

GH DP Model Solutions

Spring 2023

1. 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:

- (1g) Describe the Affordable Care Act and evaluate impacts on pricing and filing
- (2f) Describe the product development process including risks and opportunities to be considered during the process.
- (3a) Understand the risks and opportunities associated with a given coverage, eligibility requirement or funding mechanism.

Sources:

Group Insurance, Skwire, Daniel D., 8th Edition, 2021: Chapters 3, 5, 6, 9, 19, and 22

Commentary on Question:

Commentary listed underneath question component.

Solution:

- (a) Describe advantages and disadvantages to PQR of introducing an innovative product design.

Commentary on Question:

This section was asking the candidate to describe advantages and disadvantages to being the first to introduce a product.

1. Continued

Advantages

- Leading the competition in a new product and thus gaining large membership
- Meeting a need of members that is not already being met
- Financial benefits, if successful

Disadvantages

- The expenses that come with innovation of a product design from the staff needed to implement, the infrastructure, the marketing material, the education of the sales organization, and others
- Risk of mispricing, since there are no current pricing standards

- (b) PQR has aggressive individual ACA membership growth targets. The product team proposes offering dental coverage embedded within a bronze plan targeted at families to help achieve these targets.

Critique this proposal.

Commentary on Question:

This section was asking the candidate to consider the appropriateness of adding dental coverage to a bronze plan. The emphasis was on understanding the structure and membership for bronze plans and being able to explain why dental coverage might or might not make a good ancillary benefit with these plans. Candidates struggled with this part because they focused more on dental benefit features rather than bronze plan features and failed to tie the two concepts together. Specifically, the question was not trying to address the anti-selection that can occur with dental products, because this is not material in bronze plans.

This proposal may not have the intended effect of increasing membership, for several reasons:

- Bronze plans have high combined deductibles that must be fulfilled before non-preventive dental coverage is provided.
- In a given year, few individuals or families hit this deductible, so the dental benefit might have little value.
- The ACA already provides pediatric dental coverage, lessening the value of this benefit.
- The infrastructure of dental and medical plans is different which could make administration of the plan challenging.
- Requires addition of dental providers to the network
- The clientele for bronze plans is usually healthier and more cost conscious. Adding dental coverage may increase the cost of the plan, which is contrary to what the clientele may want.

1. Continued

- (c) Explain how the following impact PQR's silver loading factor:
- (i) The state has not implemented Medicaid expansion
 - (ii) The state has implemented a Basic Health Plan
 - (iii) The state has funded additional subsidies targeted at low-income individuals

Commentary on Question:

This section was asking the candidate to demonstrate an understanding of the impact on the loading of the premiums for a silver plan based on the policy decisions that a state has made around health coverage. Partial credit was provided for demonstrating an understanding of the state's policy decision. Full credit was awarded when the candidate correctly identified how this impacted the silver loading.

- (i) The state has not implemented Medicaid expansion

If a state has not implemented Medicaid expansion, then their pool of individuals who are on Medicaid are limited to parents, children, pregnant women, seniors and disabled who are making up to 138% of the FPL. This results in fewer people on Medicaid and more in the ACA individual exchange market. This means that more people in those states will qualify for the CSR (having a silver plan and < 250% of federal poverty level) so the silver loading factor would be higher.

- (ii) The state has implemented a Basic Health Plan

The Basic Health Plan is a benefit coverage program for low-income members. If the state implements a Basic Health Plan, you'd expect to see fewer low-income members on CSR silver plans. There should be a limited impact on the silver loading.

- (iii) The state has funded additional subsidies targeted at low-income individuals

Additional subsidies would encourage more low-income members to sign up for plans on the exchange. As a result, you'd expect higher enrollment in CSR plans. This would increase the silver loading.

1. Continued

(d) Describe how the introduction of the ACA affected:

- (i) Mental health parity
- (ii) Enforcement of portability and conversion laws
- (iii) Government funding for MA plans

Commentary on Question:

This part of the question asks the candidates to consider how the provisions of the ACA impacted specific types of coverage or government funding for medical coverage. Generally, if the candidate was familiar with the provisions, they did well on this part.

- (i) Mental health parity

The ACA extended mental health parity to small groups and individual non-grandfathered markets. Coverage of mental health and substance abuse were included in the Essential Health Benefits (EHB) package. Coverage for mental health conditions must be equivalent to coverage for medical conditions.

- (ii) Enforcement of portability and conversion laws

The ACA created a marketplace for individual health insurance allowing individuals to procure coverage. By law, the coverage is guaranteed issue and guaranteed renewable. There can be no lifetime limits or rescissions, other than for non-payment of premium. Because there are a large number of individuals in this marketplace, they achieve the financial advantages of community rating and the coverage is more affordable. This has lessened the need for COBRA and associated programs.

- (iii) Government funding for MA (Medicare Advantage) plans

Government funding for MA plans is expected to decrease substantially due to the introduction of the ACA. Specific changes include:

- A minimum loss ratio of 85% was implemented
- Quality bonus payments for plans with a 4.5/5-star rating
- Reduced county benchmarks to 95-115% of average FFS Medicare costs

2. 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:

- (1b) Describe each of the coverages listed above.
- (1c) Evaluate the potential moral hazard and financial and legal risks associated with each coverage.

Sources:

Insuring Long-Term Care, Chapters 2 and 7

Commentary on Question:

Commentary listed under each question component.

Solution:

- (a) Describe the key provisions of long term care (LTC) products included in the NAIC LTC Insurance Model Act and Model Regulation.

Commentary on Question:

This question asked candidates to describe, rather than list, provisions of the regulation. Successful candidates described at least 4 key provisions from the initial or subsequent versions of the regulations. Many candidates described provisions from later versions of the regulation, such as the 58/85 test, requirements to offer a contingent nonforfeiture benefit, or benefit eligibility based on activities of daily living or cognitive impairment.

Early versions of the NAIC Model Act and Model Regulation included the following key provisions:

- Definition of LTC insurance: The Model Act establishes the minimum period of time that an LTC policy will cover. The definition notes that LTC insurance “means any insurance policy or rider advertised, marketed, offered, or designed to provide coverage for not less than 12 consecutive months...”.
- Levels of Care: No LTC policy could provide coverage for skilled nursing care only or provide significantly more coverage for skilled care in a facility than coverage for lower levels of care.

2. Continued

- Conditions for Benefit Eligibility: No LTC insurance policy could condition benefits on a prior hospitalization requirement.
- Policy Renewability: The Model Regulation mandated that policies must be either “guaranteed renewable” or “noncancelable”.

(b) Complete the table below. For each of the assumptions:

- Describe how LTC industry experience has been different from what was originally expected in the 1990s.
- Explain why the differences may lead to the need for a rate increase.

| Assumption | Variance in Experience | Reasons may lead to rate increase |
|-----------------|------------------------|-----------------------------------|
| Mortality | | |
| Voluntary Lapse | | |
| Interest Rates | | |
| Morbidity | | |

Commentary on Question:

Candidates generally performed well on this question. Successful candidates correctly described how experience has deviated from original pricing expectations in part (i) and explained in part (ii) how those deviations have resulted in the need for rate increases using key principles of LTC insurance structure and/or regulation.

| Assumption | Variance in Experience | Reasons may lead to rate increase |
|-----------------|--|--|
| Mortality | Mortality improvement has led to lower overall mortality than originally expected. | Higher persistency leads to the need for rate increases since more policyholders than originally assumed persist to older ages, where LTC claim incidence rates are higher. |
| Voluntary Lapse | Lapse rates have been much lower than originally expected. Many blocks were priced assuming ultimate lapse rates of 5% or more, but actual experience has been closer to 1%. | LTC is a lapse supported product. Premiums collected in early durations for policies that lapse without filing a claim support the payment of claims for persisting policies. Higher persistency leads to the need for rate increases since more policyholders than originally |

| | | |
|----------------|--|---|
| | | assumed persist to older ages, where LTC claim incidence rates are higher. |
| Interest Rates | Interest rates have been lower than expected. Interest rates were originally expected to be in the range of 6% to 8%, but actual rates have been closer to 4% for several years. | When interest rates are low, the premiums collected and used to prefund future benefits accumulate at a slower rate, generating less investment income, and fewer dollars are available to pay future benefits. This may lead to a rate increase to generate additional revenue to fund claims. |
| Morbidity | Early LTC policies were priced using population data and morbidity estimates varied widely. Many policies were priced using morbidity rates that were too low and actual morbidity experience has been higher / worse. | Higher morbidity could be caused by higher incidence, length of stay, or utilization. Higher total claims than originally expected leads to higher loss ratios and the need for a rate increase. |

- (c) Describe how the behavior of LTC policyholders in response to a rate increase should be considered in projections of future experience.

Commentary on Question:

Successful candidates described the potential anti-selective behaviors of policyholders in response to a rate increase and how those behaviors should be modeled when projecting future experience. Many candidates correctly identified potential behaviors but did not describe how they impacted future projections.

Shock lapse is the assumed rate at which policyholders will lapse as a result of the rate increase, which may be modeled as a reduction to future life counts, premium, and claims.

The benefit reduction impact assumption reflects the assumed rate at which policyholders reduce their benefits due to the rate increase, which is generally modeled as a reduction to future premiums and claims, but not life counts.

2. Continued

Adverse selection is also generally assumed as part of a rate increase as policyholders who persist after an increase (or retain higher levels of coverage) are generally those that believe they are more likely to file a claim at some point in the future. Healthier policyholders may reevaluate their need for coverage at the higher premium rate and decide to lapse their policy or reduce their benefits. This results in the remaining population being less healthy (i.e., will have higher average morbidity) than the population prior to the rate increase. This is generally modeled as an increase to average future claims.

3. 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.
- (3c) Recommend strategies for minimizing or properly pricing for risks.

Sources:

Level Funding: An Alternative to ACA for Small Groups, Health Watch, May 2016

GHDP-136-20: Illustrative Examples on Experience Rating and Funding Methods

Commentary on Question:

This question was focused around level funding arrangements and understanding how they work. The question dug into not just the definition of a level funding arrangement, but touched on how to develop a rate, how to handle pooled claims and how to measure profitability.

Candidate performance was middling and many earned at least partial credit for most sections attempted.

Solution:

- (a) Compare and contrast level funding and ACA community rating from a rate development perspective.

Commentary on Question:

The question specifically asks the candidate to “Compare and Contrast”, not “Describe”. Points were awarded for articulating comparisons, and credit was awarded if candidates clearly described similarities and differences.

Additional responses were accepted, although the answers below are the most common.

Compare:

- Both ACA community rating and level funding provide a level, monthly premium
- Share several rating factors
- Both limit the risk and volatility for the policyholder

3. Continued

Contrast:

- Level funding allows the policyholder to share in the risk, ACA rating has the insurer taking on all of the risk
- ACA rating is only allowed to use a limited set of rating factors, level funding can use more factors
- ACA rating is more complex to rate, it involves stop loss coverage
- Level funding avoids ACA taxes and fees that are required in ACA rating

(b) Calculate the accumulated surplus or deficit at June 30, 20X4 including XYZ's acquisition of Employer ABC from:

- (i) The client perspective.
- (ii) The insurer perspective.

Show your work.

Commentary on Question:

The question was ambiguous on whether the companies should be combined before calculating the surplus, or after. Ultimately, both approaches were accepted. Additionally, the paid premium could be taken directly from the information given or calculated from the given membership and premium PMPM. Both options were accepted.

The solution below combines both entities before calculating the surplus or deficit and relies on the given paid premiums.

Partial credit was awarded, with a focus on correct handling of pooled premiums and claims, changes in IBNR and retention.

Many candidates made technical errors that led to the wrong answer. Partial credit was awarded where the intent was clearly articulated.

3. Continued

(i) The client perspective

| | July 1, 20X1 – June 30, 20X2 | July 1, 20X2 – June 30, 20X3 | July 1, 20X3 – June 30, 20X4 | Total |
|---|------------------------------|------------------------------|------------------------------|---------------------|
| Paid Prem | \$12,555,000 | \$13,630,000 | \$15,390,000 | \$41,575,000 |
| less Pooled Prem | \$880,000 | \$944,000 | \$1,106,000 | \$2,930,000 |
| Experienced Prem | \$11,675,000 | \$12,686,000 | \$14,284,000 | \$38,645,000 |
| less Administrative Expenses | \$627,750 | \$681,500 | \$769,500 | \$2,078,750 |
| less Claim Adjustment Expenses | \$502,200 | \$545,200 | \$615,600 | \$1,663,000 |
| less Premium Taxes | \$251,100 | \$272,600 | \$307,800 | \$831,500 |
| less Risk & Profit | \$376,650 | \$408,900 | \$461,700 | \$1,247,250 |
| Retention | \$1,757,700 | \$1,908,200 | \$2,154,600 | \$5,820,500 |
| Net Premium | \$9,917,300 | \$10,777,800 | \$12,129,400 | \$32,824,500 |
| Paid Claims | \$10,128,000 | \$10,608,000 | \$14,012,000 | \$34,748,000 |
| less Pooled Claims | \$378,000 | \$455,000 | \$682,000 | \$1,515,000 |
| plus Delta IBNR | \$111,000 | \$434,000 | \$666,000 | \$1,211,000 |
| Incurred Claims | \$9,861,000 | \$10,587,000 | \$13,996,000 | \$34,444,000 |
| Surplus/Deficit | \$56,300 | \$190,800 | (\$1,866,600) | (\$1,619,500) |
| Policyholder Cashflows (Unilateral policy - policyholder only receives surpluses) | \$56,300 | \$190,800 | 0 | \$247,100 |
| Insurer Cashflows (Unilateral policy - Only absorbs deficits) | \$0 | \$0 | (\$1,866,600) | (\$1,866,600) |

(ii) The insurer perspective

| | |
|---|------------------|
| Profit/loss from account experience: | (\$1,866,600) |
| Profit/loss from pooled experience: | \$1,415,000 |
| Risk & Profit from embedded in paid premiums: | \$1,247,250 |
| Total profit/loss for this account: | \$795,650 |

- (c) Calculate the PMPM rates for the period July 1, 20X5 to June 30, 20X6. Show your work.

Commentary on Question:

Many candidates attempted to incorporate the July 1 20X4 – June 30 20X5 premiums into the calculation, or to calculate a rate increase. These were not disqualified if handled properly, but were unnecessary to the request and generally led to more confusion in the calculation.

One common mistake was to weight the claims before converting to a PMPM. This approach fails to normalize for differences in membership across time periods and was penalized.

Partial credit was available, with a focus on using the correct incurred claims, trends, credibility weighting, retention and adding in pooled premiums. Since this is a unilateral arrangement, no deficit recovery is necessary.

| | Incurring Claims | Years of Trend | Trended Claims | Membership | Claims PMPM | Credibility Weight |
|------------------------------|------------------|----------------|----------------|------------|-----------------|--------------------|
| July 1, 20X1 – June 30, 20X2 | \$9,861,000 | 4 | \$12,925,759 | 4,187 | \$257.26 | 0.11 |
| July 1, 20X2 – June 30, 20X3 | \$10,587,000 | 3 | \$12,969,530 | 4,132 | \$261.57 | 0.33 |
| July 1, 20X3 – June 30, 20X4 | \$13,996,000 | 2 | \$16,024,020 | 4,276 | \$312.29 | 0.56 |
| Credibility Weighted PMPM | | | | | \$289.27 | |
| Required Premium | | | | | \$336.36 | |
| Pooled Premium (given) | | | | | \$27.50 | |
| Deficit Recovery Premium | | | | | \$0.00 | |
| Total Premium | | | | | \$363.86 | |

3. Continued

- (d) Evaluate whether a deficit recovery, unilateral, or bilateral arrangement would have been most beneficial to the insurance carrier. Justify your response.

Commentary on Question:

The response below reflects the most common answer to receive full credit, although other answers would be accepted with a good – and accurate – justification. Partial credit was awarded for other answers with a reasonable justification.

Many candidates misunderstood the mechanics of the three arrangements listed, and answers that were inaccurate on these mechanics could not receive full credit

A bilateral arrangement would be most beneficial to the insurer because in a bilateral agreement the client takes on both the surplus and the deficit of the account experience.

In a deficit recovery arrangement, rates would need to be increased in future periods in order to regain losses. The client could drop coverage with the insurer or their members could leave for other options, leaving the insurer at some risk.

In a unilateral arrangement, the insurer takes on the deficit and not the surplus, so this is not ideal for the insurer.

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.

Learning Outcomes:

- (1a) Describe typical organizations offering these coverages.
- (1b) Describe each of the coverages listed above.
- (1d) Describe Medicare benefits and evaluate pricing and filing requirements

Sources:

Group Insurance, Skwire, Daniel D., 8th Edition, 2021 Ch. 7: Pharmacy Benefits in the United States.

GHDP-144-23: Medicare Part D Prescription Drug Benefits

Commentary on Question:

The question was attempting to test the candidate's knowledge on Medicare Part D benefit design. Candidates were required to calculate each stakeholder's share based on the example and to assess the impact of benefit changes accordingly.

Solution:

- (a) List and describe the entities in the prescription drug benefits system framework.

Commentary on Question:

Candidates generally performed well on Part (a). Candidates received full credit for outlining the main entities and describing their roles in the prescription drug benefit system.

There are seven entities in the prescription drug benefits system framework:

- **Pharmaceutical Manufacturers** research, obtain approval for, produce, and distribute pharmaceutical products and prescription drugs.
- **Pharmaceutical Wholesalers** purchase prescription drugs from manufacturers and distribute drugs to pharmacies.
- **Pharmacies** dispense prescription drugs directly to beneficiaries and purchase prescription drugs either from pharmaceutical wholesalers or directly from pharmaceutical manufacturers.

4. Continued

- **Pharmacy Benefit Managers (PBMs)** administer prescription drug benefit programs. PBMs are either affiliated with an insurance company or operate independently.
 - **Third-Party Payers** are insurance companies, employers, or government programs that fund the prescription drug benefit. In some instances, third party payers may assume the risk associated with fluctuations in pharmacy claims.
 - **Beneficiaries** are consumers of prescription drugs.
 - **Prescribing Health Care Providers** diagnose and prescribe drugs for beneficiaries.
- (b) Calculate the cost share, as a percentage of paid claims, using the 2007 benefit design for the:
- (i) Member
 - (ii) Health plan

Show your work.

Commentary on Question:

Candidates' performance was mixed on Part (b). Strong candidates applied the correct cost sharing before ICL at 25% and verified that the 5% catastrophic benefit is greater than the fixed copays.

4. Continued

Cost Share before ICL: 25%

| Phase | Member | Health Plan | Total | Cumulative Total |
|--------------------------|---------------|---------------|----------------|------------------|
| Deductible | 265 | 0 | 265 | 265 |
| ICL | 534 | 1,601 | 2,135 | 2,400 |
| Donut Hole | 3,051 | 0 | 3,051 | 5,451 |
| Catastrophic | 129 | 2,459 | 2,589 | 8,040 |
| Total | 3,979 | 4,061 | 8,040 | |
| Cost as % of Paid | 49.50% | 50.50% | 100.00% | |

Verify catastrophic benefit 5% applies:

| Type | Per Script | 5% of script |
|----------|------------|--------------|
| Generic | 120 | 6 |
| Brand NP | 550 | 27.5 |

Both \$6 and \$27.5 exceed the 2007 copays:

- generic or preferred multi-source \$2.15, or
- other drugs \$5.35.

Thus, 5% cost sharing applies

- (c) Calculate the cost share, as a percentage of paid claims, using the 2020 benefit design for the:
- Member
 - Health plan
 - Manufacturer

Show your work.

Commentary on Question:

Candidates did not perform well on Part (c). Common mistakes include applying the same donut hole discounts for both brand and generic drugs, not tracking cumulative TrOOP correctly, and not calculating cost share as a percentage, among others.

4. Continued

| Incurred Date | Type | (1) Cumulative | (2) Cumulative- Generic | (3) Cumulative- Brand |
|---------------|---------|-------------------|-------------------------------|-----------------------------|
| January 2 | Generic | 120 | | |
| January 16 | Brand | 670 | | |
| February 2 | Generic | 790 | | |
| February 16 | Brand | 1,340 | | |
| March 2 | Generic | 1,460 | | |
| March 16 | Brand | 2,010 | | |
| April 2 | Generic | 2,130 | | |
| April 16 | Brand | 2,680 | | |
| May 2 | Generic | 2,800 | | |
| May 16 | Brand | 3,350 | | |
| June 2 | Generic | 3,470 | | |
| June 16 | Brand | 4,020 | | |
| July 2 | Generic | 4,140 | 120 | 0 |
| July 16 | Brand | 4,690 | 120 | 550 |
| August 2 | Generic | 4,810 | 240 | 550 |
| August 16 | Brand | 5,360 | 240 | 1,100 |
| September 2 | Generic | 5,480 | 360 | 1,100 |
| September 16 | Brand | 6,030 | 360 | 1,650 |
| October 2 | Generic | 6,150 | 480 | 1,650 |
| October 16 | Brand | 6,700 | 480 | 2,200 |
| November 2 | Generic | 6,820 | 600 | 2,200 |
| November 16 | Brand | 7,370 | 600 | 2,750 |
| December 2 | Generic | 7,490 | 720 | 2,750 |
| December 16 | Brand | 8,040 | 720 | 3,300 |

Cost Share before ICL: 25%

| Phase | Member | Health Plan | Manufacturers | Total |
|--------------------------|---------------|---------------|---------------|---------|
| Deductible | 435 | 0 | 0 | 435 |
| ICL | 896 | 2,689 | 0 | 3,585 |
| Donut Hole -G | 180 | 540 | 0 | 720 |
| Donut Hole -B | 825 | 165 | 2,310 | 3,300 |
| Total | 2,336 | 3,394 | 2,310 | 8,040 |
| Cost as % of Paid | 29.06% | 42.21% | 28.73% | 100.00% |

4. Continued

- (d) Describe the impact of “closing the donut hole” on the:
- (i) Member
 - (ii) Health plan
 - (iii) Manufacturer

Commentary on Question:

Candidates were expected to observe the impacts on closing the donut hole. Thoughtful responses addressed the shift in financial burden through the example above and pointed out the nuances with health plan cost share. Credit was given for responses in addition to those provided below if supported by sound logic.

- The member cost share reduced dramatically from 49% to 29%. Between 2007 and 2020, members cost share generally declined due to the introduction of brand manufacturer cost share.
- The health plan cost share reduced from 51% to 42%. Although health plans are responsible for 5% more of the cost share in the donut hole, the health plan liability depends on the total costs and brand vs generic mix.
- The manufacturers pick up the share in 2020 that was not in 2007. Brand drug manufacturers’ cost share increased.

- (e) Describe the impact to the:
- (i) Member
 - (ii) Health plan
 - (iii) Manufacturer

Commentary on Question:

Candidates performance was mixed. Strong candidates articulated the OOPM impact and considered the dynamic in the pharmacy delivery system. Credit was given for responses in addition to those provided below if supported by sound logic.

The member will not owe anything for claims after paying a total of \$2,000. Amounts the member would have paid are shifted to the health plan, and possibly the manufacturer. The richer benefit is also likely to increase premiums. The split between health plan and manufacturers will depend on various factors such as the generic and brand mix and pharmacy price negotiations.

5. 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.
3. The candidate will understand how to apply principles of pricing, risk assessment and funding to an underwriting situation.

Learning Outcomes:

- (2a) Identify and evaluate sources of data needed for pricing, including the quality, appropriateness and limitations of each data source.
- (2d) Calculate and recommend a manual rate.
- (2g) Apply actuarial standard of practice in evaluating and projecting claim data.
- (3a) Understand the risks and opportunities associated with a given coverage, eligibility requirement or funding mechanism.

Sources:

Group Insurance Ch. 22: Estimating Dental Claims Costs, ASOP 23 Data Quality, *Essentials of Managed Health Care Ch. 22 Underwriting and Rating.*

Commentary on Question:

This question focused on dental benefits, and tested candidates understanding of key components of this benefit that vary to some degree from other group health benefits. The question specifically evaluated the candidate's understanding of dental claims cost data sources, how ASOP 23 (data quality) applies to dental data, adjudication of dental benefits using standard dental benefit structures, and determination of dental premiums. Candidates who understood how dental benefit structures are different from major medical benefit structures performed better on this question than other candidates.

Solution:

- (a) Describe sources of data that can be used to estimate dental claim costs.

Commentary on Question:

Most candidates were able to list several sources of dental claims data, but many candidates failed to provide any description of these data sources

Valid responses include:

- Insurer's own historical data may be best to estimate future dental claims.
- FAIR Health/National Dental Advisory Service; American Dental Association Survey of Fees. These are fee level information available for sale, but typically do not contain detailed utilization.
- Actuarial memorandum and carrier rate filings.
- Third party administrators or reinsurers.
- Consulting firms that sell data sets.

5. Continued

- (b) Describe data quality considerations when selecting, analyzing, and relying on data for the purposes of developing dental claim costs.

Commentary on Question:

This question evaluated whether candidates understood how ASOP 23 (on data quality) applies to dental claims costs. While candidates generally demonstrated a basic understanding of some parameters that may need to be considered when projecting claims costs from dental data, most candidates failed to identify that this question was a direct application of the ASOP and failed to address the full scope of ASOP 23.

- Data to be selected with due consideration of the appropriateness of the data for its intended use. If available and credible, an insurer's own historic data may well be the best experience base.
 - The reasonableness and comprehensiveness of the data - Things that need to be considered include benefit plans, negotiated fee levels, and population demographics, specific business practices in critical areas such as underwriting, claims adjudication, and utilization management.
 - Limitations of the data - a carrier may plan to enter a new geographical area or market segment, may develop an unusual benefit plan, or simply may not believe that its own data is credible.
 - Modifications or assumptions needed to use the data and the feasibility of alternatives - There are publicly available Cost data, such as FAIR Health, National Dental Advisory Service, etc. Utilization data can come from consulting firm or rate filings.
 - The sampling methods used to collect the data.
- (c) Calculate the 20X2 PPO member and plan liability for:
- (i) Member A
 - (ii) Member B

Show your work.

Commentary on Question:

Candidate performance was mixed on this question and appeared to align with candidate understanding of dental benefit structures. Candidates generally were able to apply the correct discount to billed charges to determine an allowed amount. Most candidates also were successfully able to determine the correct deductible and coinsurance to apply based on the provider and service class. Many candidates did apply the 1,500 plan maximum as a member out of pocket spending limit, while other candidates did not apply the maximum at all.

5. Continued

Candidates struggled to adjudicate the claims correctly, not earning full credit. For member B several candidates did not realize the member had not met the elimination period for the class III claim, which was not covered by the plan. Some candidates recognized that this claim was not covered by the plan but applied the plan maximum as a maximum out of pocket and accumulated this claim toward the maximum, which would not occur.

Member A

| a | b | c | d | e = a x (1 - c) | *f = b + (e - b) x d | g = e - f | |
|-----------------|--------------|------------|----------|--------------------|----------------------|-----------------|----------------------|
| Billed Charges | Service Type | Deductible | Discount | Member coinsurance | Total allowed | ML before Max | PL before Annual Max |
| 80 | Class I | 0 | 35% | 0% | 52.00 | - | 52.00 |
| 50 | Class I | 0 | 35% | 0% | 32.50 | - | 32.50 |
| 150 | Class II | 50 | 35% | 10% | 97.50 | 54.75 | 42.75 |
| 300 | Class II | 0 | 35% | 10% | 195.00 | 19.50 | 175.50 |
| 1100 | Class III | 0 | 20% | 40% | 880.00 | 352.00 | 528.00 |
| 2500 | Class III | 0 | 35% | 40% | 1,625.00 | 650.00 | 975.00 |
| 2,882.00 | | | | | 1,076.25 | 1,805.75 | |
| | | | | | 1,382.00 | 1,500.00 | |

* Once deductible is reached b = 0

** h -1 is the previous Accumulated PL

PL cap at \$1500 Annual Max ^

Member B

| a | b | c | d | e = a x (1 - c) | *f = b + (e - b) x d | g = e - f | |
|-----------------|--------------|------------|----------|--------------------|----------------------|---------------|----------------------|
| Billed Charges | Service Type | Deductible | Discount | Member coinsurance | Total allowed | ML before Max | PL before Annual Max |
| 80 | Class I | 0 | 35% | 0% | 52.00 | - | 52.00 |
| 600 | Class II | 50 | 35% | 10% | 390.00 | 84.00 | 306.00 |
| 50 | Class I | 0 | 20% | 0% | 40.00 | - | 40.00 |
| 1500 | Class III | N/A | 5% | 40% | 1,425.00 | 1,425.00 | - |
| 750 | Class II | 75 | 5% | 40% | 712.50 | 330.00 | 382.50 |
| 2,619.50 | | | | | 1,839.00 | 780.50 | |
| | | | | | 1,839.00 | 780.50 | |

* Once deductible is reached b = 0

** h -1 is the previous Accumulated PL

Elimination period not met for root canal

PL below \$1500 Annual Max ^

ML: Member Liability

PL: Plan Liability

5. Continued

- (d) Calculate the 20X4 HMO premium. Show your work.

Commentary on Question:

Candidates did well trending forward the utilization and unit cost. Several candidates failed to apply the Provider and Network discount to get the allowed amount. Most candidates failed to apply cost sharing to get to a net benefit cost. However, almost all candidates were able to successfully convert claims costs to premiums using the expense ratios specified in the problem. Many candidates lost points through failure to anchor references to trends in their Excel worksheets. In many cases, this resulted in unreasonable trends – for example, if the trend for the broad network was not anchored, candidates would end up applying 80% annual cost trend to class III services, significantly inflating overall costs. Some candidates calculated a composite block-wide premium, but did not make any membership assumption, so that this composite premium had no meaning and lost points as a result.

5. Continued

| Exhibit 6 – HN | Base Year 2022 | | | Projected Year 2024 | | |
|----------------|-----------------------------------|-------------------------------|----------------------|---|-------------------------|-------------------------|
| | | Tight Network: | Broad Network: | | Tight Network: | Broad Network: |
| Class | Annual Services per 1,000 Members | Avg Billed Charge per service | Avg Cost per Service | Projected Annual Services per 1,000 Members | Avg Allowed per service | Avg Allowed per Service |
| Formula | a | b | c | $d = a \times (1.04)^2$ | e | f |
| Class I | 4,500 | \$85 | \$120 | 4,867 | \$53 | \$105 |
| Class II | 1,500 | \$250 | \$350 | 1,622 | \$154 | \$306 |
| Class III | 500 | \$2,500 | \$3,000 | 541 | \$1,545 | \$2,624 |

Total

| Tight Network: | | | |
|----------------|--------------------|--------------------|----------------------------|
| ML Coinsurance | Avg ML per service | Avg PL per service | Net Benefit Cost PMPM |
| g | $h = e \times g$ | $I = e - h$ | $j = (I \times d) / 12000$ |
| 0% | \$0 | \$53 | \$21.31 |
| 5% | \$8 | \$147 | \$19.84 |
| 20% | \$309 | \$1,236 | \$55.70 |

\$96.85

| Broad Network: | | | |
|----------------|--------------------|--------------------|-----------------------------|
| ML Coinsurance | Avg ML per service | Avg PL per service | Net Benefit Cost PMPM |
| k | $l = f \times k$ | $m = f - l$ | $n = (m \times d) / 12,000$ |
| 0% | \$0.00 | \$105 | \$42.58 |
| 5% | \$15.31 | \$291 | \$39.33 |
| 20% | \$524.88 | \$2,100 | \$94.62 |

\$176.52

Tight Network 80%
Broad Network 20%

Weighted Average PL = $80\% \times \$96.85 + 20\% \times \$176.52 = \$112.78$
Projected 2024 premium = $\$112.78 / (1 - 15\%) = \132.69

6. 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:

- (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.
- (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.

Sources:

Group Insurance Ch 12; Short Term Disability Example GHDP-137-20

Commentary on Question:

This question was testing a candidate's ability to think critically of the impacts of product and policy changes effecting disability coverage, perform a basic pricing exercise, and to evaluate appropriateness of assumptions.

Solution:

- (a) Describe the primary differences between Short-term Disability (STD) and Long-term Disability (LTD) coverage.

Commentary on Question:

Candidates did very well on Part (a), with most candidates earning full credit. Additional correct responses were accepted.

6. Continued

- STD benefits are paid weekly, while LTD is paid out monthly
 - Benefit period for STD is considerably shorter than LTD, typically 13 or 26 weeks
 - Much of the claim costs for STD plans come from maternity claims and accidents; whereas LTD tends to come from illness
 - STD has a shorter elimination period
 - Differences in definition of disability, Own occupation for STD, versus Own occupation for 24 months for LTD before switching to any occupation
- (b) Recommend changes to stand-alone STD and stand-alone LTD offerings under the following scenarios. Justify your response.
- (i) The state recently passed legislation implementing statutory disability plans.
 - (ii) The Sales team decides to package STD and LTD benefits into one offering.

Commentary on Question:

Overall, candidates did not do well on Part (b), as they did not seem familiar with the concepts as they were presented in the source material.

- (i) To avoid over-insurance, insurers need to review the new statutory disability plans and adjust offerings by increasing elimination periods or reducing the amount of benefits, so that the sum of the offered disability benefits and the state-mandated disability benefits match the desired benefit amounts. Programs will additionally require continual monitoring due to variances across states and frequent changes.
 - (ii) An increase in premiums for LTD is needed to reflect additional costs related to higher LTD paid incidence rates. The bundling of STD with LTD benefits makes it easier for employees to remain out of work during the LTD elimination period. Additional considerations for changes to elimination periods to ensure alignment, and monitoring of assumptions are needed.
- (c) Calculate the 20X3 premium change needed for a 75-member group in the MW region. Show your work.

6. Continued

Commentary on Question:

Candidates generally did poorly on part (c). While the question itself was for a disability product, it was essentially a premium pricing exercise, reflecting the approach of using the prior year's data to price the upcoming year's premium. Credit was also given to candidates that took a more first-principles approach without directly calculating the change in rating factors

Change in Area Factor:

$$\text{MW MLR} = \$1,900/\$2,000 = 95\%$$

$$\text{Experience Factor} = \text{Prior Factor} * \text{Area MLR} / \text{Total MLR} = 0.95 * 95\% / 75\% = 1.203$$

$$\text{Weighted Factor} = \text{Prior Factor} * 0.9 + 0.1 * \text{Experience Factor} = 0.95 * 0.9 + 0.1 * 1.203 = 0.97533$$

$$\text{Change in Area Factor} = 0.97533 / 0.95 = 1.0267$$

Change in Group Size Factor:

$$51-100 \text{ MLR} = 1,600/2,000 = 80\%$$

$$\text{Experience Factor} = \text{Prior Factor} * \text{Area MLR} / \text{Total MLR} = 1.00 * 80\% / 75\% = 1.067$$

$$\text{Weighted Factor} = \text{Prior Factor} * 0.9 + 0.1 * \text{Experience Factor} = 1.00 * 0.9 + 0.1 * 1.067 = 1.0067$$

$$\text{Change in Area Factor} = 1.0067 / 1.00 = 1.0067$$

$$\text{Overall Claims Trended} = \$7,500 * 1.03^2 * 1,000 = \$7,956,750$$

Admin Costs = 11%, Claims Adjud Costs = 2.8%, Commissions = 10%, P-Tax = 2%, Profit = 5%

Target MLR = 1 - Non Benefit Expense = 1 - 30.8% = 69.2% (*Note keeping Admin, Claims Adjud, Commissions, and P-tax as a value versus converting to a percentage was accepted*).

$$\text{New Total Premium} = \text{Projected Claims} / \text{Target MLR} = \$7,956,750 / 69.2\% = \$11,498,194$$

$$\text{Total Premium Increase for block of business} = 20X3 \text{ Premiums} / 20X2 \text{ Premiums} = \$11,498,194 / \$10,500,000 = 1.095$$

$$\text{Total Change for a 75 member group in MW} = 1.0267 * 1.0067 * 1.095 - 1 = 13.18\%$$

6. Continued

- (d)
- (i) Critique the appropriateness of the experience weight of the prior rating factor assumption.
 - (ii) Describe the implications of placing less weight on the prior rating factors for a 75-member group in the MW region.

Commentary on Question:

For Part d (i) candidates who scored well, commented on both the strengths and the weaknesses of the assumption in their critique. For Part d(ii) candidates who were able to indicate the downstream implications of changes to the assumption received full credit.

- (i) There is quite a bit of an observed difference in the recent 20X1 experience when compared with the prior area and group size factors, most notably for the MW region which performed considerably worse than the whole block of business despite having a favorable area factor. This suggests emerging experience is not consistent with prior experience and such a large weight on prior factors may be inappropriate. However, disability coverage is volatile in a given year, and increasing dependence on the most recent year of experience can lead to premium volatility.
- (ii) Lowering the weight on the prior rating factors would increase the premium increase for the group. Large increases in premium can have downstream effects on the ability to sell the product, and can lead to selection bias in which groups choose to renew.

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

Sources:

Group Insurance – Chapter 3, 11, 20, and 24

Commentary on Question:

Commentary listed underneath question component.

Solution:

- (a) List and describe the steps of the product development cycle.

Commentary on Question:

Most candidates did quite well on this retrieval question. Candidates that only listed the steps without describing did not receive full credit. Listing all steps below was not required to obtain full credit.

- Innovate: Understand why the company is looking to offer the product. Will this be innovative in their industry or will they be following the market? Are there laws and regulations that make it beneficial for company to offer this product? Is there a demand for the product among their employees? Is there a social need or changing demographics that makes this appealing. Screen ideas and understand feasibility for the company. Assess what options are available for employees.

7. Continued

- Design: Determine product structure that would fit needs of employees; analyze variables in design and scope of coverage; consider contribution requirements; determine regulatory compliance.
 - Build: Project enrollment and take-up among employees, price the product given projections; provide finance passement of product; implement infrastructure; get senior management approval at company.
 - Sell: If feasible, test the market through employee surveys, incorporate feedback, mass market product during enrollment period.
 - Assess: track financial results, review preliminary enrollment information, actual to expected, ongoing consumer and market feedback.
 - Revise: based on ongoing assessment, determine if revisions to product are necessary for the company based on consumer demand, sales, update, and financials.
- (b) Describe plan provisions that help mitigate moral hazard and financial risks in basic group term life insurance plans.

Commentary on Question:

Candidates' performance on this part was mixed. The question required comprehension of the syllabus material. Candidates who listed provisions without providing descriptions did not receive full credit. Additional responses also received points.

- Plan design where insurance amounts that vary by company position, which are designed to preclude individual selection of amount.
 - Eligibility provisions where premiums are non-contributory (no employee contributions towards cost of coverage) and require 100% participation among eligible employees.
- (c) Describe tax implications in basic group term life for the:
- (i) Employer
 - (ii) Employee

Commentary on Question:

Candidate performance was mixed and most candidates did not earn full credit on this section.

- (i) Premiums paid by employer are generally deductible on the employer's federal income tax return.
- (ii) Death benefits are excluded from a beneficiary's gross income. Insurable amounts over \$50,000 create imputed income to employee.

7. Continued

- (d) Describe considerations for the following elements of gross premium development:
- (i) Estimated claims cost
 - (ii) Administrative costs
 - (iii) Commissions
 - (iv) Risk and profit charges

Commentary on Question:

Candidates generally performed well on this part. Additional acceptable answers received credit based on quality of the response.

- (i) What is the insurable amount and demographics of the group?
 - (ii) Since the product is new, how should overhead cost be developed? How will expenses be different between first year and renewal year?
 - (iii) Will commissions need to be higher in order to achieve target sales?
 - (iv) As a new product, will margin need to be higher to reflect the degree of risk?
- (e) Calculate the:
- (i) Net manual claim cost.
 - (ii) Gross premium claim cost.

Show your work.

Commentary on Question:

On this part of the question, candidates could obtain up to full credit based on a variety of responses including PEPM or annualized response figures, etc. Many candidates did not consider that the expense target was a % of net premium and therefore missed available points.

7. Continued

- (i) Set up $\text{Rate} * \text{Volume} / \text{total volume} = \text{Monthly Claim Rate per } \$1,000 \text{ Coverage} * \text{Company Insured Amount ('000s) for all ages} / \text{Sum of Company Insured Amount ('000s) for all ages}$. The average expected claim rate is approximately \$0.401. The net manual claim cost = the sum product of the Pricing Factors ($0.8708 = 0.90 * 0.97 * 1.05 * 0.95$) times \$0.401 = approximately \$0.349.
- (ii) Gross premium claim cost = $\text{Net manual claim cost} * (1 + \text{Expense target}) / (1 - (\text{Commissions} + \text{Profit} + \text{Premium tax})) = \$0.349 * (1 + 15\%) / (1 - (10\% + 5\% + 2\%)) = \text{Approximately } \0.483
- (f) Recommend two improvements to the rate development. Justify your response.

Commentary on Question:

Candidates performance was mixed. Candidates needed to give reasonable justification to receive full credit. Additional acceptable answers received credit based on the quality of the response.

- Recommend using separate male and female claim cost rates as industry data distribution will not match company's distribution.
- Recommend completing a study to understand any changes in mortality since 2013 to price more competitively.

8. 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.
- (2d) Calculate and recommend a manual rate.
- (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 Ins-Skwire-8th Ed-Ch 23; Indiv Health Ins-2nd ed-Ch 05

Commentary on Question:

Commentary listed underneath question component.

Solution:

- (a) List and describe rating factors used when projecting pharmacy experience.

Commentary on Question:

Candidates generally performed well. Candidates needed to describe the rating factors rather than list in order to receive full credit.

- Demographics - The types and quantities of drugs used vary by age and gender.
- Area - Drug costs and utilization vary by geographical region.
- Benefit design - Changes in benefits may affect the number of prescriptions filled by each member.
- Formulary, including brand patent expirations - The list of covered drugs, tier placement of drugs, formulary management programs, and brand patent expirations all affect a plan's expected cost and utilization. Formulary management programs may include prior authorization requirements, step therapy, or quantity limits.
- Brand patent expirations - as drugs come off patent, members often switch from using an expensive brand name drug to a less expensive generic equivalent.
- Contracting (discounts and dispensing fees) - Discounts (the reduction in cost that a pharmacy is willing to provide from a price reference like AWP) and dispensing fees are negotiated with pharmacies by PBMs.

8. Continued

- Other Factors - Other potential differences between the experience period and projection period that should be accounted for when projecting allowed costs include changes in mail order utilization, changes in the generic dispensing rate, and changes in utilization management or cost management programs.
- (b) Explain how an increased discount on Average Wholesale Price (AWP) can have a varying impact on member cost share and plan liability.

Commentary on Question:

Candidate performance was mixed. Candidates were expected to explain the varying impact on member cost sharing and plan liability between different member cost sharing structures, copay vs coinsurance. Many candidates incorrectly generalized there would be a drop in member cost sharing and plan liability.

If there is a change in contracting (discounts and dispensing fees), the impact on drug cost will vary depending on whether member cost sharing is structured as member coinsurance or a copay. For example, increased discounts result in greater plan savings when copays are used compared to member coinsurance. When coinsurance is applicable, a portion of the cost reduction due to the more favorable discount is shared with the member. When a copay is applicable, the member's cost-sharing remains unchanged while the plan realizes the entire discount savings (assuming no change to the copay and the copay is less than the allowed amount).

- (c) Calculate the change in the allowed amount due to the changes in contracting. Show your work.

Commentary on Question:

Candidate performance was mixed. Common errors included candidates incorrectly applying the discount and dispensing fees.

$$\begin{aligned}\text{Ingredient cost} &= \$100 - \$5 = \$95 \\ \text{AWP} &= \$95 / (1 - 73\%) = \$351.85 \\ \text{Adjusted ingredient cost} &= \$351.85 * (1 - 75\%) = \$87.96 \\ \text{Final adjusted allow amount} &= \$87.96 + \$3 = \$90.96 \\ \text{Change in the allowed amount} &= \$90.96 - \$100 = \$-9.04\end{aligned}$$

- (d) Calculate the change in the effective member cost sharing due to the changes in contracting. Show your work.

Commentary on Question:

Partial credit was awarded if the member coinsurance was applied to an incorrect allowed amount from part (c).

8. Continued

Original effective member cost sharing = $\$100 * 20\% = \20
Revised effective member cost sharing = $\$90.96 * 20\% = \18.19
Change in effective member cost sharing = $\$18.19 - \$20 = -\$1.81$

- (e) Calculate the 20X3 premium PMPM. Show your work.

Commentary on Question:

Candidates' performance was mixed. Partial credit was awarded when starting with an incorrect allowed amount.

Projected allowed amount PMPM = $\$90.96 * 1.10 = \100.06
Expected member cost sharing = $\$100.06 * 20\% = \20.01
Expected rebate PMPM = $3\% * \$100.06 = \3.00
Projected claim cost PMPM = $\$100.06 - \$20.01 - \$3.00 = \77.05
Projected premium PMPM = $\$77.05 / (1 - 15\% - 5\%) = \96.31

- (f)
- (i) List formulary management programs that can impact expected cost and utilization.
 - (ii) Describe the advantages and disadvantages for each program.

Commentary on Question:

Candidates generally performed well on this section.

- (i)
 - **Prior Authorization:** Prior authorization requires approval from the PBM prior to filling a prescription for a specific drug. This is the most restrictive formulary management method.
 - **Step Therapy:** Step therapy requires a patient to try a different drug or a series of drugs before providing coverage for the drug in question. For example, patients newly diagnosed with hyperlipidemia may be required to try first-line drug therapies, such as a statin, prior to beginning treatment with newer, more costly, and often riskier medications, such as PCSK9 inhibitors.
 - **Quantity Limit:** Quantity limits restrict the number of days supply or the number of units per day dispensed for a given prescription. This might be done as a safety measure, to avoid waste, or as a cost savings measure. For example, some pain medications have a limit on the number of pills per day that can be dispensed to avoid overuse.

8. Continued

(ii)

- Prior auth: most restrictive and will reduce the premium the most. May have member abrasion and additional administrative burden that could reduce member experience.
- Step therapy: cost savings by stepping through therapy before moving to the more expensive drug. A member may have to experience various side effects or drugs that do not work before getting to a more expensive option.
- Quantity limit. Reduces cost by restricting the number of days or units per day. May require members to go to the pharmacy more.

(g) Recommend a formulary management program for DEF. Justify your response.

Commentary on Question:

Full credit was awarded for a recommendation from one of the formulary management programs listed in part (f) if the justification supported the recommendation and management's concerns. Some candidates provided a recommendation without justification and did not receive full credit.

I recommend implementing quantity limits as a formulary management program. Quantity limits can bring cost savings from members utilizing less prescriptions and also can be applied as a safety measure, avoiding waste. The reduction in prescription utilization should help reduce costs without being overly burdensome on employees.

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.
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.
- (2b) Develop a medical cost trend experience analysis.
- (3c) Recommend strategies for minimizing or properly pricing for risks.
- (3d) Describe and apply approaches to claim credibility and pooling.

Sources:

The Role of the Actuary in Self Insurance

Commentary on Question:

Commentary listed underneath question component.

Solution:

- (a) Recommend whether each of the following businesses should fully insure or self-insure their health benefits. Justify your response.
 - (i) A chain store with locations across the country, with more than 500 retail and corporate employees.
 - (ii) A small boutique with a dozen employees looking to reduce costs.
 - (iii) A company with over 500 employees and seasonal spikes in revenue.

Commentary on Question:

Candidates generally performed well on this section. Many candidates understand that the larger the group is, the more credible and less volatile the claim costs are.

9. Continued

Recommend for each of the following businesses to either fully insure or self-insure. Justify your response.

(i) A chain store with locations across the country, with more than 500 retail and corporate employees.

Answer: Recommend self-insurance, as it allows for lower cost, as the group can avoid, state mandated benefits, fees associated with risk margin, and profit loads. Overall, the claims should be relatively stable given the size and diversity of the group.

(ii) A small boutique with a dozen employees looking to reduce costs.

Answer: Recommend Fully Insure. Despite wanting to reduce costs, given a small number of employees, it can create significant volatility, where one claimant can bankrupt the business or create significant financial pressure on the business.

(iii) A company with over 500 employees and seasonal spikes in revenue.

Answer: Recommend Fully Insured. Seasonal spikes in revenue compared with volatility in costs can create a large exposure for cash flow issues.

(b) Describe the effects which magnify the trend for stop-loss coverage compared to overall trend.

Commentary on Question:

Many candidates were able to identify the impact of trend leveraging, but unable to describe it.

Answer:

There are two major effects that magnify the trend for stop-loss coverage compared to overall trend.

Severity effect: The full amount of the claims that exceeded the specific deductible in year 1 increases by trend, but because the specific deductible does not change, the portion in excess of the specific deductible goes up by more than trend.

Frequency effect: Claims that were close to but less than the specific deductible in year 1 will exceed the specific deductible in year 2. That is, the number of claims in excess of the specific deductible increases from year to year.

9. Continued

The net effect is that the effective trend for the claims cost above the specific deductible will be higher than first dollar trend. That is, trend has been “leveraged” at the fulcrum represented by the specific deductible.

- (c) Calculate the maximum annual trend for Specialty Drugs to meet Big Customer's rate increase target. Show your work.

Commentary on Question:

Many candidates struggled on this section as they did not consider the \$100,000 stop loss threshold into their calculations.

Solution:

Step 1 – Calculate the stop loss payment for each of the claim ranges (before trend), given \$100,000 deductible threshold.

| Range of Claims PEPY (A) | Frequency (B) | Total (C) | Estimated Stop Loss Payment (D) |
|--------------------------|---------------|-------------|---------------------------------|
| 0 | 0.18987 | \$0 | \$0 |
| 1-100 | 0.05 | \$51 | \$0 |
| 101-500 | 0.2328 | \$241 | \$0 |
| 501-1,000 | 0.15 | \$722 | \$0 |
| 1,001-5,000 | 0.14 | \$2,655 | \$0 |
| 5,001-10,000 | 0.124 | \$5,164 | \$0 |
| 10,001-25,000 | 0.0451 | \$16,879 | \$0 |
| 25,001-50,000 | 0.0375 | \$37,942 | \$0 |
| 50,001-100,000 | 0.02275 | \$77,480 | \$0 |
| 100,001-250,000 | 0.00627 | \$169,000 | \$69,000 |
| 250,001-500,000 | 0.001 | \$386,471 | \$286,471 |
| 500,001-1,000,000 | 0.0007 | \$768,375 | \$668,375 |
| 1,000,000+ | 0.00001 | \$1,625,514 | \$1,525,514 |

Step 2 – Calculate the Stop Loss PEPY based on Frequency x Stop Loss Payment = $\text{sumproduct}(A,D) = 1,202 \text{ PEPY}$ or 100.18 PEPM

Step 3 – Calculate target PEPY: $\$1202 * 1.1 = \1322.44 or $\$110.20 \text{ PEPM}$

Step 4a – Trend the CPD for Inpatient, Outpatient, Professional, and Non-Specialty Drug claims. Goal seek trend for Specialty Drug, such that the average PEPY of the stop loss reimbursement x frequency is \$1322.

9. Continued

| Range of Claims PEPY | Frequency | Inpatient (3% trend) | Outpatient (4% trend) | Physician (4% trend) | Non-Specialty Drugs (1% trend) | Specialty Drugs (17% trend) | Total | Estimated Stop Loss Reimburse | Stop Loss Reimburse x Frequency |
|----------------------|-----------|----------------------|-----------------------|----------------------|--------------------------------|-----------------------------|-------------|-------------------------------|---------------------------------|
| 0 | 0.18987 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 1-100 | 0.05 | \$0 | \$16 | \$24 | \$13 | \$0 | \$53 | \$0 | \$0 |
| 101-500 | 0.2328 | \$26 | \$93 | \$69 | \$45 | \$19 | \$251 | \$0 | \$0 |
| 501-1,000 | 0.15 | \$280 | \$151 | \$118 | \$88 | \$123 | \$759 | \$0 | \$0 |
| 1,001-5,000 | 0.14 | \$849 | \$560 | \$550 | \$247 | \$607 | \$2,813 | \$0 | \$0 |
| 5,001-10,000 | 0.124 | \$1,959 | \$998 | \$1,248 | \$356 | \$878 | \$5,439 | \$0 | \$0 |
| 10,001-25,000 | 0.0451 | \$10,132 | \$3,054 | \$2,048 | \$488 | \$1,935 | \$17,657 | \$0 | \$0 |
| 25,001-50,000 | 0.0375 | \$21,985 | \$7,939 | \$4,705 | \$881 | \$4,175 | \$39,685 | \$0 | \$0 |
| 50,001-100,000 | 0.02275 | \$37,514 | \$9,734 | \$7,490 | \$1,278 | \$27,192 | \$83,208 | \$0 | \$0 |
| 100,001-250,000 | 0.00627 | \$76,768 | \$43,239 | \$14,154 | \$2,989 | \$42,515 | \$179,665 | \$79,665 | \$499 |
| 250,001-500,000 | 0.001 | \$211,523 | \$108,386 | \$17,998 | \$5,679 | \$63,162 | \$406,748 | \$306,748 | \$307 |
| 500,001-1,000,000 | 0.0007 | \$449,443 | \$149,932 | \$25,513 | \$12,760 | \$176,379 | \$814,027 | \$714,027 | \$500 |
| 1,000,000+ | 0.00001 | \$896,364 | \$262,770 | \$31,799 | \$36,687 | \$509,964 | \$1,737,584 | \$1,637,584 | \$16 |

Average PEPY

\$1,322

- (d) Recommend two changes to policy provisions that could reduce the rates. Justify your response.

Commentary on Question:

Some candidates identified ways to lower overall claim costs instead of recommending changes to the policy provisions that would reduce the renewal.

A couple examples of policy provisions that would reduce the overall rates are:

Introduction of lasers - Exclude known high-cost claimants from the stop loss insurance pool or higher deductible for lasered individuals.

Increase the specific deductible or add an aggregating deductible to the policy.

Introduce a maximum benefit amount or exclude certain types of coverages.