GH DPA Model Solutions
Fall 2020

1. **Learning Objectives:**

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

Learning Outcomes:

(5b) Understand, evaluate and apply various risk adjustment mechanisms.

Sources:

Group Insurance, Chapters 30, 33

Commentary on Question:

This question assesses the candidate's ability to describe risk classes and the risk adjustment mechanisms allowable for health plans, as well as calculate appropriate risk relativities for an industry with two insurers of different risk profiles. The question brings these ideas together for the candidate to assess and recommend (which would require substantiation and/or reasoning for the recommendation) whether risk factors should be implemented in this simple two-insurer scenario.

Solution:

(a) Describe criteria used in risk classification schemes.

Commentary on Question:

The majority of candidates provided appropriate descriptions, which afforded them full credit.

1. Demographics – criteria include age, gender, geographic location factors
2. Diagnosis and pharmacy codes – use CPT codes to differentiate co-morbidities
3. Biometric measurements – criteria such as height, weight, BMI are used to differentiate risks
4. Functional health status – criteria include the ability to perform activities of daily living (ADLs) such as bathing, dressing, eating and toileting
5. Perceived health status – this bases risk classification on responses to health questionnaires
6. Utilization – criteria include historical claims and utilization data. However, this is not a widely-accepted method, since this could reward insurers for historical inefficiencies.

1. Continued

7. Lifestyle factors – criteria include diet, exercise habits, lifestyles, substance use, smoking status
8. Combinations of the above schemes – the most common combination is combining demographics with diagnosis and pharmacy codes

(b) Calculate relative risk factors for Insurers A and B. Show your work.

Commentary on Question:
The approach described in the Group Insurance reading is to adjust the claim costs to be on a consistent risk score (in the example below, a 1.00 basis), for each insurer, and then determine the average weighted average claim cost for each insurer. The weighted average for a particular insurer is compared to the industry in order to determine the insurer's relative risk score.

Many candidates were unable to recreate the calculation described in the reading, and attempted calculations that do not obtain a consistent basis for comparing risk-normalized claims (ex: calculating and comparing weighted average risk score for each insurer)

	Members	Average Claim (Normalized to 1.00 Risk Score)
Insurer A	400	$142.86
	500	$166.67
	100	$454.55
Insurer B	200	$153.85
	250	$157.89
	50	$416.67

A: Weighted Average Claim Cost (WACC) at 1.00	$185.93
B: WACC at 1.00	$182.15
Total: WACC at 1.00	$184.67
Relativity A ($WACC_A/WACC_{TOTAL}$)	**1.007**
Relativity B ($WACC_B/WACC_{TOTAL}$)	**0.986**

1. Continued

(c) Describe the need for health risk adjustment.

Commentary on Question:
Candidates who simply noted that health risk adjustment is a regulatory component of particular lines of business (ex: ACA public exchange, Medicaid) did not address the underlying need for health risk adjustment, and therefore did not receive credit.

1. The use of health risk adjustment reflects the desire to provide equitable payments to health insurers and health care providers and make fair comparisons among insurers and providers.
2. Risk adjustment is necessary, since the health status of enrollees can vary significantly across health insurers and health care providers.
3. Preserve choice for consumers, and have consumers pay an appropriate price for their choice of insurer or provider.
4. Allow insurers to compete on the basis of efficiency and quality, not on risk selection

(d) Recommend whether or not to implement health risk adjustment. Justify your response.

Commentary on Question:
Candidates were able to receive credit for either recommending and justifying the implementation of health risk adjustment, or not implementing it. If the recommendation was clear and justification was appropriate, the candidate received full credit, which many did.

<u>Example 1</u>:
I recommend implementing risk adjustment for Insurers A and B:

1. Although both Insurer A and B have equal amounts of insureds in each risk class, the risk factors for each risk class fluctuate. For example, the risk factor for Insurer A's low risk class is 0.7, which is higher than Insurer B's low risk class (0.65).
2. Risk adjustment should be used in order to even out expected claims and premiums between Insurer A and B due to varying morbidity risks. This is needed to ensure a competitive market that competes on quality and efficiency, not risk selection.

<u>Example 2</u>:
I do not recommend implementing risk adjustment for Insurers A and B:

1. The relative risk factors of the two insurers are notably similar, and the additional administrative complexity of monitoring risk and transferring funds is not practical for this scenario.

2. Learning Objectives:

4. The candidate will understand how to evaluate the effectiveness of different provider reimbursement methods from both a cost and quality point of view.

Learning Outcomes:

(4b) Evaluate standard contracting methods from a cost-effective & quality perspective.

(4c) Understand contracts between providers and insurers.

Sources:

GHDP-102-13: Evaluating Bundled Payment Contracting

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) List reasons why providers may choose to participate in bundled payment contracts.

Commentary on Question:

This question asks for the rationale of providers choosing these contracts. The most common mistake was to list reasons the payors might favor these plans.

Bundled payment contracts provide the following benefits to providers:

- Attracting more business, including business from self-pay patients, medical tourism and payor contracts.
- Enhancing the engagement of physicians who might otherwise split their admissions among several hospitals
- Gaining the cooperation of physicians in reducing cost

(b) Calculate a bundled payment rate for hip replacement surgery that would reduce ABC's average cost by 10%. Show your work.

Commentary on Question:

The most common oversight was forgetting to include the cost of the hip replacement surgery, in addition to the ancillary costs, in the calculation and the resulting bundled rate.

2. Continued

Calculate the average price for ancillary services associated with hip replacement surgery:

Emergency Department total cost = 1,500* 225 / 1,000 = 337.5
+ Inpatient Acute Stay = 20,000 * 100 / 1,000 = 2,000
+ Skilled Nursing Facility = 16,000 * 200 / 1,000 = 3,200
+ Long Term Care Facility = 85,000 * 10 / 1,000 = 850

Total ancillary services = $6,387.50

Hip Replacement Surgery = 35,000 (given)

Total Cost = 6,387.50 + 35,000 = 41,387.5
Apply 10% Savings = 41,387.5 * (1-10%) = **37,248.75**

(c) Calculate the percentage reduction in utilization of related services implied by the proposed bundled payment rate. State your assumptions. Show your work.

Commentary on Question:
Most candidates who were unable to derive a result for part (b) were unable to provide a solution for this part. The derivation requires the candidate to recognize that the savings are derived solely from the ancillary services and the cost of the surgery remains unchanged.

Assume that the cost of the hip replacement surgery remains unchanged at $35,000. The cost of the ancillary services declines from the unbundled price of $6,387.50 to the bundled price of $2,248.75.

(6,387.50-2,248.75)/6,387.50 = **64.8% reduction**.

(d) Calculate the cumulative marginal revenue that will result from XYZ performing one additional hip replacement surgery in 2020 at a unit cost of $35,000. Show your work.

Commentary on Question:
This question asks for the cumulative marginal revenue which includes 3 years of the contract. The revenue generated from the additional surgery should not be included in the marginal revenue amount.

The response assumes no trend and no change in membership or risk over the three year period 2018-2020.

All values are displayed in thousands.

2. Continued

The original benchmark is derived by summing the products of the benchmark weights times the annual spending.

Original Benchmark = 0.05*1,000 + 0.35*1,050 + 0.60*1,025 = 1,032.5

The revised benchmark is derived by adding the cost of one additional hip surgery ($35,000) to 2020 and then recalculating the benchmark.

Revised Benchmark with one 35k additional hip surgery in 2020 = 0.05*1,000 + 0.35*1,050 + 0.60*(1,025+35,000/1,000) = 1,053.5

The impact of the additional surgery is calculated as the difference between the benchmarks.
1,053.5 – 1,032.5 = 21

The cumulative marginal revenue is:
21 * 0.5 (shared savings factor) * 3 (years of agreement) = **$31.5k**

(e) Critique the proposed shared savings agreement.

Commentary on Question:
Candidates needed to provide a critical assessment of both the result from part d and, more generally, the proposed bundled payment. The best responses included both a recognition of the short comings of the proposal, as well as proposed solutions.

The proposed savings agreement, with the heaviest weight in the final year, incentivizes XYZ to increase its costs in 2020 to increase their benchmark. To decrease this incentive, the benchmark should be changed to be based on equal weights for the three benchmark years or expanded to include additional years to mitigate one year's impact.

There are several other ways that this proposal could be strengthened:

- Recognizing trend and risk member changes in the shared savings period.
- Introducing a "yardstick" competition to reflect the performance of other competing providers
- Instituting quality metrics to assure delivery care standards are maintained.
- Changing the arrangement so that it is two-sided and both parties participate in savings and losses.

3. Learning Objectives:

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

Learning Outcomes:

(5d) Describe and apply approaches to claim credibility and pooling.

(5e) Recommend retention (administrative expenses, claims expenses, profit margin, etc.) when underwriting a group

Sources:

GHDP-137-20: Short Term Disability Example

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) Describe rating factors used in a short-term disability renewal rate development.

Commentary on Question:

Candidates performed well on this part of the question and were able to describe the rating factors used in a short-term disability renewal rate development as noted in the study note.

1. Retention and base rate increase (%) – assumed retention factors will influence the renewal rate of disability plans. Persistency / lapse rate can be used to derive retention factors.
2. Age/Gender – there is a strong correlation between disability incidence/severity and the age/gender of the covered population
3. Area – the type and likelihood of disability is influenced by geography
4. Group size – there is a correlation between short-term disability plan and the size of the group
5. Industry – incidence of disability is higher for blue collar workforce
6. Contribution and Employee Participation – employer contribution lowers adverse selection and results in lower cost for disability plans

(b) Compare the actual 2019 profit results to the assumed 2019 profit. Show your work.

Commentary on Question:

Most candidates received full credit for this part of the question. Full credit was given to candidates who compared actual vs. assumed cost and determined the actual profit is $700,000 higher than assumed.

3. Continued

2019 Experience		Underwriting Assumptions		Difference
Premiums	$10,000,000			
Incurred Benefit Claims	$7,500,000	80%	$8,000,000	($500,000)
Administration	$1,100,000	13%	$1,300,000	($200,000)
Premium Taxes	$200,000	2%	$200,000	$0
Risk and Profit	$1,200,000	5%	$500,000	$700,000

Claims came in at a 75% loss ratio vs. an assumed 80% loss ratio; claims are lower than expected by $500,000.

Administration costs came in at 11% of premium, below the underwriting assumption of 13%; administration costs are lower than expected by $200,000.

As a result, profit came in higher than expected by $700,000.

(c) Recommend factors for 2021 for:

(i) Retention

(ii) Base rate increase

(iii) Age/gender and area factors

Show your work. Justify your response.

Commentary on Question:
Most candidates received full credit for part (i) retention. The candidate can assign partial or full credibility to the claim experience in 2019 to arrive at a recommendation for the retention factors in 2021.

Candidates did not perform well on the second part of the question and did not use the recommended retention factors from part (i) to arrive at the answer.

Candidates did not perform well on the third part of the question. The calculations for each age/gender category show that the desired loss ratio of 75% was achieved. Therefore, there is no need to change the age/gender factor. Candidates who showed work and noted that no change is required received full credit.

Regarding area factors, many candidates derived the area factor as the ratio of claims and premiums for each region and then blended these area factors with the 2019 area factors.

3. Continued

(i) Retention

If we assign 100% credibility to the actual 2019 experience to inform the assumptions for 2021, then:

- Administration should be set at 11%
- Premium taxes should be set at 2%
- Risk & Profit should be set at 7% (assuming the same target loss ratio of 80%)

Retention	
Administration	11%
Premium Taxes	2%
Risk & Profit	7%
Target Loss Ratio	**80%**

Other answers are acceptable if candidates assigned partial credibility to the 2019 claim experience to arrive at higher retention factors.

(ii) Base rate increase

The answer below reflects the assumed retention factors from part (i), which targets an 80% loss ratio. Other answers are given full credit if candidates carried forward the retention factors from part (i) and performed the calculations correctly.

2019 Experience		Retention	2021 Projected Retention
Premiums	$10,000,000	-6.25%	$9,375,000
Incurred Benefit Claims	7,500,000	80%	$7,500,000
Administration	1,100,000	11%	$1,031,250
Premium Taxes	200,000	2%	$187,500
Risk and Profit	$1,200,000	7%	$656,250

The base rate will decrease by (10,000,000 – 7,500,000) / 80% = $625,000 or 6.25% in order to make the above retention schedule work out for 2021.

Other answers are acceptable if candidates used a different set of recommended retention factors and/or different expected future claims experience from part (i)

3. Continued

(iii) Age/gender and area factors

Age/gender factors

As can be seen from the age/gender experience table, each cohort uniformly delivered a 75% loss ratio. This implies that the experience met the factors' expectation. Thus, no change to the age/gender factors are needed for 2021.

2019 Experience: Premiums and Claims by Age/Gender			
Age/Gender	Premium	Claims	Ratio
Males under 25	$1,500,000	$1,125,000	0.75
Males 25-40	1,500,000	1,125,000	0.75
Males 40 and over	1,500,000	1,125,000	0.75
Females under 25	2,000,000	1,500,000	0.75
Females 25-40	2,000,000	1,500,000	0.75
Females 40 and over	1,500,000	1,125,000	0.75

Area factors

The 2019 in-force rate assumes a loss ratio of 80% instead of the 75% actual loss ratio. Therefore, we are assessing each cohort's experienced loss ratio against the 75% overall actual loss ratio.

Calculate the actual loss ratio by region in 2019

Calculate the adjusted area factor that is reflective of the actual loss ratio by region in 2019

Apply 50% credibility to arrive at the blended area factor for 2021.

Region	**Current Factor**	**2019 Experience**		**2019 Exp Loss Ratio**	**Calculation**	**2021 Factor**
	50%	***Premium***	***Claims***	***Premium/ Claims***	**50%**	
NE	1.1	$2M	$1.5M	0.75	1.1*0.75/0.75=1.10	1.10
SE	0.9	$2M	$1.6M	0.80	0.9*0.8/0.75=0.96	0.93
MW	0.9	$2M	$1.5M	0.75	0.9*0.75/0.75=0.90	0.90
W	1.1	$2M	$1.4M	0.70	1.1*0.7/0.75=1.03	1.06
SW	1	$2M	$1.5M	0.75	1*0.75/0.75=1.00	1.00

4. Learning Objectives:

4. The candidate will understand how to evaluate the effectiveness of different provider reimbursement methods from both a cost and quality point of view.

Learning Outcomes:

(4a) Calculate provider payments under various reimbursement methods.

(4d) Understand accountable care organizations and medical patient home models and their impact on quality, utilization and costs.

Sources:

GHDP-125-20: Ch. 22.1-22.3 and 22.6-22.7 of Healthcare Risk Adjustment and Predictive Modeling, Duncan, 2nd Edition
Provider Payment Arrangements, Provider Risk, and Their Relationship with the Cost of Health Care

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) Compare and contrast the impact of population utilization changes to provider profits under the following payment models:

(i) Fee-for-service

(ii) Global capitation

(iii) Bundled payments

Commentary on Question:

Most candidates discussed how utilization changes would impact the three payment models individually, however, most did not compare and contrast the utilization change impact relative to one another.

<u>Fee-for-service and Global Capitation Payment Models</u>

- Utilization changes can have an opposite or similar effect on provider profits under a fee-for-service versus global capitation payment model.
- As the utilization or volume of services increases, provider profits increase under a fee-for-service payment model, assuming negotiated fees with the payer are higher than variable costs, i.e. costs of paying services.
- Under a global capitation payment model, the provider is financially responsible for all of the care that the patient receives, so provider profit increases with decreasing utilization and decreases with increasing utilization.
- Under a fee-for-service model, if negotiated fees with the payer are lower than variable costs, utilization changes will have a similar effect on provider profits under both a fee-for-service and global capitation payment model.

4. Continued

Fee-for-service and Bundled Payment Models

- Utilization changes can have an opposite or similar effect on provider profits under a bundled payment model versus a fee-for-service model.
- Similar to a fee-for-service model, as the number of episodes increases, provider profits increase.
- Unlike a fee-for-service model and because a provider is incentivized to manage the entire episode of care including post-acute care under a bundled payment model, an increase in post-acute care, readmissions, or other services during an episode will decrease provider profits.

Bundled Payment and Global Capitation Payment Models

- Utilization changes can have an opposite or similar effect on provider profits under a bundled payment model versus a global capitation payment model.
- Under a bundled payment model and unlike a global capitation model, the provider is incentivized to increase the utilization or volume of episodes.
- Under a bundled payment model and similar to a global capitation payment model, the provider is incentivized to decrease services such as post-acute care utilization or readmissions during an episode, to drive increased profits.

(b) Compare and contrast the shared savings tracks available to accountable care organizations (ACOs) under the Medicare Access and CHIP Reauthorization Act (MACRA).

Commentary on Question:
Many candidates were able to define the four shared savings tracks. Many candidates did not compare and contrast the savings tracks.

Compare
All tracks have gainsharing potential
All tracks have limitations with respect to gainsharing and loss sharing
An ACO can move to a higher track but cannot revert to a lower track

Contrast
Track 1 is one-sided (gainsharing only) whereas Tracks 1+, 2, and 3 are two-sided

Gainsharing potential increases with each track:

- Tracks 1 and 1+ include up to 50% gainshare with a maximum gainshare equal to 10% of benchmark costs
- Track 2 includes up to 60% gainshare with a maximum gainshare equal to 15% of benchmark costs
- Track 3 includes up to 75% gainshare with a maximum gainshare equal to 20% of benchmark costs

4. Continued

Loss sharing potential increases with each track:

- Track 1+ loss sharing is limited to 30% of losses and 4% of benchmark costs or 8% of fee-for-service revenues
- Track 2 loss sharing is between 40% and 60% of losses and limited to between 5% and 10% of benchmark costs
- Track 3 loss sharing is between 40% and 75% of losses and limited to 15% of benchmark costs

(c) Calculate the earned performance payment to SACO. Show your work.

Commentary on Question:
Many candidates did not average the three years of benchmarks contained in the case study. Full credit was given to candidates who evaluated shared savings on a PMPM or PMPY basis as long as a performance payment in total was calculated.

Historical Benchmark = ($955 + $1,010 + $1,110) / 3 = $1,025
Risk Ratio = 1.15 / 1.25 = 0.92
Risk Adjusted Historical Benchmark = 0.92 * $1,025 = $943
Risk Adjusted Benchmark Plus Trend = $943 * 1.0 = $943
Total Risk Adjustment Benchmark = $943 * 12 * 10,500 = $118,818,000
Total Expenditures = $11,100 * 10,500 = $116,550,000
Total Savings = $118,818,000 - $116,550,000 = $2,268,000
Minimum Savings = 0.03 * $118,818,000 = $3,564,540
Total savings are less than the minimum savings rate, so there are neither shared savings nor shared losses to SACO under the one-sided model. The earned performance payment to SACO is $0.

5. Learning Objectives:

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

Learning Outcomes:

(5a) Understand the risks and opportunities associated with a given coverage, eligibility requirement or funding mechanism.

(5e) Recommend retention (administrative expenses, claims expenses, profit margin, etc.) when underwriting a group

Sources:

Best Estimate Assumption for Expenses
The Role of the Actuary in Self-Insurance
GHDP-136-20: Illustrative Examples on Experience Rating and Funding Methods

Commentary on Question:

This question examined the candidate's understanding of considerations for administrative components of rate setting. Overall, candidates did not seem familiar with the source material that was being tested, and in general performed poorly on the question.

Solution:

(a) List the steps involved in revising this assumption.

Commentary on Question:
As a straight-forward list retrieval question, many candidates performed well and received full credit.

1) Determine the scope of the expense study
2) Collect the expense data
3) Check the consistency of the expense data with internal and external reports
4) Determine which expenses will be excluded from the determination of the best estimate assumption for expenses
5) Determine the expense categories to be used
6) Determine the unit expense bases to be used
7) Classify expenses to the expense categories
8) Allocate expenses to the expense categories
9) Determine the unit expenses
10) Perform reasonability checks on the results

(b)

(i) List the administration activities you should consider based on the business structure of Royale Health.

(ii) Describe considerations for each of these activities.

5. Continued

Commentary on Question:
Nearly all candidates struggled with both parts of (b), and did not seem familiar with the source material that was being tested. Partial credit was given to candidates who were able to provide some of the activities, with more credit given to candidates who described the considerations in a thoughtful manner for administrative assumption setting.

(i) Premium Billing – (ii) May vary by type of bill
Commissions – unit expense measure is usually a percent of premium
Premium collection – unit expense measure is usually per bill or per policy
Anniversary activity/customer service calls – unit expenses measure is usually per policy
Coverage renewal processing – may be included in acquisition expenses if renewal date is beyond the term of liability, unit expense measure is usually per coverage
Expense studies – may be based on the same categories as the expense study, usually included in policy maintenance expense, per policy or a percent of premium.
Customer tax monitoring – unit expense measure is usually per policy
Reinsurance/stop loss administration – eligibility/benefits/dependents, unit expense measure is usually per certificate
Policyholder changes – natural unit is per change but as a proxy unit expense measure is usually per policy in force
Direct management recruiting and staff development – usually a percentage of other admin

(c) Describe the categories of corporate and overhead expenses that should be considered in your expense study.

Commentary on Question:
Nearly all candidates struggled with part (c), and did not seem familiar with the source material that was being tested. Partial credit was given to each category described in a thoughtful manner. The example below is an example with a wider array of descriptions accepted; no credit was given for merely listing a category.

Financial Reporting – includes all financial reporting, accounting, tax compliance and corporate actuarial and audit functions
Human Resources – provide the human resource function for the business operations included in the scope wherever performed, including payroll, benefit accounting, and staff training
Information Technology – Expenses related to operating and maintaining current IT systems are usually allocated to their supporting function. The IT expenses allocated to corporate, overhead or investment functions are included in these functional expenses if allocated to line of business, jurisdiction and product line.

5. Continued

Legal – legal expenses (internal and external) except those related to direct expenses
Other Corporate – other corporate expenses include all corporate expenses not described above or already allocated directly to line of business, product line or operating unit. This includes staff of senior executives, communication expenses, facility expenses, and many others.

(d) Calculate the renewal rate for January 1, 2020 to December 31, 2020. Show your work.

Commentary on Question:
Many candidates received partial credit on part (d). Although trend assumptions were provided in the case study, credit was given for any reasonable trend assumption used in the calculation. Credit was given for each correct step taken regardless of whether earlier steps were missed.

Using the fully credible 2018 experience:
2018 Paid Premiums ($14,825) – Pooled Premiums ($1,260) = Experience Premiums (13,565)
Paid 2019 Premium PMPM (325.00) – Pooled Premium PMPM (27.62) = 2019 Experience Rate (297.38)
Experience Premiums (13,565) x 2019 Experience Rate (297.38)/2018 Experience Rate (274.50) = Adjusted Premiums (14,696)
Paid Claims (12,750)-Pooled Claims (550) + Change in IBNR (500) = Incurred Claims (12,700)
Incurred Claims (12,700) x 2019 Trend (1.067) x 2020 Trend (1.055) = 14,296
Trended Claims (14,296)/Adjusted Premiums (14,696) = Loss Ratio 97.3%
Loss Ratio (97.3%) x Credibility 100% = 97.3%
General Admin + Profit Margin + Taxes + etc. = 1 - 0.155 = Target Loss Ratio 84.5%
Weighted Loss Ratio (97.3%) / Targeted Loss Ratio (84.5%) - 1 = Renewal Rate Increase (15.1%)
Base Rate 2019 (297.38) * Renewal Rate Increase (15.1%) + 2020 Pooled Premium ($33) = Paid Premium 2020 **($375.37**)
Renewal Rate Increase (15.5%) = 2020 Paid Premium ($375.37) / 2019 Paid Premium ($325.00) - 1

(e) Recommend whether or not Abeesee should move to a self-insured plan. Justify your response.

5. Continued

Commentary on Question:
Candidates generally did well on part (e) with many earning full credit. Credit was given for appropriate rationale for recommendations, including responses not mentioned below. Candidates were able to earn credit regardless of their recommendation if proper justification for the recommendation was provided.

Yes, Abeesee should move from an insured basis to a self-insured basis. Abeesee has an experience rate lower than the manual rate, so this group can obtain some savings on premiums based on its own experience. Abeesee would gain some flexibility in plan design, and can avoid some retention items, i.e. the insurer profit margin and premium tax.

6. Learning Objectives:

4. The candidate will understand how to evaluate the effectiveness of different provider reimbursement methods from both a cost and quality point of view.

Learning Outcomes:

(4b) Evaluate standard contracting methods from a cost-effective & quality perspective.

(4c) Understand contracts between providers and insurers.

Sources:

Essentials of Managed Health Care, Chapter 4: The Provider Network

Commentary on Question:

This question tests the candidate's understanding of how and why health plans contract with physicians. On parts (a) and (b), candidates did fairly well, as these points were clearly laid out in the required reading. Many candidates struggled with the calculations and did not do as well at providing recommendations to mitigate the impact of the contracting change to the physician group.

Solution:

(a) List reasons why a health plan would enter into a contract with physician groups.

Commentary on Question:

Generally, candidates did very well on this part of the question, as this list was outlined in the required reading. The list below is not comprehensive, but is an example that would receive full credit.

A health plan would enter into a contract with a physician group:

- To obtain favorable pricing
- To get the provider to provide services to the health plan's members
- To meet adequacy standards in the service area
- To obtain agreements on items required by Medicare and/or by the state such as no balance billing or a hold harmless clause.

6. Continued

(b) Describe types of physicians with which a health plan contracts.

Commentary on Question:
Candidates who performed well on this part described types of physicians rather than the different types of provider groups. The list below is not comprehensive, but is an example that would receive full credit.

Types of physicians include:

- Primary care physicians (PCPs) and specialty care physicians (SPCs) – the distinction between these two groups is not always clear, but in "gatekeeper" type health plans, it is important to distinguish them as the PCPs direct care and make referrals.
- Hospital-based physicians – these include radiology, anesthesiology, pathology, emergency medicine, and hospitalist physicians. Due to the nature of working in a hospital, lowering their payments will not bring them extra business, so they can be difficult for a health plan to contract with.
- Nonphysician or mid-level practitioners – these include physician assistants and nurse practitioners. They are known to spend more time with patients and provide excellent primary care.
- Other professionals – a health plan may contract with podiatrists, dentists, optometrists, physical therapists, etc. but this varies from plan to plan.

(c) Calculate the per member per month (PMPM) financial impact of the benefit change to SFHP from 2020 to 2021. Show your work.

Commentary on Question:
Candidates receiving full credit calculated the PMPM impact due solely to the change in copays. Candidates whose PMPM impacts included the effect of changing utilization trend and/or changing Physicians First utilization percentage received partial credit.

Step 1: trend 2019 utilization to 2021
Step 2: allocate utilization between Physicians First and Dynamic Doctors
Step 3: calculate 2021 copays PMPM by plan using the 2020 copays
Step 4: calculate 2021 copays PMPM by plan using the proposed 2021 copays
Step 5: calculate total average copay under each copay structure
Step 6: calculate the difference in copays

6. Continued

	A	B	C	D	E
Plan	Projected 2021 Average Enrollment	2019 Utilization per 1000 Members	2021 Utilization % at Physicians First	2021 Copays - Physicians First	2021 Copays - Dynamic Doctors
A	30,000	4,800	55%	$10	$15
B	20,000	5,500	100%	$0	N/A
C	10,000	5,000	50%	$15	$15

F =B x (1+1%)^2	G =F x C	H =F - G	J =($15 x F) / (1000 x 12)	K =(G x D + $15 x H) / (1000 x 12)
2021 Util per 1000	2021 Physicians First Util	2021 Dynamic Doctors Util	2020 Copay PMPM	2021 Copay PMPM
4,896	2,693	2,203	$6.12	$5.00
5,611	5,611	0	$7.01	$0.00
5,101	2,550	2,550	$6.38	$6.38
		Total	$6.46 =SUMPRODUCT(A,J)/SUM(A)	$3.56 =SUMPRODUCT(A,K)/SUM(A)

PMPM Difference $6.46 - $3.56 = **$2.90**

The financial impact of the benefit change is a $2.90 PMPM increase to SFHP's paid claims.

(d) Calculate the percentage fee schedule change required for Physicians First such that SFHP remains financially neutral. Show your work.

Commentary on Question:
There were multiple paths to full credit for this question depending on which copays were used to develop allowed amounts and whether utilization trend was applied. Partial credit was awarded to candidates who calculated the fee schedule change on a paid basis.

Step 1: calculate allowed cost per visit (paid + copay)
Step 2: calculate 2021 visits by physician group, based on enrollment, trended utilization, and utilization splits between Physicians First and Dynamic Doctors
Step 3: calculate 2021 total allowed cost by physician group before the 3% contract change to Dynamic Doctors

6. Continued

Step 4: apply the 3% contract change to find the allowed cost for Dynamic Doctors
Step 5: find the difference in Dynamic Doctors allowed costs
Step 6: divide step 5 difference by the Physicians First allowed cost to find the required reduction

	A	B	C	D	E	F	G
				2021 Copays		2019 Net Paid Cost Per Visit	
Plan	Projected 2021 Average Enrollment	2019 Utilization per 1000 Members	2021 Utilization % at Physicians First	Physicians First	Dynamic Doctors	Physicians First	Dynamic Doctors
A	30,000	4,800	55%	$15	$15	$85	$90
B	20,000	5,500	100%	$15	$15	$80	$85
C	10,000	5,000	50%	$15	$15	$75	$82

H =$15 + F	J =$15 + G	K = A x [B x (1.01)^2 / 1000] x C	L = A x [B x (1.01)^2 / 1000] x (1-C)	M =H x K	N =J x L	P = N x (1+3%)
2019 Allowed/Visit		2021 Visits		2021 Total Allowed Before Contract Change		2021 Total Allowed After Contract Change
Physicians First	Dynamic Doctors	Physicians First	Dynamic Doctors	Physicians First	Dynamic Doctors	Dynamic Doctors
$100	$105	80,792	66,102	$8,079,192	$6,940,760	$7,148,983
$95	$100	112,211	0	$10,660,045	$0	$0
$90	$97	25,503	25,503	$2,295,225	$2,473,743	$2,547,955
			Total	$21,034,462 =SUM(M)	$9,414,503 =SUM(N)	$9,696,938 =SUM(P)

Difference in Dynamic Doctor's Allowed Cost	$9,696,938 - $9,414,503 = $282,435
Reduction required for Physicians First	$282,435 / $21,034,462 = **1.34%**

6. Continued

(e) Recommend actions Physicians First could take to mitigate the impact of the contract change. Justify your response.

Commentary on Question:
Several candidates made recommendations that were not actionable from a provider group's perspective (e.g. increase copays). An understanding of how a physician group might offset a reduction in payments was essential. No credit was awarded for recommendations that were payor-centric.

Physicians First might mitigate the reduction in payment by:

- Negotiating for rate increases with other health plans to offset the loss in revenue with SFHP.
- Reducing administrative expenses and increasing process efficiency.
- Increasing marketing and advertising in an attempt to increase patient volume

7. Learning Objectives:

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

Learning Outcomes:

(5b) Understand, evaluate and apply various risk adjustment mechanisms.

(5c) Recommend strategies for minimizing or properly pricing for risks.

Sources:

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

Commentary on Question:

This question required a solid understanding of the source text and most candidates seemed to have only a surface-level understanding. Candidates had the most difficulty earning significant credit on parts (b) and (c).

Solution:

(a) Compare and contrast the Cumulative Antiselection (CAST) Model with the Minnesota Antiselection (MNAM) Model.

Commentary on Question:

This question required the candidate to list both the similarities and differences between the CAST and MNAM models. Candidates who were familiar with the source text tended to do well on this part.

<u>Compare</u>

- Both are partition models to estimate antiselection
- Individuals are ranked by expected cost
- Models require drawing a line between healthy and unhealthy insureds

<u>Contrast</u>

- CAST draws the line between healthy and unhealthy by using a multiple of claims, usually between 5 and 10
- MNAM was developed to find boundary conditions on antiselection in specific situations

(b) Describe how the CAST model has improved over time.

Commentary on Question:

Similar to part (a), candidates who were familiar with the source text tended to do well on this part.

7. Continued

- Problem: not a good fit in the 3-4 durations due to underwriting wear-off
  - Solution: apply additional UW factors
- Problem: not a good fit in later durations when only a fraction of the original population remains
  - Solution: choose a higher value of k2 and recalibrate the model
- Problem: not a good fit when a rate spiral is severe and volatile
  - Solution: use a projection with stronger terms/fit different curves to data
- Problem: causing of more level gross premium structure over time
  - Solution: if managed knowledgeably, helps offset initial steep slope of premiums

(c) Calculate the expected number of lives remaining after the rate increase. Show your work.

Commentary on Question:
This question required the candidate to calculate the expected number of remaining lives using the shock lapse formula. A majority of candidates were not familiar with the shock lapse formula and appeared to make something up. Candidates who were familiar with the formula generally did well.

$$ShockLapse = \frac{RateIncrease - Trend}{(RateIncrease - Trend) + \frac{(1+Trend)}{EF}}$$

Healthy lives shock lapse = (.07-.05)/[(.07-.05)+((1+.05)/1.3)] = 2.4%
Number of healthy lives after rate increase = healthy lives * (1 – shock lapse) = 223*(1-.024) = 218

Impaired lives shock lapse = (.22-.05)/[(.22-.05)+((1+.05)/.8)] = 11.5%
Number of impaired lives after rate increase = 777*(1-.115) = 688

Total lives remaining after rate increase = 218+688 = **906**

Insured Population	Number of lives	Rate Increase	Trend	Elasticity Factor	Shock Lapse	Number of lives after Rate Increase
Healthy lives	223	7.0%	5.0%	1.3	2.4%	218
Impaired lives	777	22.0%	5.0%	0.8	11.5%	688
Total lives	1,000	18.7%	5.0%	N/A	N/A	906

7. Continued

(d) Propose a rate increase scenario that minimizes lapses. Show your work. Justify your response.

Commentary on Question:
This question required the candidate to propose a new rate increase for both healthy and impaired lives and provide justification that the proposal minimizes lapses.

Most candidates who attempted this question received partial credit. Those who did well in part (c) tended to do well in this part.

Proposal
Healthy lives rate increase: 5.0% (in line with trend)
Impaired lives rate increase: 22.6% (to maintain overall rate increase)

Insured Population	Number of lives	Rate Increase	Trend	Elasticity Factor	Shock Lapse	Number of lives after Rate Increase
Healthy lives	223	5.0%	5.0%	1.3	0.0%	223
Impaired lives	777	22.6%	5.0%	0.8	11.8%	685
Total lives	1,000	18.7%	5.0%	N/A	N/A	908

Justification
Because healthy lives have a higher elasticity factor and therefore are more likely to lapse at a large rate increase, the proposal keeps all healthy lives by using a rate increase equal to trend. The impaired lives rate increase is adjusted to maintain the overall 18.7% increase, which is justified as impaired lives are less elastic. The resulting number of lives remaining is 908, higher than the 906 lives from the initial scenario.

8. Learning Objectives:

4. The candidate will understand how to evaluate the effectiveness of different provider reimbursement methods from both a cost and quality point of view.

Learning Outcomes:

(4d) Understand accountable care organizations and medical patient home models and their impact on quality, utilization and costs.

Sources:

GHDP-120-18: Avoiding Unintended Consequences in ACO Payment Model

GHDP-125-20: Ch. 22.1-22.3 and 22.6-22.7 of Healthcare Risk Adjustment and Predictive Modeling, Duncan, 2nd Edition

Commentary on Question:

In general candidates did poorly on this question when not asked to provide a list or examples.

Solution:

(a) List the ways Accountable Care Organizations (ACOs) are expected to generate savings.

Commentary on Question:

This question tested the candidate's ability to retrieve a list from the required reading. Overall, candidates who attempted the question did well.

- Implement "care coordination" to manage the care of the patients who need additional services.
- Access to integrated medical records and consistent management by the physician will reduce the need for tests.
- The ACO will develop a network of efficient providers for referrals and will limit the use of less efficient and more expensive providers.
- The focus on quality will also result in fewer unnecessary services, and by emphasizing preventive services, lead to later savings as population health is improved.

(b) Compare and contrast disease management programs and ACO savings programs.

Commentary on Question:

This question required candidates to synthesize differences and similarities between disease management programs and ACOs. Often candidates listed characteristics of ACOs and DM programs, but did not highlight similarities and differences.

8. Continued

Similarities:

- Both generate savings (or reduce costs) and focus on quality
- Both need quality data and analytics
- Importance of planning and understanding the saving opportunity
- Both likely delegate the care to remote nurses

Differences:

- DM programs have more mature data analytics than ACOs due to the ACO's heavy dependence on EMR/EHR records.
- CMS is more willing to wait for ACO savings than commercial payers would from DM programs because of the 3 year commitment required from ACOs.
- The relatively small size of ACOs compared to disease management programs will make savings more difficult to realize.
- In order to realize savings, ACOs must focus more heavily on patients with the greatest opportunity for cost reduction.
- Savings programs from ACOs will be provider-driven, as opposed to insurer-driven.
- ACO savings programs focus primarily on quality, as opposed to DMs focusing on both cost and quality.
- Care management programs in ACOs are newer than DM programs, so literature on these programs is limited.
- ACOs initial set-up cost is more significant
- ACOs focus on total health while DMs focus on chronic diseases
- ACO is a shared savings program, measured against a benchmark
- ACO members are attributed, as opposed to enrolled.

(c) Describe the updates to the ACO gain share calculation from the final rules published in 2015 and 2016.

Commentary on Question:
Most candidates who attempted this question were able to list the change to equal weighting of the years used to calculate the benchmark. However, candidates had difficulty listing other updates to the ACO gain share calculation.

- CMS now equally weights all years for calculating the benchmark.
- Savings in the prior performance period will be accounted for in the benchmark calculation in the first year of the performance period.
- In the second performance period, an ACO's rebased benchmark will reflect its performance in relation to other providers in the same regional market.
- After the second year of a performance period, the national trend factor is replaced with a regional trend factor.
- Beginning in 2017, the national FFS calculation will include only assignable Medicare FFS beneficiaries and not all FFS beneficiaries

8. Continued

(d) Describe how the updated final rules address unintended consequences of the ACO gain share calculation in place prior to the update.

Commentary on Question:
Many candidates relisted answers from part (c) and did not discuss how the updated final rule addressed the unintended consequences from the original ACO gain share calculation.

- With equal weighting, the ACO is less likely to shift more expensive and elective services between years.
- Adding savings from the prior performance period will raise the average benchmarks and allow better performing ACOs to be rewarded for long term success.
- Using a regional trend and comparing on a regional FFS benchmark, combined with regional adjustments, will reward better performing ACOs based on other providers as opposed to comparing their own prior performance.
- Using assignable Medicare FFS beneficiaries will allow better tracking of regional ACO performance

9. **Learning Objectives:**

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

Learning Outcomes:

(5d) Describe and apply approaches to claim credibility and pooling.

(5e) Recommend retention (administrative expenses, claims expenses, profit margin, etc.) when underwriting a group

Sources:

Issues in Applying Credibility to Group Long-Term Disability Insurance

Commentary on Question:

Many candidates performed well on this question. For (b), a good answer showed the formula and calculated the solution correctly. For (c), full credit was given to candidates who both listed and described at least four credibility challenges from the source materials.

Solution:

(a) Describe the 2012 GLTD valuation standard.

Commentary on Question:

Most candidates answered the question too narrowly to receive full credit.

The 2012 GLTD standard is a Principles Based Reserve approach, blending company-specific experience using a limited fluctuation credibility model. The standard requires the LTD insurer to fully or partially reflect company specific claim termination experience.

(b)

(i) Calculate the number of expected terminations required for LTD claims within durations 4 to 24 months to be considered fully credible. Show your work.

(ii) Calculate the partial credibility factor for this experience. Show your work.

Commentary on Question:

Candidates who knew the formula generally scored well on this part of the question. Many received full credit.

9. Continued

(i) 0.05 = 1.44 * sqrt(variance factor/number of expected terminations to be fully credible)
Number of expected terminations = 4 x $(1.44/0.05)^2$=3,318

(ii) Z = sqrt(number of terminations/number of terminations to be fully credible)
Z=sqrt(250/3318) = 27.45%

(c) List and describe four challenges in applying credibility in LTD.

Commentary on Question:
Several candidates either listed or described four challenges. Those who did both received full credit.

Regulations – states may have prescribed credibility rules that conflict with industry standards and may be more challenging to calculate or achieve full credibility

Non-Independence of claims – Since claims are somewhat dependent, it increases the threshold needed for full credibility and makes it more challenging to estimate the parameters

Outlier claims – outliers can be challenging to identify if not fully materialized and lower the credibility

Competitive pricing pressures – insurers in competitive markets sometimes have to choose between relying on the credibility formula or producing a more competitive rate to get the business.