GH CORU Model Solutions
Spring 2017

1. **Learning Objectives:**

6. Evaluate the impact of regulation and taxation on companies and plan sponsors in the U.S.

Learning Outcomes:

(6b) Describe the major applicable laws and regulations and evaluate their impact.

Sources:

Bluhm Group Insurance 6th edition – Chapters 4, 16, & 18

Commentary on Question:

Generally speaking, the goal of this question was the test the candidates' understanding of how elements of the ACA impacted the insurance pricing market. Candidates performed well on the majority of the listing elements of the exam.

Solution:

(a) List the elements of the Triple Aim.

1. Better care for individuals
2. Better health for populations
3. Lower per-capita costs

(b) Describe the federal health care system laws enacted between 1964 and 1996 that helped serve individuals underrepresented in the health care system.

Commentary: *Candidates generally did not perform well on this question. Many candidates simply listed laws rather than describing how said laws helped serve the population. Additionally, many candidates listed laws that were outside the year corridor noted in the question.*

Civil Rights Act of 1964

- Addressed gender and pregnancy discrimination
- Employers must treat disabilities and medical claims that arise from pregnancy to the same extent as they are treated for any other disability

Americans with Disabilities Act

- Prohibits employers of more than 15 employees from discriminating based on disability in employment.
- A coverage limit may be in place, but a plan may not discriminate against disabled participants by selectively denying benefits to disabled members.

1. Continued

Newborns' and Mothers' Health Protection Act of 1996
- Required group health plans to extend coverage for hospitalization for childbirth.

Mental Health Parity Act of 1996
- Mandates parity in dollar limits for mental health benefits and medical-surgical benefits.
- Does not require health plan to offer the benefits; however, when the benefit is offered the benefits must at least be equal to those applicable to medical-surgical benefits of the same plan

(c) Describe the rating requirements imposed on Heartbreaker by the ACA effective January 1, 2014.

Commentary: *Candidates generally performed well on this question. Nearly all candidates were able to list the rating restrictions. However, to receive full credit additional requirements and commentary needed to be included.*

Guaranteed issue and renewability
- Health plans must accept every employer and individual in the state that applied for coverage

Pre-existing condition exclusion
- Plans and wellness programs may not impose any rules for eligibility base on health status, medical condition, claim experience, receipt of health care, or medical history

Rating restrictions
- Age limited to 3:1 ratio
- Geographic rating area
- Tobacco use limited to 1.5 times the nonsmoker rates

Waiting period limitations
- Waiting period may not exceed 90 days

(d) Determine which of the four employers are eligible to receive a small business tax credit under the ACA. Justify your response.

Only Employer A is eligible.

To be eligible the small business must have 25 of fewer employees with average annual wages of less than $50,000. In 2014, Employers must contribute as least 50% of the total premium cost for coverage purchased on Exchanges.

1. Continued

Employer A is eligible.
- < 25 employees
- Average annual wage < $50,000
- Employer contribution > 50%

Employer B is ineligible
- > 25 employees

Employer C is ineligible
- Average annual wage > $50,000

Employer D is ineligible
- Employer contribution < 50%

(e) Determine which employee(s) are eligible to receive a premium tax credit under the requirements of the ACA. Justify your answer.

Commentary: *Candidates generally did not perform well on this question. To receive full credit a candidate needed to calculate each individual's income relative to the FPL in addition to calculating their share of premium relative to their income. Many candidates only calculated the income to FPL relatively which resulted in partial credit assignments*

Cohorts B, D, and E are eligible because their premium exceeds 9.5% of income and their income is within the 133%-400% threshold

Cohorts A and C are ineligible since the premium relative to their salaries does not exceed 9.5% of their income

Cohorts are F and G are ineligible since their incomes exceed the 400% FPL limit, even though their premium exceeds 9.5% of income

2. Learning Objectives:

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

4. The candidate will understand how to describe Government Programs providing Health and Disability Benefits in the U.S.

6. Evaluate the impact of regulation and taxation on companies and plan sponsors in the U.S.

Learning Outcomes:

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

(4c) Describe benefits and eligibility requirements for Medicaid and Children's Health Insurance Program (CHIP).

Sources:

Risk Adjustment in State Medicaid Programs (HealthWatch article)

Kaiser Medicaid and the Uninsured

MACPAC expanding Medicaid

Solution:

(a) Discuss the strengths and limitations of various sources of data that could serve as the basis for risk adjustment models.

Commentary on Question: *In general, candidates did not perform well. Candidates frequently commented on the population underlying the data rather than the claims themselves.*

Outpatient Data

One strength of OP data is that it provides a more complete picture of relative morbidity even in the absence of IP admissions. On the other hand, OP data tends to be more susceptible to gaming than IP diagnosis data.

RX Data

In comparison to medical data, RX completes quickly which is a benefit for this type of data. However, caution should be exercised due to off-label prescribing and the rapid adoption of new drugs.

2. Continued

(b) The data available for the risk adjustment weights is from various states but does not represent your state. List adjustments that should be considered.

Commentary on Question:
Candidates in general did well on this section and demonstrated sufficient knowledge of the data limitations

Possible adjustments:

- Benefit carve-outs – state by state, mandated benefits will vary
- Geographic adjustments
- Demographic differences to include age and gender
- The number and type of eligibility categories and sub-categories
- The need or desire to include individuals with limited exposure

(c) Explain how enrollees in the individual market may be impacted by the ACA expansion of Medicaid in the state.

Commentary: *Most candidates were able to accurately describe the shift in eligibility and risk pool. Some candidates noted the reduction in members in the individual market may lead to less competition, which was also a response that earned credit.*

Individual members in the 100% FPL to 138% FPL will be now be eligible for Medicaid and no longer eligible for advanced premium tax credits

The risk pool of those in the individual market will be impacted due to a shift in the underlying risk.

As for the members who will now be enrolled in Medicaid, their financial barriers to access care will be lowered due to a reduction in cost sharing in comparison to the Individual market.

(d) Describe the characteristics of a Section 1115 waiver to expand the population, and identify how each element differs from expansion criteria set forth in the ACA.

Commentary on Question: *Most candidates were able to describe the Section 1115 waiver program, but stopped short of describing the flexibility it provides and the differences.*

Section 1115 waiver allows a state (upon Federal approval) to address their state's unique Medicaid circumstances provided budget neutrality can be achieved.

2. Continued

For example, a state may alter the populations covered from the criteria set forth in the ACA (residents below 138% FPL.) A state can choose to cover additional populations or create more restrictions.

Another difference is that states can alter the delivery system and provide coverage via exchange plans instead of directly through the Medicaid program.

3. Learning Objectives:

5. The candidate will understand how to prepare and interpret insurance company financial statements in accordance with U.S. Statutory Principles and GAAP.

Learning Outcomes:

(5a) Prepare a financial statement in accordance with generally accepted accounting principles.

Sources:

GAAP for Life Insurers; Group Insurance; ASOPs

Commentary on Question:

This question was intended for candidates to exhibit knowledge of a company's income statement and balance sheet. Candidates generally did well on parts a and b, however challenged with creating the financial statements that they described in part a. In part c and d, partial credit was assigned for showing knowledge. Credit was also given when candidates stated and used assumptions that reasonable and appropriate.

Solution:

(a) Describe the relationship between the income statement and the balance sheet, and their importance.

Commentary: *This question was looking for discussion on how balance sheet and income statement are related. Often candidates only listed information about the balance sheet and income statement but did not include any commentary about how a change in one could drive changes in the other.*

i. Net income (IS) is the change in net assets balance sheet (BS).
ii. Income (IS) adds to prior year capital and assets (BS).
iii. Income statement importance: Show revenue, expenses, taxes, and earnings over a certain time period.
iv. Balance sheet importance: Shows assets, liabilities, and surplus that an entity has at a certain point in time.

(b) Describe the criteria for inclusion of data on these financial statements.

Commentary: *Candidates generally did well on this question; partial credit was assigned when candidates listed criteria without a description.*

3. Continued

i. Definition: Must be either an asset, liability, revenue, or expense.
ii. Measurability: Must be a relevant attribute that is quantifiable with sufficient reliability.
iii. Relevance: Information about the item is timely, consistent, comparable, and meaningful in decisions.
iv. Reliability: Information is accurate, verifiable, and free of bias.

(c) Create a balance sheet and an income statement for ABC:

(i) For the 6 months ending 6/30/2016

(ii) For the 6 months ending 12/31/2016

Show your work and state any assumptions used.

Commentary: *Many candidates skipped this part of the question or struggled with creating the statements. Many correctly stated information about the balance sheet and income statement in part a but did not apply the information in part c. Partial credit was given when candidates showed knowledge of how to set up an income statement and a balance sheet, knowledge of checks (Equity= Assets – Liabilities; BS Equity=Owners capital + Retained /AFIT earnings from IS), knowledge of how to account for future liabilities, etc. If candidates stated reasonable assumptions and use their assumptions appropriately, credit was also given. For example, equal credit was given if a candidate chose to account for liabilities through an unearned premium reserve or through a claim reserve.*

3. Continued

VERSION 1:

		Income Statement For 6 months Ended 12/31/2015	Income Statement For 6 months Ended 06/30/2016	Income Statement For 6 months Ended 12/31/2016	Comments
Total Revenue		0	240,201	237,962	
	Premium	0	2,400,000	0	1,000 x $2,400 in 1st Income Statement; 0 afterwards
	Change in UPR	0	(2,280,000)	120,000	Change in UPR from Balance Sheet
	Interest	0	120,201	117,962	(Bank Balance + Interest from 6 months ago) x ((1 + 11%) ^ (Months / 12) - 1)
Total Claims & Expenses		0	159,000	159,000	
	Annuity Payments	0	150,000	150,000	1,000 x $25 x 6 Months
	Expenses	0	9,000	9,000	1,000 x $1.5 x 6 Months
BFIT Earnings		0	81,201	78,962	Total Revenue - Total Claims & Expenses
Tax (@ 35%)		0	28,420	27,637	Assume 35% (Give credit for other assumption)
AFIT Earnings		0	52,780	51,325	BFIT - Tax

		Balance Sheet As of 12/31/2015	Balance Sheet As of 6/30/2016	Balance Sheet As of 12/31/2016	Comments
Assets		0	3,364,201	3,320,162	
	Bank (before Interest)	0	2,244,000	2,082,000	Prior Bank Balance + Premium - Annuity Payments - Expenses (Pro Rated for 4 month Period)
	Cash from Interest	0	120,201	238,162	Sum of Cash generated by Interest from Income Statement
	Fixed Assets	0	1,000,000	1,000,000	$1M from initial capital injection
Liabilities		0	2,311,420	2,216,057	
	UPR	0	2,280,000	2,160,000	Original Premium Collected x Months Elapsed / (12 x 10)
	Expenses Payable	0	3,000	0	1/3rd of Expenses in 1st 6 months are not yet paid
	Tax Payable	0	28,420	56,057	
Net Assets		0	1,052,780	1,104,106	Assets minus Liabilities
Equity					
	Retained Earnings	0	52,780	104,106	From Income Statement
	Owner's Capital	0	1,000,000	1,000,000	$1M from owner
Total Equity		0	1,052,780	1,104,106	Total Equity should match Total Net Assets
	Difference	0	0	0	

(d) Create an updated balance sheet for ABC as of 12/31/2016 immediately after the transaction. Show your work and state any assumptions used.

Commentary: *Many candidates did not even attempt this part of the question. Partial credit was given for candidates who showed knowledge of the concept.*

3. Continued

		Balance Sheet
		As of
		12/31/2016
Assets		4,716,056
	Goodwill	1,095,894
	Bank (before Interest)	2,082,000
	Cash from Interest	238,162
	Fixed Assets	1,300,000
Liabilities		2,216,057
	UPR	2,160,000
	Expenses Payable	0
	Tax Payable	56,057
Net Assets		2,500,000
Equity		
	Retained Earnings	104,106
	Owner's Capital	2,395,894
Total Equity		2,500,000
	Difference	0

4. Learning Objectives:

6. Evaluate the impact of regulation and taxation on companies and plan sponsors in the U.S.

Learning Outcomes:

(6b) Describe the major applicable laws and regulations and evaluate their impact.

Sources:

Rosenbloom Chapter 25

Commentary on Question:

This question was intended to test candidates' knowledge of Section 125 cafeteria plans. Candidates were expected to know the individual tests and then apply them using the data supplied. Finally, candidates were expected to understand possible solutions in the event that a benefit plan is non-compliant and again, calculate the amount of benefit change required to bring the benefit plan into compliance.

Solution:

Evaluate whether the Hamilton benefits plan qualifies as non-discriminatory, and recommend actions, if needed, to achieve compliance. Show your work.

1.) Eligibility Test

All employees are eligible within 31 days so they meet criteria of not having to wait more than 3 years (since ACA changed this to 90 days, either answer was accepted)

Hamilton also passes the safe harbor test

2.) Benefits and Contributions Test

Total benefits as % of compensation must not be higher for HCEs than non HCEs. HCE's includes Key Employees and Highly Compensated (non-key) employees.

Total Benefits as % of Compensation - must not be higher for HCEs than for non-HCEs

	Compensation	Total Benefit	%	
HCE/Key	100,000,000	13,872,000	13.87%	
Other FT	700,000,000	93,168,000	13.31%	FAIL

Employer contribution as % of compensation must not be higher for HCEs than non HCEs.

Employer Contributions as % of Compensation - must not be higher for HCEs than non-HCEs

	Compensation	ER Contribution	%	
HCE / Key	100,000,000	10,104,000	10.10%	
Other FT	700,000,000	84,768,000	12.11%	PASS

4. Continued

Since benefits test fails, Hamilton should do one of the following:

Increase other FT employee benefits:

	Compensation	Total Benefit	%		
HCE/Key	100,000,000	13,872,000	13.87%		
Other FT	700,000,000	93,168,000	13.31%	FAIL	
Other FT @ HCE/KEY	700,000,000	97,104,000	13.87%		
Difference		3,936,000	required **increase** in Other FT benefits to comply		
		$ 32.80	PMPM		

Or

Reduce Key/HCE benefits:

	HCE/Key	100,000,000	13,872,000			
OR	HCE/Key @ Other FT	100,000,000	13,309,714	13.31%		
	Difference		562,286	required **reduction** in HCE/Key benefits to comply		
			$ 78.10	PMPM		

3.) Key Employee Contribution Test

Non-taxable benefits to key employees cannot exceed 25% of aggregate benefits to all employees

					Total
	Non-Life	Total Life	% Below 50K	$$ Below 50K	Non-taxable
Key Employees	1,384,800	1,740,000	25%	435,000	1,819,800
Highly Compensated (non-Key)	5,563,200	5,184,000	30%	1,555,200	7,118,400
All Other Full Time	79,728,000	13,440,000	70%	9,408,000	89,136,000
Total	86,676,000	20,364,000		11,398,200	98,074,200
				Key as % of Tot	1.9%

Hamilton passes the Key Employee Contribution Test.

4. Continued

Commentary on Question:
In general, candidates scored very well on test #1, but many did not mention the safe-harbor percentage test.

For the most part, candidates struggled on test #2 – most were able to recognize what the tests were and how to explain them, but struggled to do the calculations correctly, which is a significant portion of the question; however, candidates were given partial credit for correctly calculating certain areas of the calculation. Many candidates did the calculations incorrectly, but still developed the correct pass/fail conclusions, and were given partial credit for this. Finally, some candidates calculated benefits on a monthly basis (as they were given in the problem) and divided by an annual salary amount, so their final answers were off by a factor of 12. A good portion of credit was given to candidates who did this, since they still displayed a strong understanding of the intent of the question and the ability to calculate the answer with the appropriate benefits.

For test #3, some candidates did not mention that the test looks at "non-taxable" benefits and did not attain points if explaining the test without this qualifier. Very few candidates calculated the correct answer, but for those that recognized the test, correctly described it and noted a pass, half credit was given.

5. Learning Objectives:

4. The candidate will understand how to describe Government Programs providing Health and Disability Benefits in the U.S.

Learning Outcomes:

(4c) Describe benefits and eligibility requirements for Medicaid and Children's Health Insurance Program (CHIP).

Sources:

ASOP 49

Medicaid 101 MACPAC (Delivery Systems & Waivers)

Payment Reform Under the Medicare-Medicaid Financial Alignment Demonstrations, Health Watch, May 2013

Medicaid & LTSS: A Primer

Solution:

(a) Describe necessary data adjustments to experience as outlined in ASOP 49.

Commentary: *Most candidates were successful in listing the adjustments described below. To receive maximum credit, a brief description to support each item was necessary. Restating the item as a description did not receive credit (e.g. incomplete data adjustment – adjust for data that is not complete)*

Missing Data Adjustment

- Certain claims are not processed through the same system as the base data
- Medicaid fee-for-service data may not include all services or expenses to be covered by the capitation rate
- Medicaid encounter data may not reflect services that are sub-capitated and not reported through the encounter data system.

Incomplete Data Adjustment

- 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

- 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

5. Continued

Funding or Service Carve-Out Adjustments

- Not the financial responsibility of the MCO
- Funding carve-outs may include graduate medical education payments, disproportionate share hospital payments, or provider taxes.
- Service carve-outs reflect services that will not be covered by the capitation rate.

Retroactive Eligibility Adjustments

- The retroactive eligibility adjustment reflects the exclusion of periods of retroactive eligibility, if any, that are not the responsibility of the MCO

Program, Benefit, or Policy Adjustments

- Reflect 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

- Addresses anomalies or distortions in the base data, such as large claims or limited enrolment

(b) In the Financial Alignment Agreement, Kentucky is considering a move from Fee-for-Service to Managed Care:

(i) Describe Medicaid Managed Care delivery systems.

(ii) Describe the federal waiver required to move from Fee-for-Service to Medicaid Managed Care.

Commentary on Question:
Half the credit was awarded for candidates correctly identifying the delivery systems and federal waiver. The other half was dependent on providing at least one supporting description for each, as described below. Most candidates who were able to identify the correct systems & waiver were successful in describing them.

Part (i)

Comprehensive Risk Based Managed Care

- States contract with managed care plans to cover all or most Medicaid-covered services for their Medicaid enrollees.
- Plans are paid a capitation rate, a fixed dollar amount per member per month, to cover a defined set of services.
- The plans are at financial risk if spending on benefits and administration exceed payments; conversely, they are permitted to retain any portion of payments not expended for covered services and other contractually required activities.
- Many state Medicaid managed care programs have one or more benefits—such as behavioral health services, oral health services, nonemergency transportation, or prescription drugs—that are carved out and provided separately through FFS or by limited-benefit plans

5. Continued

Primary Care Case Management (PCCM)

- In a PCCM program, enrollees have a designated primary care provider who is paid a monthly case management fee to assume responsibility for managing and coordinating their basic medical care.
- Individual providers are not at financial risk in these arrangements and continue to be paid on a FFS basis.
- Several states have enhanced their PCCM programs with targeted care monitoring and chronic illness management to specific enrollees with high levels of need, and by incorporating performance and quality measures and financial incentives for providers.

Limited-benefit plans

- Most states contract with limited-benefit plans to manage specific benefits or to provide services for a particular subpopulation such as inpatient mental health or combined mental health and substance abuse inpatient benefits, non-emergency medical transportation, oral health, or disease management.

Part (ii)

Freedom of choice: Section 1915(b) Waiver

- Section 1915(b) waivers permit states to implement service delivery models (e.g. those involving managed care plans) that restrict choice of providers other than in emergency circumstances
- States can also use Section 1915(b) to waive statewideness requirements (e.g. to provide managed care in a limited geographic area) and comparability requirements (e.g. to provide enhanced benefits to managed care enrollees).
- Generally approved for an initial two years with two-year renewal periods. For those dually enrolled in Medicare and Medicaid, five-year approval and renewal periods are available.

(c) The Alignment Agreement stipulates that there will be health care cost savings as a result of adopting the program.

(i) List the sources of potential savings from a capitated dual-eligible demonstration program and provide an example of each.

(ii) Outline the savings development process.

Commentary on Question:
Most candidates were successful on the first part. Very few candidates were successful in outlining the savings development process, specifically with respect to identifying CMS's role in it. This process, as outlined below, is also described in detail in the reading material – the May, 2013 Health Watch reading, Payment Reform Under the Medicare-Medicaid Financial Alignment Demonstrations.

5. Continued

Part (i)

Acute Care

- Coordinate treatment of multiple chronic conditions.
- Better manage ambulatory sensitive admissions to reduce avoidable emergency room visits and inpatient admissions or readmissions.

Behavioral Health

- improved coordination between services covered by Medicare vs those covered only by Medicaid emphasizing community-based care.

Long Term Care

- delaying members' entry into nursing home facilities through the increased use of home- and community-based waiver services discouraging unnecessary inpatient hospital admissions from the nursing facility

Administrative Costs

- Increased enrollment over which to spread fixed administrative costs.
- Reduced marketing costs & changes to administrative processes that reduce costs.

Part (ii)

1. CMS will provide preliminary savings calculations developed by its actuarial contractors to each state.
    - The savings calculations are based on a consistent set of assumptions derived from an extensive literature review of the financial impact of care management activities on similar populations for each source of savings discussed above.
    - These savings assumptions are applied to actual historical Medicare and Medicaid utilization and cost data for each group of individuals eligible for the demonstration in a particular state to calculate the preliminary savings.
    - The savings percentages have the potential to vary by state, depending on program characteristics, including:
        - Populations included under the demonstration (for example, seniors not eligible for nursing home care, nursing home eligibles only, dual-eligible enrollees under the age of 65, etc.)
        - Services covered under the demonstration and other program structure differences.
        - Penetration of managed care prior to the implementation of the demonstration program.
        - Historical acute care and long-term care utilization patterns of the targeted population.

2. CMS and each state will then establish the applicable savings percentages for each year of the demonstration, with the percentages expected to increase each year

5. Continued

3. The same savings percentages will be applied to both the Medicare Part A/B and Medicaid components of the capitation rates.

- The actual savings are likely to accrue disproportionately between Medicare and Medicaid services
- For purposes of the demonstration, CMS considers the existing Medicaid capitation actuarial soundness requirements to be flexible enough to consider differing efficiencies and savings that may be associated with Medicare versus Medicaid services.
- Therefore, CMS does not believe a waiver of Medicaid actuarial soundness principles is necessary.

(d) A large portion of dual eligible care costs are for long term care.

(i) Describe Long Term Services and Supports (LTSS) and identify who delivers and pays for these services.

(ii) Discuss the rationale for developing an alignment program between Medicare and Medicaid for the provision and payment of LTSS.

Commentary on Question:
Most candidates were successful identifying the components of LTSS as requested in the first part of the question. Responses to the second part of the question were more vague than that provided in the reading material.

Part (i)

What are LTSS?

- Provide assistance with activities of daily living and instrumental activities of daily living
- Nursing facility care
- Adult day care
- Home health aide services
- Personal care Services
- Transportation
- Supported employment
- Assistance by family care giver

5. Continued

Who delivers LTSS?

- Institutions - nursing facilities, intermediate care facilities
- Home and Community Based Settings
- Unpaid family caregivers
- Paid LTSS by direct care workers

Who pays for LTSS?

- Costs often exceed what individuals and families can afford
- LTSS are financed with private and public dollars; mostly by publicy financed health insurance programs
- Private LTC typically inaccessible to all due to high prices

Part (ii)

- As of 2011, almost 10 million beneficiaries – known as "dual eligibles" – were enrolled in both Medicaid and Medicare, with Medicaid paying for the majority of their long-term services and supports costs.14
- Goal: to better integrate and coordinate primay, acute, BH and LTSS for this vulnerable beneficiary population
- Medicaid is the primary payer of LTSS
- Medicare covers both acute care (such as physician visits) and post-acute services (such as skilled nursing facility care) for people who have a qualifying work history and (1) are age 65 or older; (2) are under age 65 and have been receiving Social Security Disability Insurance for more than 24 months; or (3) have end-stage renal disease or Amyotrophic Lateral Sclerosis.
- Under Medicare, LTSS coverage is limited. Home health services are only covered for beneficiaries who are homebound, and personal care services are not covered by Medicare. Post-acute nursing facility care is covered for up to 100 days following a qualified hospital stay.

6. Learning Objectives:

5. The candidate will understand how to prepare and interpret insurance company financial statements in accordance with U.S. Statutory Principles and GAAP.

Learning Outcomes:

(5b) Interpret the results of both statutory and GAAP statements from the viewpoint of various stakeholders, including regulators, senior management, investors.

Sources:

Higgins Ch 1, Pages 16-23

Commentary on Question:

This question tested the candidates' knowledge of the Sources & Uses and Cash Flow statements. To receive full credit the candidate had to apply their knowledge to create both statements from the information given in the Case Study. Most candidates were not able to do that and therefore did poorly on the question as these 2 statements accounted for a significant portion of the question. Many candidates attempted to create a Sources and Uses statement from the Income Statement and listed sources of cash as Premiums and uses of cash as Benefits. It was clear that many candidates were not familiar with a Sources and Uses statement. Candidates did better on the second half of the question where they could list pros and cons of each type of statement.

Solution:

(a) Create a sources and uses statement for Royale for 2013. Show your work.

A Sources & Uses statement is created from the changes in Balance Sheet items.

Sources (decrease in Assets; increase in Liability / Equity)	
Changes in Cash & Equivalents	481
Changes in Other Current Assets	117
Changes in Assets Held for Sale	42
Changes in Other Intangible Assets	24
Changes in Accounts payable and accrued expense	324
Changes in Short Term Borrowing	177
Changes in Deferred tax liability, net	130
Changes in Paid in Capital - Common Stock	118
Changes in Retained Earnings	1563
Changes in Accumulate Other Comp Income	172
Total Sources	3148

6. Continued

Uses (increase in Assets; decrease in Liability / Equity)	
Changes in Fixed maturity security	1037
Changes in Equity Services	320
Changes in Accrued invest Income	10
Changes in Premium Receive	110
Changes in Other Receivables	98
Changes in Long term Invest	47
Changes in Net Property plant, & Equip	82
Changes in Goodwill	29
Changes in Other Noncurrent Assets	159
Changes in Total Policy Liabilities	135
Changes in Unearned income	64
Changes in Current Portion of Long Term Debt	22
Changes in Other Current Liabilities	53
Changes in Long term debt less current portion	868
Changes in Reserves for future policy benefits	6
Changes in Other non-current Liabilities	108
Total Uses	3148

Sources = Uses

(b) Create a cash flow statement for Royale for 2013. Show your work.

CASH FLOW STATEMENT – ROYALE	**USD (000's)**
Cash Flows from Operating Activities	
Net Income	1,114
Adjustments to reconcile Net Income to Net Cash	
Depreciation & Amortization	298
Change in Deferred Income Tax Liability	130
Change in Current Assets & Liabilities	
Change in Current Assets (excl Cash)	(1,416)
Change in Current Liabilities	227
Net Change in FPB Liabilities	(6)
Net Cash from Operating Activities	**347**

6. **Continued**

Cash Flows from Investing Activities	
Capital Expenditures (Change in Fixed/LT Assets)	(591)
Return on Investment	449
Net Cash from Investing Activities	**(142)**

Cash Flows from Financing Activities	
Change in LT Debt & Other Non-Current Liabilities	(976)
Cash Received from Common Stock	118
Change in Other Comprehensive Income	172
Net Cash from Financing Activities	**(686)**

Beginning Cash Balance	**2,210**
Net Change in Cash	**(481)**
Ending Cash Balance	**1,729**

(c) Explain why an analyst might prefer a cash flow statement over a sources and uses statement.

- A Sources & Uses statement is generally just a starting point for attempting to understand the Cash Flow statement.
- Cash Flow Statements go into more detail and present the information in intuitive categories (Investing/Operating/Financing activities)
- Cash flow statements are easier to understand.
- Cash flow statements provide more information about certain activities, such as the tax effects of employee stock options, than Sources & Uses statements do.

(d) Discuss the benefits and drawbacks of assessing Royale's financial performance using only a cash flow statement.

Benefits

- Cash flow statements are less prone to manipulation than Net Income from the Income statement.
- Simple Cash Flow statements are relatively easy to understand, and therefore, useful to those with less exposure to or familiarity with accrual accounting.
- Cash flow statements highlight which operations within the company generate and/or consume cash and give an overview of its solvency position.

6. Continued

Drawbacks

- A Cash Flow statement by itself does not explain whether the company has made a profit in any given year. Royale's cash position is worsening while it made positive Net Earnings in 2013.
- Most of the information contained in a Cash Flow statement can already be gleaned from a careful study of the company's income statement and balance sheet.
- Many conflicting definitions of "cash flow" exist today (Net Cash Flow, Discounted Cash Flow, Free Cash Flow), so it may be difficult to interpret it without further clarification.

7. Learning Objectives:

7. The candidate will understand and evaluate Retiree Group and Life Benefits in the United States.

Learning Outcomes:

(7c) Determine employer liabilities for retiree benefits under various accounting standards.

(7e) Apply actuarial standards of practice to retiree benefit plans.

Sources:

ASOP 6

GHC-816-16 US Employers' Accounting of Postretirement Benefits other than Pensions

Commentary on Question:

The question is testing the candidate's knowledge of ASOP 6 procedures to follow when measuring retiree group benefits obligations. It also tests the candidate's ability to determine employer liabilities for retiree benefits under various accounting standards. Further comments are provided for each sub-part.

Solution:

(a) List the general procedures an actuary should follow when measuring retiree group benefits obligations.

Commentary: *This is a list question. Any eight or more of the items would earn full credit. This question was asking for the general procedures from section 3 of ASOP 6. Many candidates provided items from the intended list, but many did not. Some candidates interpreted "general procedures" more generally. They received some credit.*

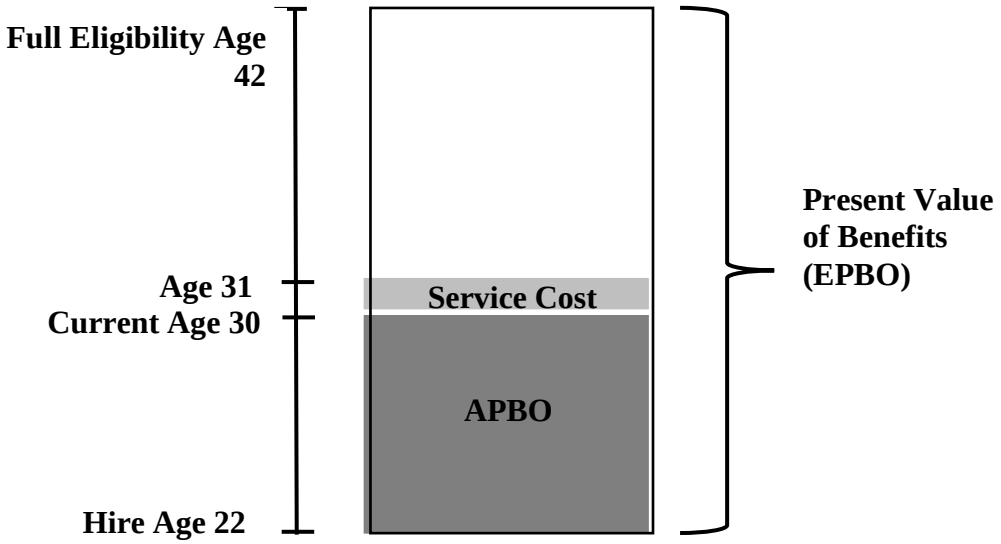
- identify the purpose of the measurement
- identify the measurement -date
- develop a model that represents the provisions, population, and benefit costs
- evaluate the data and make appropriate adjustments
- identify administrative inconsistencies and make appropriate adjustments
- obtain from the principal other necessary information
- select actuarial assumptions
- evaluate retiree group benefits assets
- consider how to measure accrued or vested benefits
- consider how to measure market-consistent present values
- reflect how assets as of the measurement date are reported
- select an actuarial cost method
- select a cost allocation procedure or contribution allocation procedure

7. Continued

- assess the implication of the contribution allocation procedure or plan sponsor's funding policy
- consider the use of approximations or estimates
- consider the sources of significant volatility
- review and test the results for reasonableness
- evaluate prescribed assumptions and methods set by another party

(b) Draw a diagram illustrating the relationship between the APBO and EPBO for a Live Twice Inc. active union employee, age 30 with 8 years of service.

Commentary: *The study note on accounting for postretirement benefits contained a diagram. Candidates also received credit for any reasonable illustration that captured the elements noted. Many candidates allocated the EPBO to the period up to retirement at age 60, rather than up to full eligibility at age 42.*



(c) Calculate the following as of the beginning of 2015 for active employees:

(i) APBO

(ii) Expected Service Cost

Show your work.

7. Continued

Commentary: *The calculation is very similar to one in the text. Many candidates allocated the EPBO to the period up to age 60 rather than age 42, so incorrectly calculated the APBO and service cost. Candidates received partial credit for progress toward a solution. Writing formulas and clearly showing work helped significantly in earning partial credit. The case study stated that the census was for 2014; candidates needed to assume the census was as of the beginning of 2015.*

(a)	(b)	(c)	(d)	(e)	(f)	(g) = 60 - (b)	(h) =1.05 ^ - (g)	(i) = (a) * (e) * (f) * (h)	(j) =MIN(1, (c) / (d))	(k) = (i) * (j)	(l) = if ((c) < (d), (i) / (d), 0)
Headcount	Age (Years)	Service (Years)	Attribution Period	APV Future Cost at 60	Survival	Years to retirement	Discount factor	EBPO	Attribution Factor	ABPO	Service Cost
225	30	8	20	$ 59,000	0.80	30	0.23	$2,457,229	0.40	$ 982,891	$ 122,861
110	40	14	20	$ 59,000	0.83	20	0.38	$2,030,191	0.70	$1,421,133	$ 101,510
70	50	22	20	$ 59,000	0.87	10	0.61	$2,205,852	1.00	$2,205,852	$ -
Total								$6,693,271		$4,609,877	$ 224,371

(d) Calculate the following as of the end of 2015 for active employees:

(iii) APBO

(iv) NPPBC

Show your work.

Commentary: *The calculation is very similar to one in the text. Candidates struggled on this part. NPPBC "as of the end of 2015" should be interpreted as "2015 NPPBC". It was intended that the actuarial loss of $550,000 begins to be amortized in 2015, although the text indicates that amortization wouldn't begin until 2016. Almost all candidates began amortization in 2015. Candidates who noted that amortization wouldn't begin until 2016 received full credit for the amortization piece.*

Interest expense = i_rate x [APBO_BOY + service cost – benefit payments / 2]

APBO BOY	**4,609,877**
Service Cost	224,371
Benefit Payments	-
Interest Expense	**241,712**

7. Continued

APBO BOY	**4,609,877**
+ Service Cost	224,371
- Benefit Payments	-
+ Interest Expense	241,712
+ Prior Service Costs	-
- Settlements	-
+ Curtailment (Gains)/Losses	-
+ Actuarial (Gains)/Losses	550,000
=APBO EOY	**5,625,960**

Amortization of Unrecognized Amounts:

Actuarial (Gains)/Losses =	550,000
10% of APBO =	460,988

Unrecognized net gain / loss exceeds 10% of APBO, so the excess must be amortized.

Amortize G/L exceeding 10% of the larger of (Assets, APBO)

Minimum Amortization:	89,012

From Case Study				# Expect	
Headcount	Age (Years)	Years to 60	P(60)	Rec. Benefits	Life-years
225	30	30	0.80	180	5,400
110	40	20	0.83	91	1,826
70	50	10	0.87	61	609
				332.2	7,835
Average remaining service period of active members expected to receive benefits:				**Average**	**23.59**

expected to receive benefits for age 30 = 180 = headcount * P(60) = 225 x 0.80
Life-years for age 30 = 5,400 = # expected to receive benefits for age 30 * years to 60 = 180 * 30

Amortization = $89,012 / 23.59 = $3,774

+ Service Cost	224,371
+ Interest Cost	241,712
- Return on Assets	-
+ Amortization of Unrecognized Amounts	3,774
NPPBC =	**469,857**

8. Learning Objectives:

5. The candidate will understand how to prepare and interpret insurance company financial statements in accordance with U.S. Statutory Principles and GAAP.

Learning Outcomes:

(5a) Prepare a financial statement in accordance with generally accepted accounting principles.

(5b) Interpret the results of both statutory and GAAP statements from the viewpoint of various stakeholders, including regulators, senior management, investors.

Sources:

Group Insurance, 6th edition, Chapter 21
Higgins, Chapter 3
AAA white paper, "Financial Reporting Implications Under the Affordable Care Act"

Commentary on Question:

While the question seems to be straight forward, most candidates failed to understand how to do compare and contrast and very few know how to do the calculations for revised premiums to include HIP.

Solution:

(a) Describe the adjustments needed to restate accounting from a statutory basis to a GAAP basis.

Commentary on Question: This is a list type question and most candidates did well. Full credit was given for any 4 of the following points.

- Removal of some of the conservatism in reserving assumptions (GAAP reserves still include some conservatism, referred to as "provision for adverse deviation");
- Full recognition of deferred taxes;
- Recognition of the market value of most assets;
- Recognition of lapses in reserves;
- Capitalization of deferred acquisition costs;
- Recognition of all receivables and allowances; and
- Removal of the AVR and IMR.
- The focus of GAAP is on the income statement, while statutory financial reporting in the U.S. emphasizes solvency and produces a conservative valuation of both assets and liabilities.
- GAAP financial reporting attempts to match the incidence of revenues and expenses, while statutory financial reporting tends to accelerate expense recognition and delay revenue recognition (or at least offset revenue recognition with corresponding liabilities, producing the same effect).

8. Continued

- Statutory financial reporting attempts to determine the value of the insurer if it were forced to liquidate. GAAP financial reporting attempts to determine the value of the insurer on a going concern basis.
- In addition, the conservative assumptions required in many statutory reserve items can be replaced by a much less conservative GAAP margin for adverse deviation.

(b) Describe some of the methods available to help quantify the uncertainty surrounding a financial forecast.

- Sensitivity Analysis
  - Systematically change one assumption, and see how the forecast responds.
  - The simplest technique.
- Scenario Analysis
  - Considers a scenario that could plausibly befall the company, then reviews/revises *multiple* assumptions in light of the scenario.
  - Produces a limited number of detailed projections that describe the range of contingencies the company faces.
  - Superior to sensitivity analysis in that assumptions seldom err one-at-a-time.
- Simulation
  - Computer-assisted extension of sensitivity analysis.
  - Assigns probability distribution to each uncertain element in the forecast.
  - Allows all uncertain input variables to change at once.
  - Results can be hard to interpret
  - Too much "planning" is done inside a computer.

(c)

(i) Compare and contrast the three financial forecasting techniques.

(ii) Recommend which technique is most suitable to present to a credit rating agency. Justify your response.

Commentary: Candidates did fair in general but most did not point out the similarities.

- Similarities
  - If the assumptions are the same, each method produces the same result
  - None of the methods are biased by inflation.
- Differences
  - Pro Forma
    - Principal means by which operating managers can predict the financial implications of their decisions.

8. Continued

        - Prediction of what the company's financial statements will look like at the end of the forecast period.
        - Often based on percent-of-sales forecasts
        - Generate forecasts that are strictly applicable only on the forecast date and thus require care when dealing with seasonal business.
    - Cash Flow Forecast
        - Projects external funding required as the difference between anticipated sources and uses of cash over the forecast period.
        - Less informative than pro forma statements
    - Cash budgets
        - Projects the change in cash balance over the forecast period as the difference between anticipated cash receipts and disbursements.
        - Relies on cash rather than accrual accounting.
        - Commonly used for short-term forecasts
        - Less informative than pro forma, but easier to understand
- Recommendation
    - Recommend a pro forma statement
    - It is the most formal method
    - It presents information in a form suitable for additional financial analysis.
    - It is a great platform for effective financial planning where management carefully analyzes their forecast to decide if it is acceptable or whether it must be changed to avoid identified problems.

(d) Explain how ACA risk-adjustment will increase the uncertainty surrounding XYZ's financial statements.

Commentary: Many candidates listed the point but did not provide details. Full credit was given only if details were provided.

- *Uncertainty as to the issuer's own risk score.*
    - Risk-adjustment is concurrent, thus the insurer will not have all relevant data at year-end.
    - Projecting IBNP claims would require new methodologies to be developed – substantial uncertainty exists around the validity of the arising estimates.
- *Uncertainty as to other issuer's risk scores*
    - Perhaps the largest uncertainty
    - Ultimate payment is based on the relative relationship between its aggregate risk score and the risk scores for those of all issuers participating in that risk-adjustment cell.
    - Issuer will need to take a position as to what it thinks the aggregate risk score across the entire risk-adjustment cell.
    - Changes by one issuer in information reported or how information is classified can impact significantly the risk-adjustment estimates for all issuers.

8. Continued

  - This uncertainty will be greater in 2014 than in subsequent periods.
- *Uncertainty as to member exposure*
  - Issuers are required to extend the premium grace period from 30 days to 90 days for any member receiving a premium subsidy on the exchanges.
  - Thus it is less clear at year-end which of the issuer's members have remained through the entire year.
- *Granularity of the calculation*
  - Commercial risk-adjustment is not a single national calculation but rather a series of separate calculations for each risk-adjustment cell.
  - Complicates the modeling required to perform effective estimates of commercial risk-adjustment balances.
- *Implications of data reviews*
  - The regulations call for a data validation review that could lead to payment adjustments.

(e) Explain why it may be difficult for XYZ to accurately project 2017 claims using 2012 experience.

Commentary: M*any candidates failed to provide and explain the details hence did not receive full credit.*

- *Considerable uncertainty around the morbidity level of issuer's insured members. (Change in mix)*
  - Many new members who were previously uninsured.
  - Shifts in membership across multiple markets (individual, small group, large group, Medicare Advantage, Medicaid)
- *Changes in plan design*
  - Average benefit level will be higher in 2014 than in the past due to minimum actuarial value and essential health benefit requirements.
  - Group business could see the opposite effect, with silver plans becoming the de factor benchmark.
  - Low-income cost-sharing subsidies
  - Will affect reserving techniques.
- *Increased provider risk sharing*
  - Issuers will have to determine provider incentive liabilities for amounts owed to providers under gain sharing.
  - If claims exceed targets, issuers need to decide whether to set up a receivable or cut off claim payments.
  - Provider solvency becomes an issue.
- *Intra-year Prior Period Reserve Development*
  - Should be expected to be significant in periods immediately following a large change in the risk pool.
  - Over time, will diminish to historic levels.
  - Can be offset by risk corridor and minimum loss ratio.

8. Continued

- *Implementation of ICD-10*
  - Transition to ICD-10 could lead to longer lag times and greater volumes of pended claims – due to coding errors and questions.
  - Will further add to the volatility.
- *Any other valid arguments.*

(f) Restate the forecast with the HIP Fee and calculate the change in premium needed each year for XYZ to have a 2.0% AFIT profit margin. Show your work.

Commentary: *Majority of the candidates failed to identify HIP Fee as non tax-deductable expense nor did they include the change of HIP fee in the calculations.*

- HIP Fee is not a tax-deductible expense.
- Calculation:

P = Original Premium, C = Original Claims, E = Original Expenses, T% = Tax Rate

(P – C – E) * (1 – T%) – HIP = AFIT Profit

Assume HIP fee changes by "y" and you have to change Premium by "x".

(P + x – C – E) * (1 – T%) – (HIP + y) = AFIT Profit

We want AFIT Profit / (P + x) = 2%

In other words, AFIT Profit = (P + x) * 2%

(P + x – C – E) * (1 – T%) – (HIP + y) = (P + x) * 2%

Rearranging this equation, we get:

P + x = [(HIP + y) + (C + E) * (1 – T%)] / (1 – T% – 2%)

Hence, the change in Premium needed each year is:

x = [(New HIP Fee) + (Claims + Expenses) * (1 – 35%)] / (1 – 35% - 2%)

2017: x = +1,783,333

2018: x = +2,617,460

2019: x = +2,857,937

- *If candidate provides % change that lines up with the $ amount changes above, give credit where appropriate.*
- *2 pts for recognizing HIP Fee is not tax-deductible*
- *4 pts for correctly setting up the calculation formulae to link Premium to AFIT %*
- *2 pts for interim steps in the calculation*
- *2 pts for getting part-way towards correct answers*
- *2 pts for getting all 3 correct answers*

8. Continued

The updated income statement will look like this (*candidate does not have to reproduce income statement in part (f) to get full points*):

All figures in US$	**2017**	**2018**	**2019**
Premium	76,783,333	112,317,460	123,107,937
Claims	64,080,000	94,030,000	103,270,000
Gross Margin	12,703,333	18,287,460	19,837,937
Expenses	8,610,000	12,300,000	13,275,000
HIP Fee	1,125,000	1,645,500	1,803,750
Total Expenses	9,735,000	13,945,500	15,078,750
BFIT Profit	2,968,333	4,341,960	4,759,187
Tax	1,432,667	2,095,611	2,297,028
AFIT Profit	1,535,667	2,246,349	2,462,159
Effective Tax Rate	48.3%	48.3%	48.3%
AFIT Profit Margin	2.00%	2.00%	2.00%

(g) Create the updated income statements for years 2018 and 2019.
Show your work.

Commentary: *Most candidates failed to identify HIP Fee as non tax-deductable expense nor did they take out tax for the calculations.*

- *Candidate has to recognize that federally exempt companies pay half as much HIP.*
- *2 pts for Removing 2018 & 2019 Tax*
- *2 pts for Halving HIP Fee because of tax exemption*

8. **Continued**

All figures in US$	**2017**	**2018**	**2019**
Premium	76,783,333	112,317,460	123,107,937
Claims	64,080,000	94,030,000	103,270,000
Gross Margin	12,703,333	18,287,460	19,837,937
Expenses	8,610,000	12,300,000	13,275,000
HIP Fee	1,125,000	822,750	901,875
Total Expenses	9,735,000	13,122,750	14,176,875
BFIT Profit	2,968,333	5,164,710	5,661,062
Tax	1,432,667	0	0
AFIT Profit	1,535,667	5,164,710	5,661,062
Effective Tax Rate	48.3%	0.0%	0.0%
AFIT Profit Margin	2.00%	4.60%	4.60%

9. Learning Objectives:

3. Evaluate and recommend an employee benefit strategy.

Learning Outcomes:

(3a) Describe employer's rationale and strategies for offering employee benefit plans.

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

Sources:

Canadian Handbook of Flexible Benefits, McKay, 3rd Edition, Chapter 7

The Handbook of Employee Benefits, Rosenbloom, 7th Edition, Chapters 7, 25, 32

Solution:

(a) Explain the advantages of a health savings account over other forms of individual accounts in the United States.

Commentary: *Candidates generally performed well on this part, and were able to list benefits of a health savings account. A variety of answers was acceptable, with some of the most common responses included below. Since the question asked candidates to explain, more than a one word list was expected. For example, if candidates just listed the word "rollover" without explanation, no credit was awarded. Some candidates included information on spending accounts in Canada, which was not asked for.*

In the United States, an HSA has the following advantages:

- HSA allows contributions from both employee (EE) and employer (ER)
  - By contrast, HRA only allows ER contributions, and FSA usually is only EE contributions via salary reduction
- Unused HSA funds carry over from year to year indefinitely
  - By contrast, FSAs are "use it or lose it" each year
- HSA funds can be used for more than just qualified medical expenses, though a 20% penalty tax applies
- HSA funds can be invested and grow tax free
- HSA funds are portable to EE if they change jobs

(b) Compare and contrast major features of health spending accounts in Canada with health savings accounts in the United States.

9. Continued

Commentary: *Since this portion of the question was the bulk of the points, it was expected that candidates included more than one topic for comparison. Candidates needed to clearly state the specifics of how each item worked in Canada and the US. Partial credit was given if a candidate correctly identified a detail for one country, but not the other. Blanket statements that were stated to apply to both countries where the information was wrong in one country did not receive any credit. Candidates did not have to include everything below, but these were some examples of acceptable answers.*

There are several aspects of these accounts that vary between Canada and the US.

1. Who Can Contribute
CANADA: Usually, only ER. But bonus-eligible EE's may allocate some bonus towards it
US: EEs and ERs may contribute. An HSA requires an HDHP

2. Taxability of payments
CANADA: Payments not taxable to recipient (except Quebec), if structured properly
US: tax-free distributions for qualified medical expenses

3. Taxability of contributions
CANADA: Employer contribution is tax deductible
US: Contributions and interest earnings not taxable

4. When elections of contribution is made
CANADA: Annual election amount made in advance (irrevocable). Exceptions for changes in family status
US: EEs may prospectively elect, revoke, or change salary-reduction elections at any time during the plan year

5. Carryover
CANADA: Choice for unused end of year balances: 1) roll over unused balances for up to one more year; any year one amounts remaining at the end of year two are forfeited. 2) roll over unpaid claims; any eligible expenses in excess of the balance in one year may be paid out in the subsequent year once that year's contribution is made, up to the account balance
US: funds in the account can be carried from one year to the next

6. Unused funds
CANADA: Unused deposits/accruals to terminated EEs revert to the ER
US: funds are fully owned by the employee (do not revert to ER)

9. Continued

7. Ability to use to pay premiums
CANADA: Can use to pay insurance premiums (medical, dental, other health, vision)
US: Limited use to pay insurance premiums (LTC, COBRA, Medicare, unemployment benefits)

(c) Determine the required deductible to meet management's stated objectives. Ignore exchange rate and pricing differences between Canada and the United States. Show your work.

Commentary: *Candidates were often not awarded full credit because nearly all candidates missed that the physician claims in Canada would be covered by the province, so many started the problem with an incorrect amount for the total claims in Canada. Partial credit was awarded if the process was correct but the claims starting point was incorrect. Other candidates made errors in the application of the health spending or health saving accounts when calculating the employee and employer cost share.*

In Canada, the physician and hospital claims are covered by the province, so there is no cost to the employee or to the employer. The cost is only the prescription drug claims of $1,500.

Employee pays deductible of $1,000 + 20% of the remaining $500 = $1,100. Then they use their health spending account of $500 and will only be out-of-pocket $600.

Thus, the EE share is $600 / $1,500 = 40% and ER share is 60%

To maintain this in the US, we need to set the deductible of the US plan so that the employer costs are 60% of the total claims of $9,500 = $5,700.

Therefore, with a $2,500 health savings account contribution, the employer share = ($9,500 – deductible) * 80% + $2,500 = $5,700

Solving for the deductible, deductible must = $5,500

10. Learning Objectives:

1. The candidate will understand how to describe plan provisions typically offered under:
   a. Group and individual medical, dental and pharmacy plans
   b. Group and individual long-term disability plans
   c. Group short-term disability plans
   d. Supplementary plans, like Medicare Supplement
   e. Group and Individual Long Term Care Insurance

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

Learning Outcomes:

(1a) Describe typical organizations offering these coverages.

(2c) Calculate and recommend assumptions.

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

Sources:

Group Insurance, Bluhm Chapter 38;
Essentials of Managed Health Care, Kongstvedt Chapter 2

Commentary on Question:

The question was trying to test candidates' knowledge of medical trends, managed care overlays, and how the overlays can impact trend through calculations.

Solution:

(a) List the components of medical trend.

Commentary: *This was straight from a list on pages 632-633 of "Group Insurance."*

- General macro-economic factors that drive medical costs (the force of trend)
- Changes in the characteristics of the covered population, including demographics and health status
- The structures of the carrier's provider contracts and the changes in that structure
- Changes in utilization due to managed care initiatives
- Benefit and cost sharing provisions, and changes in those provisions
- Random fluctuations

10. Continued

(b) Describe the most common types of managed care overlays.

Commentary: *List and descriptions are from page 28 of "Essentials of Managed Health Care." Candidates needed to include descriptions for full credit.*

- General Utilization Management- companies offer a menu of UM activities selected by employers or insurers
- Large case management- to assist employers and insurers with very costly cases. Includes screening, collection of information, monitoring, assistance in managing the case, and negotiating provider payments
- Specialty Utilization Management- utilization review for specialty services
- Disease Management- focus on specific common, chronic diseases rather than utilization more broadly
- Rental Networks- networks of contracted providers within markets
- Workers' Compensation Utilization Management- standard UM and some unique aspects involved with workers' compensation benefits

(c) Determine which program Insurer XYZ should implement in 2016 and which program(s) will be in-force in 2017. Justify your position and show your work.

Commentary: *To receive full credit, candidates had to compare each program to the baseline scenario to ensure there was actual savings. Candidates also had to take implementation costs into account, and make final recommendations for 2016 and 2017. A common mistake was using the Allowed PMPMs as the cost instead of calculating a unit cost.*

Before Program A changes:

Emergency Room

2016 Util = 300 * (1 + 0) = 300
2015 Unit Cost = 30 * 12 * 1000 / 300 = 1,200
2016 Unit Cost = 1,200 * (1 - 0.01) = 1,188
2016 PMPM = 300 * 1,188 / 12,000 = $29.70

Urgent Care

2016 Util = 6,000 * (1 + 0.02) = 6,120
2015 Unit Cost = 100 * 12 * 1000 / 6000 = 200
2016 Unit Cost = 200 * (1 + 0%) = 200
2016 PMPM = 6,120 * 200 / 12,000 = $102.00

10. Continued

After Program A changes:

Emergency Room

2016 Util = 300 * (1 + 0) *(1 - 30%) = 210
2015 Unit Cost = 30 * 12 * 1000 / 300 = 1,200
2016 Unit Cost = 1,200 * (1 - 0.01) = 1,188
2016 PMPM = 210 * 1,188 / 12,000 = $20.79

Urgent Care

2016 Util = 6,000 * (1 + 0.02) + 90 = 6,210
2015 Unit Cost = 100 * 12 * 1000 / 6000 = 200
2016 Unit Cost = 200 * (1 + 0%) = 200
2016 PMPM = 6,210 * 200 / 12,000 = $103.50

2016 Savings = ($29.70 + $102.00) - ($20.79 + $103.50) = $7.41 PMPM
Implementation costs: $3.00
Net savings: $4.41

Before Program B changes:

IP Facility

2016 Util = 750 * (1 - 0.005) = 746.25
2015 Unit Cost = 375 * 12 * 1000 / 750 = 6000
2016 Unit Cost = 6000 * (1 + .03) = 6,180
2016 PMPM = 746.25 * 6,180 / 12,000 = $384.32

Skilled Nursing Facility

2016 Util = 600 * (1 + 0) = 600
2015 Unit Cost = 50 * 12 * 1000 / 600 = 1000
2016 Unit Cost = 1000 * (1 + .015) = 1,015
2016 PMPM = 600 * 1,015 / 12,000 = $50.75

Home Health

2016 Util = 200 * (1 + 0) = 200
2015 Unit Cost = 3.50 * 12 * 1000 / 200 = 210
2016 Unit Cost = 210 * (1 + .015) = 213.15
2016 PMPM = 200 * 213.15 / 12,000 = $3.55

10. Continued

After Program B changes:

IP Facility

2016 Util = 750 * (1 - 0.005) = 746.25
2015 Unit Cost = 375 * 12 * 1000 / 750 = 6000
2016 Unit Cost = 6000 * (1 + .03 - .01) = 6,120
2016 PMPM = 746.25 * 6,120 / 12,000 = $380.59

Skilled Nursing Facility

2016 Util = 600 * (1 + 0) = 600
2015 Unit Cost = 50 * 12 * 1000 / 600 = 1000
2016 Unit Cost = 1,000 * (1 + .015 - .01) = 1,005
2016 PMPM = 600 * 1,005 / 12,000 = $50.25

Home Health

2016 Util = 200 * (1 + 0) = 200
2015 Unit Cost = 3.50 * 12 * 1000 / 200 = 210
2016 Unit Cost = 210 * (1 + .015 - .01) = 211
2016 PMPM = 200 * 211 / 12,000 = $3.52

2016 Savings = ($384.32 + $50.75 + $3.55) - ($380.59 + $50.25 + $3.52) = $4.26 PMPM
Implementation costs: $2.00
Net savings: $2.26

Implement Program A in 2016 as it has a higher net savings amount. In 2017, both programs should be in force, as the 2016 savings from A is enough to cover maintenance cost and Program B's implementation cost.

11. Learning Objectives:

1. The candidate will understand how to describe plan provisions typically offered under:
   a. Group and individual medical, dental and pharmacy plans
   b. Group and individual long-term disability plans
   c. Group short-term disability plans
   d. Supplementary plans, like Medicare Supplement
   e. Group and Individual Long Term Care Insurance

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

Learning Outcomes:

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

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

(2c) Calculate and recommend assumptions.

(2d) Calculate and recommend a manual rate.

Sources:

Group Insurance, Skwire, 7th Edition, Chapter 22 Estimating Dental Claim Costs;

Individual Health Insurance, Leida, 2nd Edition, Chapter 2 The Products

Commentary on Question:

This question was testing the candidate's knowledge of individual dental pricing, including the risks, data sources and calculation of costs given utilization experience under a dental product structure.

Solution:

(a) Explain why dental insurance is typically only offered in the group market.

Commentary: *The majority of the candidates correctly identified anti-selection, but did not discuss the tax advantages associated with group products.*

Anti-selection: Individuals are aware of their dental needs and will wait to obtain insurance until they need services. This is less of an issue in the group market.
Tax advantage: Group dental products are paid for with pre-tax dollars unlike individual.

11. Continued

(b) List the risks Your Eyes faces in entering the individual dental market and describe strategies available to Your Eyes to mitigate these risks.

Commentary: *Candidates did well on this question and the majority were able to provide both risks and mitigation strategies.*

Risks:

- Pent-up demand
- Anti-selection

Strategies:

- Waiting periods
- Pre-existing condition exclusions (missing tooth)
- Prior authorization for expensive procedures
- Least Expensive Alternative Treatment (LEAT)

(c) List the data Your Eyes could use to price the individual dental plan.

Commentary: *In general candidates understood the question, but some candidates listed rating factors rather than data sources.*

- Competitor rate filings
- Own group experience
- Milliman Guidelines (utilization)
- ADA survey of dental fees
- Reinsurers/TPAs

(d) Determine which network management will elect, assuming that 90% of all services are performed by preferred providers regardless of the network. Show your work.

Commentary: *For the most part, candidates had a reasonable understanding of the basic cost utilization calculation. Some areas that candidates missed were using the correct discounts, application of coinsurance and copayments, and dental class identification for the services.*

11. Continued

Net Cost/ Util/1000 /12,000)

Preferred Network (since no copay apply discount at end)

	Util/1000	Fee	Copay	Net	Coins.	Net Cost	PMPM
I. Diagnostic (Class I)							
A. Oral Exams	700	$ 40.00	$ -	$ 40.00	100%	$ 40.00	$ 2.33
B. X-Rays	630	$ 35.00	$ -	$ 35.00	100%	$ 35.00	$ 1.84
II. Preventive (Class I)							
A. Prophylaxis	650	$ 75.00	$ -	$ 75.00	100%	$ 75.00	$ 4.06
B. Fluoride	200	$ 30.00	$ -	$ 30.00	100%	$ 30.00	$ 0.50
III. Restorations (Class II)							
A. Amalgam	250	$ 120.00	$ -	$ 120.00	90%	$ 108.00	$ 2.25
B. Resin	220	$ 150.00	$ -	$ 150.00	90%	$ 135.00	$ 2.48
							$ 13.46
						Tight Network @ 35% discount:	$ 8.75
						Broad Network @ 20% discount:	$ 10.77

95% of above

	Util/1000	Disc. Fee	Copay	Net	Coins.	Net Cost	PMPM
I. Diagnostic (Class I)							
A. Oral Exams	700	$ 38.00	$ -	$ -	80%	$ -	$ -
B. X-Rays	630	$ 33.25	$ -	$ -	80%	$ -	$ -
II. Preventive (Class I)							
A. Prophylaxis	650	$ 71.25	$ 50.00	$ 21.25	80%	$ 17.00	$ 0.92
B. Fluoride	200	$ 28.50	$ -	$ -	80%	$ -	$ -
III. Restorations (Class II)							
A. Amalgam	250	$ 114.00	$ 50.00	$ 64.00	60%	$ 38.40	$ 0.80
B. Resin	220	$ 142.50	$ 50.00	$ 92.50	60%	$ 55.50	$ 1.02
							$ 2.74

	Tight	Broad	Penetration
Preferred	$ 8.75	$ 10.77	90%
Non-preferred	$ 2.74	$ 2.74	10%
Weighted cost:	$ 8.15	$ 9.96	

Broad/Tight **122.3%** **Greater than 120% so choose Tight network.**

12. Learning Objectives:

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

Learning Outcomes:

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

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

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

Sources:

Skwire page 28 – 35; ASOP 23 & ASOP 25; case study pages 31 - 33

Commentary on Question:

Commentary specific to each part is included below

Solution:

(a) Calculate the actual-to-expected total claims ratio for each of 2008, 2009 and 2010. Show your work.

Commentary: *Many candidates were successful using Exhibits 4 and 5 in the case study. Candidates receiving full credit for part A correctly:*

- *Calculated and used attained age to look up expected claim costs in Exhibit 5*
- *Increased the attained age for each policy in 2009 and 2010*
- *Adjusted for policy 10's $180 a day benefit*
- *Calculated the A/E ratio in total for each year, summing all policies*

12. Continued

					Attained Age		
Policy	**Issue Age**	**Issue Year**	**Benefit Level**	**Gender**	**2008**	**2009**	**2010**
4	52	1993	2	male	(2008-1993)+52 = 67	68	69
6	57	1996	2	male	69	70	71
10	45	2000	3	female	53	54	55

	Expected Claims			Units of	Expected Claims		
Policy	**2008**	**2009**	**2010**	**Benefit**	**2008**	**2009**	**2010**
4	0	0	0	1	305.24	381.56	496.02
6	17,000	4,000	0	1	496.02	645.71	871.71
10	0	0	10,000	$180/100 = 1.8	755.3 x 1.8 = 1,359.54	1,373.13	1,386.86
Total	**17,000**	**4,000**	**10,000**		305.24 x 1 + 496.02 x 1 + 755.3 x 1.8 = **2,160.80**	**2,400.40**	**2,754.59**

2008 Actual / 2008 Expected = 17,000 / 2160.80 **= 787%**
2009 Actual / 2009 Expected = 4,000 / 2400.40 **= 167%**
2010 Actual / 2010 Expected = 10,000 / 2754.59 **= 363%**

(b) Identify LTC's current phase in the product development cycle and list the remaining phases. Justify your position.

Commentary: *Many candidates incorrectly stated that the current phase was Assess, stating that Thunderball was currently calculating and reviewing A/E ratios. Partial credit was given for providing reasonable justification for an incorrect phase of the product development cycle. Candidates did not receive full credit if they did not justify their position. Additionally, some candidates mistakenly listed phases of the underwriting cycle.*

The current phase is Revise and Innovate. Thunderball is trying to decide what to do next because financial performance and sales have not been as expected. They are looking to revise which means starting to innovate.

The other phases include design, build, sell and assess.

12. Continued

(c) As a product manager, John is concerned that Thunderball's LTC product will be replaced with a better, less expensive product in the market. Describe five steps John should take to adapt Thunderball's LTC product to avoid obsolescence and recommend specific actions John should take for each of the steps.

Commentary: *Many candidates were successful in describing the product revision, idea generation, and market assessment steps and actions.*

John should take the following steps:

- Assess the product and consider revision. Changes to product features, design and pricing may be required.
- Understand the strategic goals of the company.
- Conduct idea generation and consider:
  - The consumer demand for long term care
  - Requesting feedback from the Marketing and Sales departments
  - Looking for a possible competitive advantage
- Idea screening – Review initial ideas with management to ensure consistency with corporate goals.
- Conduct a market assessment and consider:
  - What exists in the market today?
  - The product objective
  - The regulatory environment

(d) Critique John's Certification and propose any changes needed to comply with the referenced ASOPs.

Commentary: *Many candidates performed well on this part of the question. Candidates who received full credit provided critiques and recommended changes specific to John's memo, rather than listing general requirements of the referenced ASOPs.*

ASOP 23 sets requirements for data quality. John failed to disclose his data source nor review his colleague's data. As John can be held responsible for errors or unreasonable assumptions, he should disclose his reliance on Jane's data and list his qualifications.

ASOP 25 dictates requirements for credibility procedures. John relied on Montana data which only included 12 historical claims, which is not credible to produce reasonable results. John should use nationwide data for more credibility or use some blend of Montana with nationwide data.

13. Learning Objectives:

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

Learning Outcomes:

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

(2c) Calculate and recommend assumptions.

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

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

Sources:

GHC-105-14 Pricing considerations for pharmacy benefit programs

Commentary on Question:

Part (a): Candidates were expected to iterate through a series of options and calculate result savings of each copay alternatives. In addition, they are expected to select a best option and explain why. Many candidates were only able to provide only one option that meets savings target. Some candidates provided alternative copays in fractional numbers, but when rounded to the nearest whole number, the result was out of the required range.

Part (b): To receive full credit, a candidate should know that drugs rebates are usually applied to WAC, while discount rates are applied to AWP. They should also know that WAC is at 80% of AWP, which was indicated in the question. Only a few candidates were able to use WAC in their calculations.

Solution:

(a) Nova wants to see the cost impact of implementing a two-tier formulary that would have saved Nova between $450,000 and $500,000 in 2015. Recommend alternative copays and calculate the resulting savings. Justify your recommendation. Show your work.

B: brand copay
g: generic drug copay
B and g should be integers; and B<=2g.

13. Continued

1. Try B=2g

Total savings = 183,000*(g – 5) + 16,000*(B – 5)
= 183,000*(g – 5) + 16,000*(2g – 5)
The total savings is expected between 450,000 and 500,000
450,000 <= 183,000*(g – 5) + 16,000*(2g – 5)<=500,000
⇨ 6.72<= g <= 6.95. No integer value found for g

2. Try B=2g -1

Total savings = 183,000*(g – 5) + 16,000*(B – 5)
= 183,000*(g – 5) + 16,000*(2g – 1 – 5)
The total savings is expected between 450,000 and 500,000
450,000 <= 183,000*(g – 5) + 16,000*(2g – 1 – 5)<=500,000
⇨ 6.75<= g <= 7.03. generic copay could be 7 and brand copay could be 13

3. Try g=7; B = 13: total saving = 494,000; within expected range;
4. Try g=7; B = 12: total saving = 478,000; within expected range;
5. Try g=7; B = 12: total saving = 462,000; within expected range;

Keep generic as low as possible to encourage use of less expensive drugs and has maximum savings (7/13 fits this best)

(b) Determine which rebate offer will maximize cost savings for DrugsRUs. Show your work.

If Drug A is preferred

Drug	AWP per script	Rebate Offer	Scripts	Copay	Discount	Dispensing Fee	WAC to AWP	WAC per script
Drug A	$350	38.00%	0.750	$30	15%	$1	80%	$280 = $350*0.8
Drug B	$250	0%	0.250	$60	15%	$1	80%	$200 = $250*0.8

Drug A
Allowed cost = (350 * (1 – 15%) + 1)*0.75 = 223.875
Rebate = 280*38% * 0.75 = 79.8
Member Paid = 30*0.75 = 22.5
Plan Paid = 223.875 – 79.8 – 22.5 = 121.575

13. Continued

Drug B
Allowed cost = (250 * (1 – 15%) + 1)*0.25 = 53.375
Rebate = 0
Member Paid = 60*0.25 = 15
Plan Paid = 53.375 – 15 = 38.375

Total Plan cost when drug A is preferred is 121.575+38.375 = 159.95

If Drug B is preferred

Drug	AWP per script	Rebate Offer	Scripts	Copay	Discount	Dispensing Fee	WAC to AWP	WAC per script
Drug A	$350	0%	0.40	$60	15%	$1	80%	$280 = $350*0.8
Drug B	$250	13%	0.60	$30	15%	$1	80%	$200 = $250*0.8

Drug A
Allowed cost = (350 * (1 – 15%) + 1)*0.4 = 119.4
Rebate = 0
Member Paid = 60*0.4 = 24
Plan Paid = 119.4 – 24 = 95.4

Drug B
Allowed cost = (250 * (1 – 15%) + 1)*0.6 = 128.1
Rebate = 200*13% * 0.6 = 15.6
Member Paid = 30*0.6= 18
Plan Paid = 128.1 – 15.6 – 18 = 94.5

Total Plan cost when drug B is preferred is 95.4 + 94.5 = 189.9

Savings are better when Plan A is a preferred plan. This will save $30 more per script.