GH DP Model Solutions
Spring 2025

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.

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

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

Sources:

Group Insurance, Skwire, Daniel D., 8th Edition, 2021, Chapter 35: Medical Claims Cost Trend Analysis

Commentary on Question:

The intent of the question was to evaluate a candidate's understanding of trends from both a practical perspective and a technical perspective. Part (a) was to test the candidate's understanding that there are different, but similar, trends used for different purposes. Parts (b) and (c) were to test the candidate's ability to evaluate trend components, with a common error being a failure to evaluate the complete impact of components between 20X1 and 20X2. Parts (d) and (e) were to evaluate a candidate's ability to identify, explain and address outliers and unusual situations when setting trends, a common scenario reflected in the healthcare marketplace with the recent COVID disruptions, the growing impact of specialty pharmaceuticals and the introduction of GLP-1s.

Solution:

(a) Compare and contrast financial reporting trends and pricing trends.

1. Continued

Commentary on Question:
The question required candidates to both compare and contrast, which required discussion of both the similarities and differences between the two trends. If candidates simply provided descriptions of financial and pricing trends, they would receive minimal credit.

For full credit, candidates needed to provide at least two meaningful similarities and at least two meaning differences with partial credit awarded for shorter answers.

The solution below is illustrative of points of comparison that would be counted. It is not an exhaustive list of acceptable responses.

Compare

- Both forms of trend are used to capture the increase of medical and pharmacy costs from the experience period to the projection period
- Both trends require data to be adjusted and projected forward to evaluate the change in cost over time
- Both trends require a validation of prior experience and assumptions

Contrast

- Financial reporting trends are used for sharing and disclosing assumptions while pricing trends are used in calculating rates for policies
- Pricing trends may include additional assumptions, for example a profit load that the insurer does not want to display separately
- Financial reporting will tie to the general ledger, while pricing trends can be based on eligible, covered or net paid basis
- Financial reporting is retrospective, pricing trends are prospective

(b) 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.

1. Continued

Commentary on Question:
This problem had two correct solutions, both available in the excel file. Parts (i) and (ii) are sequential and require the candidate to shift utilization assumptions from year 1 to year 2, measure the impact, and then shift unit cost assumptions from year 1 to year 2 and measure the impact. These could be done in either order and receive full credit.

Common mistakes included measuring both unit cost trend and severity trend relative to year 1 (20X1), failing to include the mix trend in the core cost trend and aggregating unit cost trends instead of measuring changes in total unit cost.

The model solution for this part is in the Excel spreadsheet.

(c) 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.

Commentary on Question:
See part (b) commentary

The model solution for this part is in the Excel spreadsheet.

(d) Describe the four stages of the technology curve.

Commentary on Question:
Candidates generally did well. It was not necessary to name each phase, although an accurate description and a reference to how the stage impacts utilization was necessary for full credit.

1. Start Up - This is when the new technology is first introduced, and trend starts to pick up as people learn about the new development
2. Catch Up - This is the highest growth in trend stage, and the focus is on treating existing patients
3. Steady State - In this phase trend growth begins to slow down, the focus is on treating newly diagnosed patients
4. Transition - In this phase the new technology may be replaced with a newer technology, growth levels return to pre-start-up-phase amounts

1. Continued

(e)

(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.

Commentary on Question:
The solution below would receive full credit, although other answers were accepted as well.

For part i) there was no expectation of a calculation or numbers in the response. A full credit answer would make reference to the technology change, how it was impacting the trends and a reference to the technology cycle.

For part ii) there are a variety of solutions that would be accepted so long as the candidate justified their response and recognized that the spike in trend was likely temporary.

(i) Even though the unit cost trend went down, the massive shift toward the most expensive option caused the overall trend to increase much more than expected. The new technology on CPT code 00006 caused a very large spike in utilization for this CPT code. Many people who were expected to use one of the other CPT treatments switched to use CPT 00006 instead. We can expect that 00006 will start to slow down in utilization growth as they enter the steady state phase, and over time will eventually be replaced by another new technology and return closer to the expected utilization levels.

(ii) I recommend that the company excludes the catch-up phase from their long-term trend projections. While it is important to recognize this growth, the company needs to make sure not to overreact to the high growth in the first year, as this will likely not continue in the long term. The company should closely monitor results over the next few years to evaluate which stage of the technology curve they are in and react accordingly.

2. Learning Objectives:

3. The candidate will understand how to apply principles of pricing, risk assessment and funding to an underwriting situation.

Sources:

Individual Health Insurance, Bluhm, William and Leida, Hans, 2nd Edition, 2015
Ch. 4: Managing Antiselection (pp. 109-148)

Commentary on Question:

The question challenged candidates understanding of anti-selection and the impact of member choice on pricing.

Solution:

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

Commentary on Question:

Candidates generally did very well on Part A. Candidates who performed well were able to name the three faces of anti-selection and describe when in the product's sale cycle each took place and the implications of member's choice with regard to the individual's health status.

External – At time of initial purchase, those most likely to seek out coverage are those anticipating needing coverage.
Internal – At time of renewal/pricing changes, those least likely to need coverage are more likely to select leaner plans.
Durational/Cumulative – Over time, healthier individuals are more likely to drop coverage resulting in a gradually sicker cohort.

(b) Calculate:

(i) The premium leakage per member.

(ii) The buy-down effect per member.

Show your work.

Commentary on Question:

Candidates struggled with various components of Part B, including failing to understand the impact related to member choice. Points were awarded to many candidates for including the correct formulas, additional points for calculating various components of the calculations, and more points for including an impact associated with the random event. Due to several different interpretations of this random event, points were given for all attempts to include its impact.

The model solution for this part is in the Excel spreadsheet.

2. Continued

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

Commentary on Question:
Candidates generally did not do well on Part C, which required connecting the fundamental understanding of the drivers of Anti-Selection as asked in Part A to the scenario presented in Part B of including a random event in the Premium Leakage and Buy-down effect calculations. Many candidates did correctly identify the independence of the random event on the Buy-Down Effect calculation, and many candidates confused Premium Leakage with the Buy-Down Effect.

The randomness of a catastrophic event occurring across all three Member Health Status cohorts dampens the impact of premium leakage. Premium Leakage is driven by Internal Selection which is the increased likelihood of healthier individuals selecting leaner plans in anticipation of their lower use of services. The addition of a randomly occurring catastrophic event results in individuals choosing incorrectly, not buying down when they should have or buying down when they shouldn't. Since the buy-down effect is based on premium and calculated separately from member experience the random event does not impact buy-down.

(d) 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.

Commentary on Question:
Most candidates did well on Part D scoring full points. For the sketch, candidates needed to exemplify that healthier members lapse at a higher rate than those with chronic conditions and do so at a higher rate the higher the price increase.

The model solution for this part is in the Excel spreadsheet.

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

Commentary on Question:
Most candidates did well on Part E highlighting both the impact of internal selection from the one-time rate increase but also the impact of cumulative selection from multiple years of high rate increases.

2. Continued

High rate increases will cause more healthy members to opt out of coverage leaving the overall cohort with a higher average complexity than anticipated in the rate increase. This will compound over time as more rate increases will be needed to adjust for the ever-increasing complexity of the population leading to a death spiral for the product.

3. Learning Objectives:

1. The candidate will understand how to describe and evaluate plan provisions and government programs, including:
   - Group and Individual medical, dental and pharmacy plans.
   - Group and Individual long-term disability plans.
   - Group and Individual short-term disability plans.
   - Group and Individual long-term care insurance.
   - Group life insurance plans.
   - Supplementary plans, like Medicare Supplement.

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:

(1e) Describe Medicaid program structure and benefits and evaluate pricing and filing requirements.

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

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

Sources:

ASOP 49: Medicaid Managed Care Capitation Rate Development and Certification

GHDP-147-25: Attempting to Boil the Ocean: A High-Level Overview of Medicaid and its Risk-Based Managed Care Programs

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a)

(i) List Medicaid risk-sharing strategies between states and managed care organizations (MCOs).

(ii) Explain how each strategy mitigates financial risks.

3. Continued

Commentary on Question:
Candidates did not perform well on this question. No credit was awarded to responses of risk adjustment and risk pools since they are risk-sharing strategies across multiple MCOs and note between states and managed care organizations.

1. Minimum MLRs with Remittance	Prevents MCOs from overspending premium dollars on administrative costs and profits by collecting excessive spends beyond minimum benefit ratios.
2. Risk corridor	Allows states and MCOs to share excessive profits and/or losses and further stabilizes premiums.
3. Reinsurance	Protects MCOs against large claims by reducing excess claims. This can be done by states or private reinsurers.
4. Carve-outs	Remove MCOs from exposures to financial risks of certain types of benefit or service.
5. Non-risk arrangements	Remove MCOs from exposures to financial risks of certain types of benefit or service. MCOs pay the providers for the services and then be reimbursed by states for submitted claims.

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

Commentary on Question:
Candidates did not perform well on this question. Identification and descriptions of rate development processes that are not unique to Medicaid did not receive credit. Similarly, general descriptions of Medicaid programs unrelated to the rate development process did not receive credit. Appropriate and reasonable answers other than shown in the model solutions were also awarded credit.

3. Continued

1. Filer and approver: Medicaid rate certification is filed by states and approved by CMS, instead of fling by the health plans and approved by regulators.

2. Rate cell: Actuaries certify on the rate adequacy by rate cells as determined by states, and not necessarily by health plans.

3. Adjustment specific to Medicaid: States price in adjustments through state policies such as population changes, program changes, managed care efficiencies, and quality withholds.

4. Certification of capitation rate ranges: option to develop and certify a capitation rate range - provided that both the upper and lower bounds of the range are certified as actuarially sound with appropriate supporting documentation and that the upper bound of the range does not exceed the lower bound by more than 5%.

5. Mid-year rate adjustments: During the rating period, states may elect to adjust the capitation rates for a variety of reasons.

6. State directed payments: state may direct MCOs payments to providers.

7. Incentive arrangements: any payment mechanism under which MCOs may receive additional funds over and above the capitation rates it was paid for meeting targets specified in the contract.

8. ILOS: CMS has allowed states to offer services or settings as a substitute for state plan covered services through their managed care programs using the ILOS mechanism if that they are a medically appropriate and cost-effective substitute for the state plan service.

(c) 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.

3. Continued

Commentary on Question:
Candidates generally performed well on this question. Common mistakes include trending by the wrong durations, missing pharmacy carveout, or not displaying the three PMPMs that the question called for.

Using Excel formula to calculate the trend duration at 2.5041 were considered acceptable and received full credit.

Candidates who interpreted Projected "Medical" in part (ii) as excluding pharmacy yet demonstrated the ability to calculate projected pharmacy PMPMs correctly were awarded full credit.

The model solution for this part is in the Excel spreadsheet.

(d) Evaluate the results form the perspective of each stakeholder.

(i) State ABC.

(ii) Managed care organizations.

Justify your response.

Commentary on Question:
Candidates did not perform well on this question. $305.00 PMPM should be compared to their answer in (c)(ii) or the comparison is not appropriate. Points were given for the correct logic in the opposite direction if (c)(ii) resulted in a PMPM lower than $305.00. Appropriate and reasonable answers other than shown in the model solutions were also awarded credit.

The actual experience is substantially lower than the expectation in the rating period. Furthermore, it is lower than the base period experience prior to trend. This implies the capitation rates may be too high.

(i) From State ABC's perspective, overpricing leads to excessive expenditure, which may raise concerns about fiscal responsibility among constituents. This could result in dissatisfaction among taxpayers. The state faces challenges of maintaining low cost while ensuring compensation is sufficient to incentivize MCOs to deliver the product effectively.

(ii) From MCOs' perspectives, there may be concerns over retrospective rate adjustments from the state, pending CMS approval. This could result in cash flow and financial reporting issues.

3. Continued

(e) Critique the CFO's statement based on guidance from ASOP #49.

Commentary on Question:
Candidates performed poorly on this question. Many candidates missed the point that Medicaid actuaries are not certifying to the actuarial soundness at the specific MCO level. No credit was awarded for simply listing items from ASOP49 without connecting to the CFO's perspective.

Federal regulations require that actuaries certifying capitation rates paid by the state to the MCOs are actuarially sound.

ASOP 49 3.1 points out that the supporting assumptions for actuarial soundness is not based on any individual MCO. Instead, 3.2.2 indicates that the rates are separately developed in individual capitation rate cells, which could be based on factors such as age, gender, qualifying event, geographic region, and Medicaid eligibility group.

4. Learning Objectives:

1. The candidate will understand how to describe and evaluate plan provisions and government programs, including:
   - Group and Individual medical, dental and pharmacy plans.
   - Group and Individual long-term disability plans.
   - Group and Individual short-term disability plans.
   - Group and Individual long-term care insurance.
   - Group life insurance plans.
   - Supplementary plans, like Medicare Supplement.

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 apply principles of pricing, risk assessment and funding to an underwriting situation.

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) Understand the risks and opportunities associated with a given coverage, eligibility requirement or funding mechanism.

Sources:

Skwire - Ch.12: Group Disability Income Benefits

Skwire - Ch.25: Estimating Disability Claim Costs

GHDP-118-17: Issues to Consider in Self-funding long-term disability insurance

Commentary on Question:

Most candidates demonstrated general knowledge about disability products and concepts, but struggled to correctly calculate the monthly premium and in parts c) and d). Many candidates were able to apply the correct present value formula, however, few produced the correct values for all factors within the formula (ie., continuance factors).

Solution:

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

4. Continued

Commentary on Question:
Candidates generally did well on this question. Candidates who simply listed rather than described considerations between self-funding and fully-insuring LTD benefits did not receive credit. Credit was given for responses that were valid but not in the source material.

Considerations between self-funding and fully-insuring LTD plans include:

- Loss of third-party guarantee for employees: if an employer self-funds a LTD plan, it is responsible for the entire long-term disability liability and the insureds could lose the advantage of having a third party to guarantee benefits payments for covered disabilities
- Volatility due to fluctuations in claim incidence and severity: because there is no risk pooling in a single case, there is no protection against fluctuations which is provided by an insurance company's pool of customers
- Economic cycles: LTD claim costs are often directly tied to the state of the general economy, as well as the economic state of the employer's industry; these plans have both higher incidence and longer duration of claims in periods of high unemployment and downsizing
- Employee relations: the employer maintains the financial liability to pay benefits and as a result any claim suit against the employer; employer is responsible for defending the suit.
- Accounting Regulations and tax risks: the liability for self-funded benefits must be recognized on the balance sheet and there is a tax risk when maintaining reserves for self-funded benefits.

(b) 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.

Commentary on Question:
Candidates generally performed well on part i and ii, while not as well on part iii.

4. Continued

Many candidates identified that the combination of the LTD gross benefit amount and part-time work earnings ($7K + $2K = $9K) was less than pre-disability earnings, but mistakenly indicated that sum of LTD gross benefit amount and part-time work earnings was the LTD benefit rather than stating that the original LTG gross benefit amount of $7K would not be adjusted.

Alternatively, many candidates identified that the LTD benefit would remain at $7K but did not provide an explanation as to how this conclusion was reached.

To receive full credit for part iii, candidates needed to both show that the work incentive offset check was performed, and then interpret that result as leading to $7K being the LTD benefit.

The model solution for this part is in the Excel spreadsheet.

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

Commentary on Question:
*Most candidates received partial credit. Common mistakes included incorrectly identifying the Death & Recovery rates as the Continuance rates, failing to apply the continuance year-over-year (e.g., the year 2 continuance was (1 - 0.31) * (1 - 0.24) = 0.524), applying discounting as if benefits were being paid at the beginning of the year, and assuming that the annual benefit for the first year would only pay out $45,000 rather than $60,000 due to the 3 month elimination period.*

The model solution for this part is in the Excel spreadsheet.

(d) Calculate the premium surplus or shortfall.

Show your work.

Commentary on Question:
Most candidates received partial credit, but very few received full credit. Generally, candidates correctly identified that the Incidence Rate needed to be updated from 1.6 to 2.5 and that the answer would need to be the difference between an updated premium calculation and that done in Part C.

Some candidates incorrectly changed the Age at Disablement to be that for a 40-year old rather than still using the 35-year old rates. Some candidates failed to specify if the premium difference was a surplus or shortfall, and some who had a mismatch between the sign of their answer and identification of surplus / shortfall (i.e., an answer of "-$6.56 shortfall" did not receive full credit).

4. Continued

The model solution for this part is in the Excel spreadsheet.

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

Commentary on Question:
Candidates generally did well on this question, with many receiving full credit. Listing purchasing "Stop Loss" only received credit as identifying one method of mitigating risk even if multiple forms of stop loss coverage were listed. Additionally, suggesting moving from self-insuring to fully-insuring did not receive credit as a method to mitigate the risk of self-insuring.

The company can purchase stop loss insurance to cap losses for any unexpected spike in claims.

They can also increase the elimination period or adjust the definition of disability.

5. Learning Objectives:

1. The candidate will understand how to describe and evaluate plan provisions and government programs, including:
   - Group and Individual medical, dental and pharmacy plans.
   - Group and Individual long-term disability plans.
   - Group and Individual short-term disability plans.
   - Group and Individual long-term care insurance.
   - Group life insurance plans.
   - Supplementary plans, like Medicare Supplement.

Learning Outcomes:

(1g) Describe the Affordable Care Act and evaluate impacts on pricing and filing.

Sources:

GHDP-146-25: A Hard Pill to Swallow: Appreciating the Mathematical Dynamics of the Affordable Care Act

Commentary on Question:

Many candidates responded correctly to either Part A or Part B. Some candidates incorrectly focused on group market impacts in Part A, or failed to identify compliance concerns with insurers in Part B.

Solution:

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

Commentary on Question:

Most candidates were able to identify some unintended consequences of the ACA's individual market design. Some candidates mistakenly cited impacts related to the group market rather than focusing on the individual market itself.

Candidates could have listed any of the following as unintended consequences to the ACA's individual market design:

1. Lower Gross Premiums Can Lead to Higher Net Premiums

It may seem counterintuitive, but when the cost of the second-lowest-cost Silver plan (the benchmark for subsidies) decreases, the subsidy amount also decreases dollar-for-dollar. This results in higher net premiums for consumers choosing other plans or metal tiers.

5. Continued

2. Increased Competition Doesn't Always Lower Rates

While competition is typically associated with reduced prices, in the ACA market, new low-cost entrants often lower the benchmark Silver plan price—leading to reduced subsidies and higher net premiums for many enrollees.

3. State Efforts to Lower Premiums Can Backfire

States using Section 1332 waivers, reinsurance programs, or aggressive rate negotiations may successfully lower gross premiums. However, by reducing the benchmark plan's cost, they unintentionally reduce subsidies and increase net premiums for many, especially those not selecting the benchmark plan.

4. Innovative Plans Can Raise Premiums for Others

Insurers offering narrow networks or value-based payment models often produce lower-cost plans. While this lowers the benchmark plan price, it can increase net premiums for other plans. Some states (e.g., Rhode Island) have discouraged these innovations to avoid this unintended consequence.

5. Incentive to Avoid Healthier Enrollees

Due to the way risk adjustment works—sometimes undercompensating healthy individuals and overcompensating for less healthy ones—insurers may be disincentivized to enroll healthier individuals, which is counter to traditional risk-pool logic.

6. Misaligned Metal-Level Pricing

Premium relativities among metal tiers have become distorted. For example, Bronze plans may be priced too closely to Silver plans, reducing affordability for low-income and unsubsidized populations, and leading to higher premiums across other tiers.

7. Unbalanced Risk Pool Demographics

Though the ACA aimed to balance the risk pool, subsidy structures that favor older individuals at a given income level have caused younger, healthier individuals to opt out—resulting in an older, sicker, and more expensive risk pool.

5. Continued

8. Termination of CSR Payments Had Unexpected Outcomes

The end of Cost-Sharing Reduction (CSR) payments led to insurers increasing Silver plan premiums (a practice known as "Silver loading"). This, counterintuitively, increased subsidy amounts—making coverage more affordable for many and even boosting enrollment.

9. "Cliff Effects" Discourage Income Growth

Some individuals face steep "cliff effects," where even a small income increase disqualifies them from subsidies, resulting in much higher premiums. This can discourage income growth or additional work.

(b) 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.

Commentary on Question:
Most candidates successfully identified compliance concerns with at least one insurer. However, many incorrectly concluded that there were no issues with Insurer A or Insurer D. Most candidates correctly recognized the concerns associated with Insurer C. A few candidates mistakenly believed that insurers are required to offer a plan at each metal level, which is not the case.

(i) Insurer A

Insurer A has set premium rates that deviate too widely from the actuarial value relativities across metal levels. This misalignment raises concerns regarding rate adequacy and compliance.

5. Continued

(ii) Insurer B

Insurer B appears to be compliant. It's worth noting that insurers are not required to offer Bronze or Platinum plans on the exchange.

(iii) Insurer C

Insurer C presents multiple compliance issues:

- ***Risk Adjustment Vulnerability:*** *Their rates may be inadequate due to the risk adjustment program. By attracting a younger population but not older enrollees (due to uncompetitive rates for older ages), the company risks paying out more in risk adjustment than it receives—potentially exceeding collected premiums.*
- ***Plan Offering Requirement:*** *They offer only a Bronze plan on the exchange, which is not permitted under the ACA.*
- ***Age Rating Curve Violation:*** *They failed to use the required 3:1 age rating curve and must revise their rates accordingly.*
- ***Tobacco Load Violation:*** *The tobacco surcharge exceeds the ACA's 1.5:1 limit and varies by age, both of which are non-compliant and may not be actuarially justified.*

Given the breadth and severity of these compliance issues, Insurer C may not be suitable for participation in the exchange market.

(iv) Insurer D

Insurer D has underpriced their Silver plan while overpricing their Bronze and Gold plans relative to actuarial value benchmarks. This results in distorted pricing that does not reflect the expected cost differences among the metal tiers.

6. Learning Objectives:

3. The candidate will understand how to apply principles of pricing, risk assessment and funding to an underwriting situation.

Sources:
The Role of the Actuary in Self-Insurance, May 2018, sections 4, 5 & Appendices (excluding 4.1.1 – 4.1.5, 4.4, 4.6.1 - 4.6.3, Appendix D) - page 15

Commentary on Question:
Generally, candidates performed poorly on Question 6.

Solution:

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

Paid contracts are intended to cover claims paid in a policy year.
Paid contracts may limit how far back these claims could have been incurred (the run-in period).
For example, an 18/12 contract allows six months of run-in claims, in addition to claims incurred during the given 12-month policy year itself.
Incurred contracts cover claims incurred in a policy year, but provide no coverage for underlying plan claims incurred prior to it.
Incurred contracts may allow the payment date to extend beyond that given 12-month incurral period (a run-out policy).
For example, a 12/15 contract provides coverage for claims incurred in the 12-month policy year itself as long as they are paid within the policy year or the first three months of the following year.

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

Claims develop at different rates according to their nature or diagnosis. Chronic conditions may produce more stable recurring monthly costs while acute conditions and accidents may occur at any less predictable time.
Hospital contracts affect cash flow timing and may have timely payments provisions. Some are paid according DRGs and can only be fully determined at discharge, while others are paid on discounted FFS scheduled on a pay-as-you-go basis.
Accident claims and claims that give rise to third-party liability may be subrogated. The plan sponsor will pay the claim and seek recoveries from the third party, which may take years to be settled
Out-of-network claims usually take longer to be presented. A narrower network could result in more OON claims.
Internal processes and systems of TPAs vary and can have a significant impact on the timing of claims processing.

6. Continued

(c) 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.

The model solution for this part is in the Excel spreadsheet.

7. Learning Objectives:

1. The candidate will understand how to describe and evaluate plan provisions and government programs, including:
   - Group and Individual medical, dental and pharmacy plans.
   - Group and Individual long-term disability plans.
   - Group and Individual short-term disability plans.
   - Group and Individual long-term care insurance.
   - Group life insurance plans.
   - Supplementary plans, like Medicare Supplement.

Learning Outcomes:

(1h) Compare social programs in Canada and the United States and evaluate the value of the different systems.

Sources:

Group Insurance, Skwire, Daniel D., 8th Edition, Ch. 7; Ch. 21: Estimating Medical Claim Costs; Ch. 23: Estimating Pharmacy Claim Costs

Commentary on Question:

The candidate was expected to understand the basic principles of prescription drug plans, including the pricing methodology and the opportunities to manage the plan cost.

Generally, candidates did well on this question.

Solution:

(a) 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)

Commentary on Question:

The candidate needed to fully describe the roles to earn full credit

7. Continued

(i) Pharmaceutical manufacturers research, obtain approval for, produce and distribute pharmaceutical products and prescription drugs.

(ii) Pharmaceutical wholesalers act as middlemen between the manufacturers and pharmacies allowing pharmacies to deal with one contact rather than all the manufacturers.

(iii) Pharmacies are customer facing and dispense prescription drugs to customers. They acquire the drugs either from manufacturers or wholesalers.

(iv) Pharmacy benefit managers PBMs perform many tasks, such as: negotiate rebates with manufacturers, negotiate discounts with pharmacies, develop formularies, administer the prescription drug benefit, and integrate medical insurance with Rx insurance.

(b) Calculate the value of a $150 deductible.

Show your work.

Commentary on Question:
Candidates did well on this section. The most common oversight was failing to apply the deductible when the average annual claims were less than the deductible amount. There were a few calculation methodologies that could be used on this problem; all valid approaches were considered acceptable. In the model solution, we included two of these: method 2 shows the calculation that the source materials used, method 1 is a simplified methodology.

The model solution for this part is in the Excel spreadsheet.

(c) Calculate the expected net plan liability.

Show your work.

Commentary on Question:
Candidates did reasonably well on this section. The most common errors were failing to include the dispensing fee into the allowed amount and failing to apply both the coinsurance and the rebates as a percentage of the allowed amount. Substantial partial credit was awarded for using the correct methodologies.

The model solution for this part is in the Excel spreadsheet.

7. Continued

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

Commentary on Question:
Full points were awarded to candidates that proposed four distinct suggestions.

The net plan liability can be reduced through the following actions:

- Increase in member coinsurance
- Negotiate through PBM for larger rebates from manufacturers as percent of allowed cost
- Negotiate through PBM for larger discounts from pharmacies off AWP
- Restructure the formulary to encourage the use of more generic drugs, when possible, since these are the lowest net liability drug type.
- Implement changes to the formulary design such as requiring prior authorization, requiring step therapy, or instituting quantity limits.

8. Learning Objectives:

3. The candidate will understand how to apply principles of pricing, risk assessment and funding to an underwriting situation.

Learning Outcomes:

(3a) Understand the risks and opportunities associated with a given coverage, eligibility requirement or funding mechanism.

(3b) Understand, evaluate and apply various risk adjustment mechanisms.

(3c) Recommend strategies for properly pricing, underwriting and funding case specific risks.

(3e) Apply Total Risk Analysis (TRA) strategies to block and case specific pricing.

Sources:

Group Insurance Chapter 26 and GHDP 136-20

Commentary on Question:

Discern the similarities and differences of different experience rating methods. Address the risk mitigation approaches in the context of managing the downside risks of retrospective experience rating. Apply the components of retrospective experience rating in group premium rate development.

Solution:

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

Both methods use a group's own claim experience. They both consider claims trend, plan design changes, demographic changes in estimating claims and factor in the insurer's retention fees.

The insurer keeps the group's surplus or shortfall in Prospective Rating but shares the group's surplus and possibly shortfall in Retrospective Rating. The main difference is the financial accounting process. A premium stabilization reserve (or claim fluctuation reserve or contingency reserve) could be set up to hold the group's surplus and used to stabilize future premium rates for retrospective rated groups. No such thing for prospective rate groups.

8. Continued

(b) Describe risk mitigation techniques Big Fish could use under the following retrospective rating options:

(i) Deficit recovery arrangement

(ii) Unilateral arrangement

(iii) Bilateral arrangement

Under the Deficit Recovery Arrangement and the Bilateral Arrangement, Big Fish could be adversely affected if groups with favorable experience retain the surplus but groups with deficits lapse or unable to cover deficit. ABC would mitigate the risks by (1) Performing financial underwriting of the group by examining if the group has a history of making timely payments, the risk of the group's insolvency and who will bear the run-out claims liabilities; (2) Pooling claims – stop loss arrangement would stabilize claim experience and stop loss premium could be a source of revenue; (3) Retaining surplus in a premium stabilization reserve to cover future deficits and (4) Building in a termination risk charge in all retrospective rate groups.

Under Unilateral Arrangement, the group gets the surplus but not the shortfall. The risk and reward are not balanced. Premium Setting needs to account for the imbalance and include a load accordingly. Pooling claims and charging a pool premium will help stabilize the results and give the Big Fish additional revenue stream.

(c) 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.

The model solution for this part is in the Excel spreadsheet.

9. Learning Objectives:

1. The candidate will understand how to describe and evaluate plan provisions and government programs, including:
   - Group and Individual medical, dental and pharmacy plans.
   - Group and Individual long-term disability plans.
   - Group and Individual short-term disability plans.
   - Group and Individual long-term care insurance.
   - Group life insurance plans.
   - Supplementary plans, like Medicare Supplement.

Sources:
Insuring LTC, Chapters 2 & 4

Commentary on Question:
Commentary listed underneath question component.

Solution:

(a) 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.

Commentary on Question:
The question is examining the retrieval of knowledge around methods to finance LTC accelerated benefits as part of a hybrid LTD/Life insurance policy. For full credit, candidates had to list all three methods. Most candidates received full credit on this part of the question

Method 1: Charging an additional premium and providing the additional benefit. This is referred to as the ***"dollar for dollar"*** method.
Method 2: Paying the present value of the face amount of the accelerated benefit. This is referred to as the ***"actuarial present value"*** or ***"actuarial discount"*** method.
Method 3: Charging interest on the amounts of the accelerated benefits (the ***"lien"*** method).

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

Commentary on Question:
Most candidates were able to correctly identify the impact of experience changes to financial performance for Standalone LTC. Candidates struggled to pinpoint the neutral/muted impact to financial performance for Hybrid Whole Life (WL) and LTC w/Accelerated Benefits due to the experience changes described. To get full credit, candidates had to correctly describe the financial impact of experience changes listed on each of the plans.

9. Continued

Increase in active life mortality

Standalone LTC: Higher mortality decreases the population that persists to older ages where claims are high. This improves financial performance because there are fewer claims.
Hybrid Whole Life (WL) and LTC w/ Accelerated Benefits: Higher mortality leads to higher death claims on the whole life component, but fewer LTC claims since policyholders are not persisting to older ages where there is higher incidence. Overall impact is muted compared to standalone.

Increase in claim incidence

Standalone LTC: Higher incidence leads to higher claims, which worsens financial performance.
Hybrid Whole Life (WL) and LTC w/ Accelerated Benefits: Higher incidence leads to higher LTC claims. However, the acceleration of benefits reduces available life insurance death benefits, which leads to a reduction of death claims on the whole life component. Disabled mortality is generally higher than active mortality, so an increase in incidence will likely lead to a higher number of deaths overall. Overall impact is muted compared to standalone.

Increase in disabled life mortality

Standalone LTC: Higher disabled life mortality reduces claims since they last for a shorter period of time. This improves financial performance.
Hybrid Whole Life (WL) and LTC w/ Accelerated Benefits: Higher disabled life mortality reduces the LTC claims since they are shorter. However, it increases the death claims on the whole life component. Overall impact is muted compared to standalone.

Increase in voluntary lapse

Standalone LTC: Higher lapse decreases the population that persists to older ages where claims are high. This improves financial performance because there are fewer claims.
Hybrid Whole Life (WL) and LTC w/ Accelerated Benefits: Higher lapse decreases exposures to both death benefits and LTC benefits, so it improves financial performance. There is some offsetting impact of paying surrender value, but overall should be favorable.

9. Continued

(c) 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.

Commentary on Question:
Most candidates were able to calculate the total policy benefits paid to Policyholder A for part (i). For part (ii), some candidates failed to realize that the hybrid policies are not reimbursement base and pay a set amount per month based on the policy provision. Additionally, candidates failed to realize the that extension benefits kicks in after the accelerated benefits have been exhausted. Lastly, some candidates failed to realize that no death benefit remained to be paid out due to acceleration/extension of benefit payment. While most candidates did well on part (iii), they struggled in similar areas as part (ii), however, partial credit was given if they didn't show exact calculation that amounted to a death benefit of $640K and an accelerated benefit of $360K

The model solution for this part is in the Excel spreadsheet.

10. Learning Objectives:

3. The candidate will understand how to apply principles of pricing, risk assessment and funding to an underwriting situation.

Learning Outcomes:

(3a) Understand the risks and opportunities associated with a given coverage, eligibility requirement or funding mechanism.

(3b) Understand, evaluate and apply various risk adjustment mechanisms.

(3c) Recommend strategies for properly pricing, underwriting and funding case specific risks.

Sources:

Level Funding: An Alternative to the ACA for Small Groups

The Role of the Actuary in Self-Insurance, May 2018, sections 4, 5 & Appendices (excluding 4.1.1 – 4.1.5, 4.4, 4.6.1 - 4.6.3, Appendix D) - page 15

Group Insurance, Skwire 8th edition, Ch. 26

Commentary on Question:

Commentary listed underneath question component.

Solution:

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

Commentary on Question:

Majority of candidates received full points for this section

Advantages

- The group will avoid premium taxes, state health coverage mandates and certain ACA-related fees
- The group will directly benefit from its favorable claims experience
- The group will forgo paying insurance company risk charges
- Flexibility in plan design

10. Continued

Disadvantages

- Less predictable cash flows
- The bearing of financial responsibility for unfavorable claims experience
- The need for the group to obtain and pay for the advice of insurance professionals to help manage their plan
- The potential need for the group to buy stop-loss insurance
- More administration needed

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

Commentary on Question:
Majority of candidates received full points for this section.

- Financial risks, for example, the risk that actual claims deviate unfavorably from expected claims;
- Operational/Administration risks, such as the risk that the administrative operations of the plan fail or cost more than expected;
- Litigation/Legal risks, such as the risk that a plan participant sues the plan for failure to pay legitimate claims;
- Fiduciary risks, such as the risk that plan assets, including employee contributions, are squandered

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

Show your work.

Commentary on Question:
Both aggregate and PEPM answers were accepted.

The model solution for this part is in the Excel spreadsheet.