

# GH FVCU Model Solutions

## Spring 2020

### 1. Learning Objectives:

3. The candidate will understand how to describe and evaluate government programs providing health and disability benefits in the U.S.

### Learning Outcomes:

- (3a) Describe Medicare benefits and evaluate pricing and filing.
- (3b) Describe Medicaid program structure and benefits and evaluate pricing and filing.

### Sources:

Group Insurance – Skwire – Pages 137-138

### Commentary on Question:

*Commentary listed underneath question component.*

### Solution:

- (a) Describe how the Original Medicare program reimburses providers for the following types of services.
  - (i) Inpatient hospital services.
  - (ii) Outpatient hospital services.

### Commentary on Question:

*Almost all candidates were awarded points for knowing that inpatient payment is based on DRGs (part ai) and outpatient payment is based on APCs (part aii). Many candidates struggled to provide additional information besides just those two points. Candidates typically had a harder time on part II.*

- (i) Inpatient Hospital Services
  - a. Reimbursed on prospective payment system (PPS) basis, a set amount per admission based on the diagnosis-related grouping (DRG) methodology
  - b. DRG methodology classifies each admission based on the patient's condition and services performed by the hospital
  - c. Hospitals can also receive additional reimbursement for some outlier hospital stays, graduate medical education (GME) costs, and disproportionate share (DSH) adjustments

## 1. Continued

- d. Hospital value-based purchasing is an effort to link Medicare payments to quality, efficient care (e.g., lower readmission rates)
- (ii) Outpatient Hospital Services
  - a. Hospital is reimbursed on outpatient prospective payment system (OPPS) basis, also called ambulatory payment classification (APC)
  - b. APC covers facility charges only
  - c. APC system works in many ways like a fee schedule
  - d. APC packages some services to control overall reimbursement to a hospital
- (b)
  - (i) Describe what each value in the RBRVS table above is intended to measure.
  - (ii) Calculate the annual financial impact of the proposed revision in reimbursement for Procedure A. Show your work.

### Commentary on Question:

*Most candidates answered the first three items listed below for part b (i) but missed the area adjustment. Most candidates did well on part ii, with the most common cause of points loss coming from multiplying the RVUs together instead of adding (or multiplying then adding for the area adjustment) and not multiplying by 12 months or 100 instances*

- (i) Professional Reimbursement
  - a. Work value unit component – measures the physician’s time and skill to perform the service
  - b. Practice expense value unit component – reflecting the cost of rent, staff, supplies, equipment and other overhead requirements
  - c. Malpractice value unit component – reflecting the professional liability costs associated with the service
  - d. Each of the 3 unit value components have area adjustments applied to them
- (ii)
  - e. *XYZ’s current provider payment rate for Procedure A is 110% of the Medicare rate, without area adjustment*
    - Total RVU  $(1.2 + 0.8 + 0.4) = 2.4$
    - Current procedure A payment  $= 110\% \times \$1,200$  (conversion factor)  $\times 2.4 = \$3,168$

## 1. Continued

- f. *XYZ is proposing a revision of their payment rate for Procedure A to 100% of the Medicare rate, including area adjustment*
- Area adjusted RVU =  $(1.2 \times 1.5 + 0.8 \times 0.7 + 0.4 \times 0.85) = 2.7$
  - Proposed procedure A payment =  $100\% \times \$1,200$   
(conversion factor)  $\times 2.7 = \$3,240$
- g. *Assess annual financial impact*
- Proposed payment per instance – current payment
  - $\$3,240 - \$3,168 = \$72$  increase in payment per instance
  - Total annual financial impact =  $100 \text{ instances per month} \times 12 \times \$72 = \$86,400$

## 2. Learning Objectives:

5. The candidate will understand how to evaluate the impact of regulation and taxation on companies and plan sponsors in the US.

### Learning Outcomes:

- (5b) Describe the major applicable laws and regulations and evaluate their impact.

### Sources:

Implications of Individual Subsidies in the Affordable Care Act – What Stakeholders Need to Understand, HealthWatch, May 2014

Recent Policy Changes: the Affordable Care Act

### Commentary on Question:

*Commentary listed underneath question component.*

### Solution:

- (a) Assume that each member chooses the plan which would result in the least cost to the member, in 2014:
  - (i) Assess which plan each member would choose. Show your work.
  - (ii) Calculate the total health care expenditure for 2014 for each member as a percentage of their respective income. Show your work.

### Commentary on Question:

*Candidates performed very strongly at setting up and calculating the cost of each plan without subsidies and without cost share reductions. Almost all candidates received full points for these initial calculations. The next steps were to determine if either member 1 or 2 were eligible for premium subsidies and/or cost share reduction. Again, candidates performed very strongly at determining that member 1 was not eligible, while member 2 was eligible. The biggest struggle was correctly implementing those impacts for member 2 in determining the total cost to member 2. Candidates mostly seemed to know the formula for calculating the premium subsidy, but didn't usually know the exact % reduction to apply. Most candidates knew that the cost share should increase from 70% to 73%, but very few applied it correctly. Most also knew to apply it to only the Silver plan option.*

*For part (ii), candidates performed very strongly again, being able to perform the calculation needed to determine the percentage.*

## 2. Continued

Total cost share before cost share reduction:

- Bronze:
  - 6000 in claims → member pays  $4000 + 50\% * (6000-4000) = 5000$
- Silver:
  - 6000 in claims → member pays  $3500 + 40\% * (6000-3500) = 4500$
- Gold:
  - 6000 in claims → member pays  $3000 + 30\% * (6000-3000) = 3900$
- Platinum:
  - 6000 in claims → member pays  $2500 + 20\% * (6000-2500) = 3200$

Total Paid 2014:

- Without cost share subsidies or premium subsidy:
  - Bronze:  $5000 + 2700 = 7700$  per year
  - Silver:  $4500 + 3000 = 7500$  per year
  - Gold:  $3900 + 3600 = 7500$  per year
  - Platinum:  $3200 + 4080 = 7280$  per year

Calculation of each person's salary relative to FPL:

- Member 1:  $\$60k / \$11,670 = 514\%$  (no subsidies, no premium reduction)
- Member 2:  $\$25k / \$11,670 = 214\%$  (eligible for subsidies and prem reduction)

Evaluation of cost share reduction:

- Silver plans are grossed up from 70% to 73% for 200-250% of FPL
- Applied evenly across claim cost =  $(73\% - 70\%) / 70\% = 4.3\%$  lower cost share

Total cost share after cost share reduction:

- Bronze:
  - $5000 * (1-0\%) = 5000$  (no reduction)
- Silver:
  - $4500 * (1-4.3\%) = 4307$
- Gold:
  - $3900 * (1-0\%) = 3900$  (no reduction)
- Platinum:
  - $3200 * (1-0\%) = 3200$  (no reduction)

Evaluation of premium subsidy:

- Premium cap: 6.3% at 200% FPL, 8.05% at 250% FPL; straight-line averaged to 6.79%:  $28\% * (8.05\%) + 72\% * (6.3\%) = 6.79\%$
- 6.79% cap applied to salary =  $25,000 * 6.79\% = 1,697.50$
- Amount of subsidy equals 2<sup>nd</sup> lowest silver – premium cap
  - $3,240 - 1,697.5 = 1,542.50$

## 2. Continued

Total Paid 2014 for Person 2 with cost share subsidy and premium subsidy:

- Full premium – premium subsidy + cost share after cost share reduction
  - Bronze:  $2700 - 1,543 + 5000 = 6158$  per year
  - Silver:  $3000 - 1,543 + 4307 = 5765$  per year
  - Gold:  $3600 - 1,543 + 3900 = 5958$  per year
  - Platinum:  $4080 - 1,5423 + 3200 = 5738$  per year

Selection of lowest-cost plan:

- Member 1: Choose platinum plan with lowest cost
- Member 2: Choose platinum plan with lowest cost

Calculate total health care expenditure as a % of income:

- Member 1:  $7280 / 60000 = 12.1\%$
- Member 2:  $5738 / 25000 = 23.0\%$

(b) Assume that Member #1 once again selects the plan which resulted in the least cost to the member in 2018:

- (i) Assess which plan Member #1 would choose. Show your work.
- (ii) Calculate the total health care expenditure for 2018 for Member #1 as a percentage of income. Show your work.

### **Commentary on Question:**

*Most candidates did really well on this part. They knew to calculate what the new 2018 premium would be, and then apply the same cost share to get the total spend by plan option for member 1. Same for part (ii), candidates performed very well.*

Updated 2018 premium rates:

- Bronze:  $2700 * 1.15^4 = 4725$
- Silver:  $3000 * 1.15^4 = 5250$
- Gold:  $3600 * 1.15^4 = 6300$
- Platinum:  $4080 * 1.15^4 = 7140$

Total Paid 2018:

- Without cost share subsidies or premium subsidy (using same cost share from part a):
  - Bronze:  $5000 + 4725 = 9725$  per year
  - Silver:  $4500 + 5250 = 9750$  per year
  - Gold:  $3900 + 6300 = 10200$  per year
  - Platinum:  $3200 + 7140 = 10340$  per year

## 2. Continued

Calculation of member 1's salary relative to FPL:

- Member 1:  $\$60k * 1.082 / \$12,140 = 535\%$  (no subsidies, no premium reduction)

Selection of lowest-cost plan:

- Member 1: Choose bronze plan with lowest cost

Calculate total health care expenditure as a % of income:

- Member 1:  $9725 / (60000 * 1.082) = 15.0\%$

### 3. Learning Objectives:

6. The candidate will understand how to evaluate retiree group and life benefits in the United States.

#### Learning Outcomes:

(6c) Determine employer liabilities for retiree benefits under US GAAP.

(6e) Apply actuarial standards of practice to retiree benefit plans.

#### Sources:

GHC-816-16: US Employers' Accounting of Postretirement Benefits Other Than Pensions Study Note

ASOP 6, Measuring Retiree Group Benefit Obligations and Determining Retiree Group Benefits Program Periodic Costs or Actuarially Determined Contributions

#### Commentary on Question:

*This question tested candidate's knowledge on accounting and actuarial issues around calculation and reduction of retiree medical plan liabilities.*

#### Solution:

(a) Describe the accounting treatment(s) applied in the recognition of the plan change on the APBO (Accumulated Post-retirement Benefit Obligation) and NPPBC (Net Periodic Post-retirement Benefit Cost).

(i) For active employees

(ii) For retired employees

#### Commentary on Question:

*(a)(i) Most candidates recognized the change was a settlement and noted the change would reduce APBO. Fewer described the impact on NPPBC correctly.*

*(a)(ii) Only few candidates considered the change as "prior service cost"; far more incorrectly labeled it a "curtailment".*

(a) (i)

- Active change = settlement ("transactions that eliminate all future obligations with respect to the benefit plan")
- Settlements reduce the APBO.
- Measured at the date the event occurs.
- Maximum gain or loss recognized in NPPBC is unrecognized net gain or loss plus any remaining transition assets.
- Maximum amount recognized if entire APBO is settled.



### 3. Continued

(a) (ii)

- Retiree change = prior service cost ("changes due to plan amendments, e.g, introducing, removing, or changing the benefit structure")
- Reduced APBO, so PSC is negative.
- Measured at the date the event occurs (or date related restructuring costs are recognized.)
- Recognized in NPPBC over future service of participants. In this case, since all participants are retired, recognized over remaining life expectancy.
- Since Plan terminates in three years, recognize over three years.

Note: Not a curtailment since those are events that affect future expected service of active plan participants, and this affects retirees.

- (b) Calculate the APBO as of January 1, 2020 under the new plan.  
Show your work.

#### Commentary on Question:

*Many candidates didn't realized the claim costs were from 2018 and needed to trend to 2020. A few used premiums in calculation rather than claim costs.*

*Discount was calculated better than trend, the most common mistake was not assuming claims were paid in the middle of the year: some assumed at the end of year, some assumed at the beginning of year.*

*Many failed to count spouses.*

Assumptions:										
Plan terminates in three years (12/31/2022)										
Discount rate:					4%					
Mortality:					None assumed prior to plan termination					
Trend rates:					5%					
			Claims Cost	Claims Cost			Discounted Claims Cost			
Headcount	Status	Age	2018	2020	2021	2022	2020	2021	2022	Total
40	Retiree	70	\$2,950	\$3,252	\$3,415	\$3,586	\$3,189	\$3,220	\$3,251	\$9,660
40	Spouse	65	\$2,600	\$2,867	\$3,010	\$3,160	\$2,811	\$2,838	\$2,865	\$8,514
30	Retiree	70	\$2,950	\$3,252	\$3,415	\$3,586	\$3,189	\$3,220	\$3,251	\$9,660
70	Retiree	80	\$3,750	\$4,134	\$4,341	\$4,558	\$4,054	\$4,093	\$4,132	\$12,280
							0.9806	0.9429	0.9066	<-- discour
Total PV of Benefits @ 1/1/2020			\$1,876,320	<-- retiree APBO			(assumes payment in middle of year			

- (c) Explain why unadjusted premiums should not be used to calculate the APBO in part (b).

#### Commentary on Question:

*In general this question was not answered well. Few candidates realized the blended premiums hid the large difference in risk between Medicare and non-Medicare members. Exhibit 4 of the case study displays this, as costs decrease dramatically for members at age 65.*

### 3. Continued

- Case study notes that premiums are on a combined active/retiree basis. In this case, using combined premiums for the retirees will overstate liability, since all remaining retirees are Medicare-eligible and claims costs are less than the premiums.
- Presuming you didn't develop these rates yourself (since you were just brought in to this assignment), you "do not know what assumptions went in to developing the rates, whether they are supposed to represent true expected costs for the plans, and what the demographics were of the populations that are included in the development."

- (d) Describe the considerations that must be made if premiums are used in calculation of the APBO.

**Commentary on Question:**

*In general this question wasn't answered well. Few candidates remembered that the actuary should make an appropriate disclosure if premiums are used as the basis for initial per capita costs in the measurement according to ASOP 6.*

- Although an analysis of the actual claims experience is preferable when reasonably possible, the actuary may use premiums as the basis for initial per capita costs, with appropriate analysis and adjustment for the premium basis. The actuary who uses premiums for this purpose should adjust them for changes in benefit levels, covered population, or retiree group benefits program administration. The actuary should also make the appropriate adjustments to determine the age-specific costs (see section 3.7.7).
- If premiums, adjusted or unadjusted, are used as the basis for initial per capita costs in the measurement, the actuary should make an appropriate disclosure and consider the factors described in other paragraphs of section 3.7.

- (e) Calculate the percentage of the blended premium rate that Live Twice should charge its retirees to reduce the APBO calculated in part (b) by 50%. Show your work.

**Commentary on Question:**

*In general this question wasn't answered well. Many skipped this question. Some didn't trend the premium.*

$$50\% * 1,876,320 / 180 = x\% * 455 * 12 * (1/1.04^{0.5} + 1.05/1.04^{1.5} + 1.05^2/1.04^{2.5})$$

$$\text{Solve for } x = 32.1\%$$

#### **4. Learning Objectives:**

3. The candidate will understand how to describe and evaluate government programs providing health and disability benefits in the U.S.
4. The candidate will understand how to prepare and be able to interpret insurance company financial statements in accordance with U.S. statutory principles and GAAP.

#### **Learning Outcomes:**

- (3a) Describe Medicare benefits and evaluate pricing and filing.
- (3b) Describe Medicaid program structure and benefits and evaluate pricing and filing.
- (4c) Project financial outcomes and recommend a strategy.
- (4d) Apply applicable standards of practice.

#### **Sources:**

ASOP 49, 28, Payment Reform Under The Medicare-Medicaid Financial Alignment Demonstrations (Health Watch, May 2013)

#### **Commentary on Question:**

*Commentary listed underneath question component.*

#### **Solution:**

- (a) Outline how the capitated model works.

#### **Commentary on Question:**

*Most candidates had a general understanding of how the capitated model works under the Financial Alignment Demonstration for the dual eligible population. Only a handful of candidates provided the necessary level of detail required to obtain full credit, covering all the components of the payment structure including the appropriate adjustments. Some candidates failed to identify how the capitated model works in the defined scenario and instead simply described the concept of capitation more generally.*

The capitated model under the Medicare-Medicaid Financial Alignment Demonstration is structured as a three-way contract between the state, CMS, and participating managed care organizations (MCOs). MCOs need to pass an application process and readiness review that addresses the enrollment process, access to care, and other issues. If accepted, the MCO receives prospective capitation payments that reflect anticipated program savings through coverage of Medicare and Medicaid services, allowing the state and CMS to share anticipated savings up front. The MCO is then responsible for providing fully integrated care for Medicare and Medicaid benefits for its members.

## 4. Continued

The capitation payments consist of separate capitation payments for Medicare Part A/B, Medicaid, and Medicare Part D prescription drug services. The Medicare Part A/B and Medicaid capitation payments are adjusted to reflect anticipated savings associated with care integration, and also include a quality withhold. The Medicare Part D payment is not adjusted for any anticipated savings or quality withholds.

- (b) Explain the different base data adjustments that you should consider in assessing the adequacy of the capitation rates.

### **Commentary on Question:**

*Most candidates were able to identify several of the different base data adjustments specified in ASOP 49. However, only a handful were able to identify and explain enough to receive full credit. Candidates who only provided a list of adjustments without explanations only received partial credit.*

In assessing the adequacy of capitated rates, the actuary should consider base data period adjustments of the following three types:

- Retroactive Period Adjustments - The retroactive period adjustments reflect changes that occurred during the base data period to standardize the data over the base data period
- Interim Period Adjustments - The interim period adjustments reflect changes that occurred between the base data period and the rating period
- Prospective Period Adjustments - The prospective period adjustments reflect changes that will occur in the rating period

There are several other kinds of base data adjustments that the actuary should consider:

- Missing Data Adjustment – This includes claims that may have not been processed through the same system as the base data, capitation data that may not be reflected in fee-for-service data, or encounter data that is sub-capitated and not reported through the same system
- Incomplete Data Adjustment – This reflects claims that were in course of settlement, claims that were incurred but not reported, or amounts that are due for reinsurance or claim settlements
- Population Adjustment – This modifies the base data to reflect differences between the population underlying the base period and the population expected to be covered during the rating period
- Funding or Service Carve-Out Adjustments – Items that may not be the financial responsibility of the MCO include services not covered by the capitation rate and funding carve-outs such as disproportionate share hospital payments

## 4. Continued

- Retroactive Eligibility Adjustments – This adjustment reflects the exclusion of periods of retroactive eligibility that Medicaid beneficiaries are provided that would not be the responsibility of the MCO
- Program, Benefit, or Policy Adjustments – This reflects differences in benefit or service delivery requirements between the base period and the rating period that impact the financial risk assumed by the MCO
- Data Smoothing Adjustments – These adjustments address anomalies or distortions in the base data, such as large claims or limited enrollment

- (c) Describe the different options you have in issuing a Statement of Actuarial Opinion.

### **Commentary on Question:**

*Candidates did extremely well identifying the four types of Statements of Actuarial Opinion. Most were able to correctly describe each of them, as well.*

As described by ASOP 28, a Statement of Actuarial Opinion should be one of the following four types:

1. Unqualified Opinion – The actuary providing an unqualified opinion represents that the reserve amount makes good and sufficient provision for the specified liabilities. The actuary should be satisfied that the liabilities and related items opined on make reasonable provision to cover obligations under moderately adverse conditions.
2. Qualified Opinion - The actuary should issue a qualified statement of actuarial opinion when, in the actuary's opinion, the liabilities for a certain item or items are in question because they cannot be reasonably estimated or the actuary is unable to render an opinion on the liabilities for those specific items.
3. Adverse Opinion - The actuary should issue an adverse opinion when the aggregate amount is less than the minimum amount the actuary believes is necessary to provide an unqualified opinion, or when the liabilities fall outside a reasonable range for the specified purpose.
4. Inconclusive Opinion - If the actuary cannot reach a conclusion due to deficiencies or limitations in the data, analyses, assumptions, or related information, then the actuary should issue an inconclusive opinion.

## 4. Continued

- (d) Justify the type of actuarial opinion you should provide.

**Commentary on Question:**

*Most candidates elected to provide a qualified or inconclusive opinion, and full credit was given in either case if the reasoning was well-justified. Credit was also awarded for the other types of opinions, with partial credit awarded where the justification was sound and demonstrated an understanding of the material.*

In this situation I would provide an Inconclusive Statement of Actuarial Opinion. The lack of dual eligibles in the historical data for the Medicaid managed care program may result in a significant level of uncertainty in the adequacy of the 2020 capitation rate. There are several material assumptions on the new population that cannot be reasonably estimated without this data. I would work with CMS to try to obtain additional data that would help inform these assumptions, but until then would only be willing to issue an Inconclusive Opinion.

-or-

In this situation I would provide a Qualified Statement of Actuarial Opinion. The lack of dual eligibles in the historical data for the Medicaid managed care program may result in a significant level of uncertainty in the adequacy of the 2020 capitation rate, but I will seek out data that would help inform the assumptions on this population within a reasonable range of adverse deviation. Therefore, I would issue a Qualified Opinion which identifies the specific, material items that prevented me from issuing an Unqualified Opinion, as those specific items cannot reasonably be estimated directly from the population for which the capitation rate level would be applied to.

## 5. Learning Objectives:

4. The candidate will understand how to prepare and be able to interpret insurance company financial statements in accordance with U.S. statutory principles and GAAP.

### Learning Outcomes:

- (4b) Interpret the results of both statutory and GAAP statements from the viewpoint of various stakeholders, including regulators, senior management, investors.

### Sources:

GHFV-109-19 Health Insurance Accounting Basics for Actuaries CH 3.

### Commentary on Question:

*This question tested a candidate's knowledge of group benefit plans outside the standard realm of fully-insured, FFS-based arrangements. Performance was generally mixed. Candidates had success on some parts of question, but only received partial or no credit on others., or separate comments can be made for each part.]*

*This question tested a candidate's knowledge of group benefit plans outside the standard realm of fully-insured, FFS-based arrangements. Performance was generally mixed. Candidates had success on some parts of question, but only received partial or no credit on others.*

### Solution:

- (a) Describe the difference between Administrative Services Only (ASO) and Administrative Services Contract (ASC).

### Commentary on Question:

*Candidate performance was generally poor on this section. While many candidates identified ASC and ASO as self-funding arrangements with an MCO or TPA providing mainly administrative services, few correctly distinguished the two by explaining key differences in timing and source of claims reimbursement as well as the resulting capital and risk considerations.*

ASO and ASC are both self-funding arrangements.

- Under ASC plans the insurer/TPA fronts the initial claim reimbursement and subsequently seeks recoupment from the client. As a result, the insurer/TPA bears credit risk in cases where the client goes insolvent; therefore, US RBC Standards require the insurer/TPA to hold more capital for ASC contracts relative to ASO contracts.
- Under ASO plans the insurer/TPA pays claims directly from client's bank account, thus there is no credit risk or additional capital requirements.

## 5. Continued

- (b) Describe two different types of capitation arrangements.

**Commentary on Question:**

*Most candidates did well on this section identifying the two types of capitation arrangements and the difference in scope of services included.*

- Global Capitation: A population's entire healthcare services are covered under the capitation arrangement and the provider's responsibility including services obtained by unaffiliated providers.
- Specialty Capitation: A limited, specified subset of the population's healthcare services are covered under the capitation arrangement.

- (c) Explain the advantages and disadvantages of a capitated arrangement versus a fee-for-service arrangement from the perspective of:

(i) ABC Dental Insurance

(ii) The dentist

(iii) The customer

**Commentary on Question:**

*Candidate performance was mixed on this section. While most candidates received partial credit by acknowledging advantages and disadvantages to the key stakeholders of capitation, few were able to provide adequate identification and support for full credit.*

ABC Dental Insurance:

- Pros: Stability & predictability of claims payments under pre-calculated capitation rate; predictable and potentially lower claims trend along with simplified forecasting and reserving, easier accounting treatment; limited exposure to high claims risk and claims volatility.
- Cons: Difficult to administer; challenges creating a network, negotiating with providers, and ensuring adequate provider participation; regulatory implications and oversight; plan performance is heavily dependent on capitation calculation which can be challenging; ramifications of provider insolvency



## 5. Continued

### Dentist

- Pros: Stability & predictability of reimbursement and income (capitation payment); financial stake/invested in patient's care; can benefit financially from a healthier, lower utilizing population
- Cons: Financial risk if more morbid population, higher utilization, or higher cost mix of services requested than assumed in capitated payment; dentist's revenue stream can evaporate if a patient switches dentists; inability to negotiate fees at a service/procedure level

### Customer

- Pros: Generally lower premium rates or member cost share relative to FFS based plans; provider more invested in patient care and preventative care; less potential for unnecessary services given dentist's financial stake
- Cons: Could be lower quality or level of service due to provider efforts to limit cost relative to capitated payment; customer has little insight into price transparency (procedure and service unit cost); customer has limited choice of provider given narrow capitated network relative to a generally broader FFS-based network

- (d) Describe three alternative arrangements, excluding benefit design changes, that can help ABC to reduce its claims risk.

### Commentary on Question:

*Candidates generally did well on this section identifying several alternative arrangements and providing appropriate support. A wide range of possible arrangements was considered as adequate for this section, not all of which are included in the model solution below.*

- Provider Incentive Programs (P4P) – Provider paid bonuses for meeting quality standards or other established targets
- Experience Rated Contracts (Risk Share) – Employer and insurer shares financial risk through claims stabilization reserve or other arrangement; gain/share value-based arrangements relative to a target threshold are established
- Risk Adjustment – Arrangement to tie rate and/or reimbursement to morbidity of population served based on diagnoses or encounter data
- Bundled Payment – Provider reimbursement based on a set of services/treatment rather than individual services
- Funding Mix – Insurer sells more ASO business relative to risk-based business to limit exposure
- Risk Equalization Programs – Insurer participates in multicarrier private exchanges to reduce selection risk
- Reinsurance or Stop Loss – Insurer cedes portion of claims risk to a reinsurer on individual or aggregate basis or offers stop loss coverage

## 6. Learning Objectives:

5. The candidate will understand how to evaluate the impact of regulation and taxation on companies and plan sponsors in the US.

### Learning Outcomes:

- (5a) Describe the regulatory and policy making process in the US.
- (5b) Describe the major applicable laws and regulations and evaluate their impact.
- (5c) Apply applicable standards of practice.

### Sources:

Handbook of Employee Benefits Chapter 25 (GHFV-827-19)

### Commentary on Question:

*Commentary listed underneath question component.*

### Solution:

- (a) Identify all changes that must be made to the currently offered Cafeteria plan to ensure the preferred tax treatment of the benefit is applicable.

### Commentary on Question:

*Six issues were identified that needed to be addressed. To receive full credit, the candidate must identify each benefit that needs to change, as well as how the benefit needs to change, in order to qualify as a tax-preferred benefit.*

- **\$25,000 face value whole life policy** – must be eliminated, whole life not allowed
- **\$5,000 of tax free dependent care assistance, no employee or spouse work requirement** – must have spousal and employee work requirement
- **Plan A and HSA may not be elected together** – HSA must be limited ONLY to High Deductible Plan B
- **Adoption Assistance, up to \$13,170 exclusion from gross income, for employees making up to \$250,000** – maximum amount must begin to be reduced at \$150,000 and eliminated at \$190,000 of income
- **Health Flex Savings Accounts with electable funding up to \$10,000** – must limit to FSA maximum (\$2,500 for 2013, or \$2,750 for 2020, as the maximum increases with inflation). (Also could mention that the maximum amount of reimbursement reasonably available must be less than five times the value of coverage, so must either be reduced to \$6,000 based on the stated plan value of Plan B, or Plan B must be modified or eliminated.)
- **Employee must complete 4 years of employment before eligibility for the Cafeteria Plan** – must only be 3 years

## 6. Continued

- (b) Assuming all benefits above now qualify for tax preferred treatment:
- (i) Determine if the Cafeteria Plan would pass the Benefits Test. Show your work.
  - (ii) Describe the following:
    - The Contributions Test
    - The key employee contributions test
  - (iii) Determine whether or not the Cafeteria plan is discriminatory under the key employee concentration test. Show your work.

### **Commentary on Question:**

*For (i), the calculations were straightforward, and many candidates received full credit. The candidate had to determine if the aggregate qualified benefits of highly compensated employees, as a percentage of aggregate compensation, is less than the aggregate qualified benefits of nonhighly compensated employees, as a percentage of aggregate compensation, for the plan to pass the test. Some candidates confused highly compensated employees with key employees, with the latter being relevant to part (iii).*

*For (ii), many candidates correctly described the two tests, although very few mentioned the additional rule that applies to health benefits.*

*For (iii), the calculations again were straightforward, and many candidates received full credit. The calculations were described in the response to part (ii). The distinction between collectively bargained and non-collectively bargained employees was not relevant, as the source material noted: "A key employee covered by a collective bargaining agreement is a key employee." Some candidates incorrectly excluded collectively bargained employees, or performed the calculations separately for each group.*

## 6. Continued

(i) Aggregate benefits = estimated value of benefits x number of participants.

	HCE Total Value	NHCE Total Value
Life Insurance	\$90,000	\$1,000,000
Dependent Care Assistance	\$375,000	\$3,000,000
Paid Time Off	\$25,000	\$5,000,000
Adoption Assistance	\$325,000	\$130,000
Health HSA	\$127,500	\$1,500,000
Health Plan A	\$432,000	\$180,000
Health Plan B	\$60,000	\$3,000,000
<b>Total</b>	<b>\$1,434,500</b>	<b>\$13,810,000</b>

Aggregate compensation = average salary x number of employees.

HCE Total Salary = \$50,000,000      NHCE Total Salary = \$310,750,000

Aggregate Benefits / Aggregate Compensation

HCE Percentage = 2.87%      NHCE Percentage = 4.44%

Because HCE Percentage < NHCE Percentage, plan passes Benefits Test.

(ii) Contributions Test – the plan must give each similarly situated participant a uniform election with respect to employer contributions, and actual elections must not be disproportionately utilized by highly compensated employees (aggregate contributions for highly compensated employees, as a percentage of aggregate compensation, is less than the aggregate contributions of nonhighly compensated employees, as a percentage of aggregate compensation).

Additional rule for health benefits – the plan is not discriminatory if contributions are either 1) 100% of the cost of health benefit coverage of majority of similarly situated highly compensated participants or 2) 75% of the cost of the most expensive health benefit coverage elected by any similarly situated participant.

Key Employee Contributions Test – requires that nontaxable benefits provided to key employees do not exceed 25% of the aggregate benefits provided to all employees.

## 6. Continued

(iii) Aggregate benefits = average value of benefits elected x number of participants.

Key Employees – Collectively Bargained	\$660,000
Key Employees – non-collectively Bargained	\$656,000
<b>Key Employees – Total</b>	<b>\$1,316,000</b>

nonKey Employees – Collectively Bargained	\$8,000,000
nonKey Employees – non-collectively Bargained	\$4,650,000
<b>nonKey Employees – Total</b>	<b>\$12,650,000</b>

Total Employee Benefits = \$1,316,000 + \$12,650,000 = \$13,966,000

Key Employee Benefits / Total Benefits = \$1,316,000 / \$13,966,000 = 9.42%

Because Key Employee Percentage < 25%, plan passes Key Employee Contributions Test

## 7. Learning Objectives:

4. The candidate will understand how to prepare and be able to interpret insurance company financial statements in accordance with U.S. statutory principles and GAAP.

### Learning Outcomes:

- (4a) Prepare financial statement entries in accordance with generally accepted accounting principles.
- (4b) Interpret the results of both statutory and GAAP statements from the viewpoint of various stakeholders, including regulators, senior management, investors.

### Sources:

GHC-818-18 Revised Statement of Opinion Instruction for NAIC Statement;

GHC-819-18 Practices for Preparing Health Contract Reviews

### Commentary on Question:

*This question tested candidate's understanding of contract reserves, including calculation of reserves, purpose of reserves, and treatment of reserves under SAP. Overall, candidates who attempted the question received at least some credit.*

### Solution:

- (a) Describe the role of an Appointed Actuary.

#### Commentary on Question:

*Candidates generally were able to list at least some of components of an Appointed Actuary's role. Full credit was given to those candidates that provided a more complete description of the role.*

An Appointed Actuary is a qualified actuary appointed by the board of directors (or its equivalent) who must report to the board or audit committee each year on items within the scope of actuarial opinion. The Appointed Actuary is responsible for preparing supporting documentation actuarial memorandum to convey the actuary's work and conclusions. An Appoint Actuary must be in good standing with and member of the American Academy of Actuaries.

- (b) Describe the purpose of both an Unearned Premium Reserve and a Contract Reserve.

#### Commentary on Question:

*Majority of candidates were able to provide a basic definition of an Unearned Premium Reserve and a Contract Reserve, for which partial credit was given. Full credit was only given to candidates that went on to describe the purpose of these types of reserves, such as why they are necessary or important to financial statements.*

## 7. Continued

Unearned Premium Reserves represent the portion of premium collected which is needed to cover the period for which coverage/service is intended. An example includes a product where premium is collected at the start of the year for a full year coverage period. Unearned Premium Reserves are needed to reduce fluctuation in profitability stemming from premium collection patterns.

Contract Reserves represent the portion of current and past premiums needed to prefund future costs. An example includes a product with a level premium where costs increase in later benefit periods. Contract Reserves are needed to avoid overstating the insurer's net worth and reporting excessive profits in early years.

- (c) Describe circumstances in which Thunderball would not need to hold a Contract Reserve.

**Commentary on Question:**

*Candidates who attempted this question were generally able to provide at least one circumstance under which a Contract Reserve would not need to be held. Candidates that provided multiple circumstances, particularly as they would apply to Thunderball's business, scored better on this question.*

Contracts reserves are not required in cases where a contract cannot be continued after 1 year from issue or if rates are determined such that each policy year's premium is designed to cover that policy year's costs, with no prefunding of future years needed. Since Thunderball mainly sells long-term insurance products with level premiums, it cannot do away with contract reserves unless it moves into short-term products where annual premium covers annual costs.

- (d) Explain why having an Unearned Premium Reserve and a Contract Reserve may not always be sufficient to demonstrate reserve adequacy under Statutory Accounting Principles (SAP).

**Commentary on Question:**

*Candidates needed to identify this as a question about SAP Gross Premium Valuation in the context of demonstrating reserve adequacy in order to do well on this question. Those that did typically received full or near full credit.*

Reserve adequacy is demonstrated under SAP using a Gross Premium Valuation. Gross Premium Valuation compares the present value of future claims, expenses and ending reserves with present value of future premiums and current reserves. Even in cases where an Unearned Premium Reserve and Contract Reserve are appropriate, a Gross Premium Valuation may determine the need for a Premium Deficiency Reserve to recognize a loss in the current period. In cases where a Gross Premium Valuation determines reserves to be inadequate, there may be the need to recognize a loss in the current period (e.g. Premium Deficiency Reserve).

## 7. Continued

(e) Calculate the following for these 4 employees as of 1/31/2020:

- (i) Contract Reserve
- (ii) Unearned Premium Reserve

Show your work.

### **Commentary on Question:**

*This question tested the candidate's ability to calculate Contract Reserves and Unearned Premium Reserves given policyholder information and claim reserves factors from the Case Study. Candidate's generally did a good job of calculating the Unearned Premium Reserve for all four policyholders. Candidates typically had more mistakes on the Contract Reserve calculation, examples including not using the correct reserve factors from the Case Study, not identifying that the reserve factors from the table were quoted per \$3,000 of benefit, and not using the correct formula ( $\text{Gross Monthly Benefit} \times \text{Reserve Factor}$ ). Partial credit was given in many of these cases.*

Employee 1:

$$\begin{aligned}\text{Contract Reserve} &= 100.60 \times 1000 / 3000 = \$33.53 \\ \text{Unearned Premium Reserve} &= \$0\end{aligned}$$

Employee 2:

$$\begin{aligned}\text{Contract Reserve} &= 53.96 \times 1000 / 3000 = \$17.99 \\ \text{Unearned Premium Reserve} &= 4 \times (12-1) = \$44\end{aligned}$$

Employee 3:

$$\begin{aligned}\text{Contract Reserve} &= 114.04 \times 5000 / 3000 = \$190.07 \\ \text{Unearned Premium Reserve} &= 3.5 \times (12-1) =\end{aligned}$$

Employee 4:

$$\begin{aligned}\text{Contract Reserve} &= 42.48 \times 1000 / 3000 = \$14.16 \\ \text{Unearned Premium Reserve} &= 4.5 \times (60-1) = \$265.50\end{aligned}$$



## 8. Learning Objectives:

4. The candidate will understand how to prepare and be able to interpret insurance company financial statements in accordance with U.S. statutory principles and GAAP.

### Learning Outcomes:

- (4c) Project financial outcomes and recommend a strategy.

### Sources:

Health Insurance Accounting Basics for Actuaries (4.1)

### Commentary on Question:

*The question was testing candidates' knowledge of how incurred claims and unearned claim liability (UCL) estimates are combined to get total claims expense estimates. They needed to know the difference between "accounting view" (financial statement view) and "actuarial view" (date of service view).*

### Solution:

- (a) Calculate the claims expense for each quarter in "accounting view" (financial statement view) and "actuarial view" (date of service view).  
Show your work.

### Commentary on Question:

*Candidates were pretty hit or miss on the calculation part. There was a good amount of calculation required and it was the last question, which may have resulted in some not attempting this part. Candidates often struggled with how to handle the UCL portion of the calculation. Partial credit was given if actuarial view was calculated as of quarter-end instead of year-end. The claims table summed up each column, but not each row. That could have saved candidates a lot of time punching numbers into a calculator for actuarial view.*

Accounting view = claims paid during the quarter + change in UCL

$$Q1 = (100 + 680 + 750 + 1300) + (1400 - 1675) = \mathbf{2,555}$$

$$Q2 = (880 + 955 + 1000) + (1545 - 1400) = \mathbf{2,980}$$

$$Q3 = (950 + 1070 + 985) + (1800 - 1545) = \mathbf{3,260}$$

$$Q4 = (1100 + 1070 + 1010) + (1570 - 1800) = \mathbf{2,950}$$

Actuarial view = total amount of claim payments made through year-end for coverage in each quarter + the terminal UCL estimate

$$Q1 = (100+600+200+90+50+10+20+5+0+80+ 80+400+150+75+60+20+10+10+ 150+520+210+100+30+5+15) + (0+0+0) = \mathbf{2,990}$$

$$Q2 = (120+420+190+85+35+10+10+5+ 200+480+225+115+40+20+5+ 160+390+280+70+20+15+5) + (0+15+20) = \mathbf{2,935}$$

$$Q3 = (180+410+225+100+50+25+ 210+425+245+115+60+ 190+375+210+120) + (30+60+55) = \mathbf{3,085}$$

$$Q4 = (250+485+200+ 185+395+205) + (130+415+845) = \mathbf{3,110}$$

## 8. Continued

- (b) Evaluate the quarterly movements in claims expense for ABC under each “view”.

**Commentary on Question:**

*The rubric was looking for general comments on how the claims expense changes by quarter under each view. Candidates struggled if they had incorrect calculations in part a. Some received partial credit for calculating the amount of change but not commenting.*

Accounting view - Q1 had the lowest claims while Q3 had the highest. No identifiable trend quarter-over-quarter.

Actuarial view - relatively stable Q/Q movement. Slight increasing trend which is likely coming from medical inflation

- (c) Recommend the “view” that is most appropriate for your purpose. Justify your response.

**Commentary on Question:**

*Candidates did pretty well on this part. They generally understood that actuarial view should be the recommendation, and could give one or two reasons why.*

-Recommend Actuarial View.

-Claim amounts are potentially distorted by prior-period effects in Accounting view.

-Accounting view includes end-of-period estimates of quantities that become more certain with additional time (such as claim reserves estimate as of 12/31 vs actual claims runout that becomes known several months after 12/31).

- (d) List instances where the “actuarial view” of financial performance is more relevant than the “accounting view”.

**Commentary on Question:**

*Most candidates struggled to list more than one relevant instance, but the rubric asked for more. This is a list directly from the source material.*

- Experience-rated refund settlements for clients
- Risk sharing settlements with provider groups
- Risk corridor and remittance programs
- Pricing/Rate Filing