated an acceptable increase to justify an increase in the first part. Few candidates were as successful on the second part – as many failed to identify that more information on prior increases was needed.

5. Continued

- **No prior rate increases**
  - *A rate increase under the 2000 Model Regulation requires that the sum of accumulated incurred claims and the present value of future incurred claims (without the inclusion of active life reserves) are not less than the sum of the following:*
    - Accumulated value of initial earned premium times 58%;
    - 85% of the accumulated value for prior premium rate schedule increases on an earned basis;
    - Present value of future projected initial earned premiums times 58%; and
    - 85% of the present value of future projected premiums not included in the previous item on an earned basis.
  - *The current lifetime loss ratio is 80%, or $800,000 in lifetime incurred claims.*
  - *Since there have been no prior rate increases, there is no premium that is subject to the higher 85% loss ratio standard. The value of the initial earned premium subject to the 58% loss ratio standard is $580,000 (= $1,000,000 x 58%).*
  - *The lifetime value of claims is in excess of the 58% loss ratio requirement on initial earned premium and a rate increase is justified.*
- **Prior rate increases**
  - *We cannot determine if a rate increase is justified because we do not know the amount of historical and future premium that resulted from the prior rate increases.*
  - *The current lifetime loss ratio is 80%, or $800,000 in lifetime incurred claims.*
  - *The dual loss ratio test under the 2000 Model Regulation requires that initial earned premium be subject to a 58% loss ratio while premium from rate increases be subject to an 85% loss ratio requirement.*
  - *Since the current loss ratio is less than 85% we cannot say with certainty that a rate increase is justified if there have been prior rate increases.*