

DP-GH Complete Illustrative Solutions

Fall 2009

- 1. Learning Objectives:** 12: Applies principles of pricing, benefit design and funding to an underwriting situation

Source: Group Insurance, Ch. 25,

Cognitive Skill Level: Recall

Solution:

(a)

- Medical Insurance
 - Types:
 - HMO
 - POS
 - PPO
 - FFS
 - Varying:
 - Deductibles
 - Coinsurance levels
 - Co-payment levels
 - OOP limits
 - CDHP (Consumer Directed Health Plans)
 - HRA
 - HSA

- Ancillary products:
 - Employee life
 - Small amts
 - Contributory or not
 - Flat amts, \$10K
 - Flat amts by class
 - Multiple of salary
 - Opt'l add'l cov, ee-paid
 - STD/LTD
 - Flat amts by class
 - Flat % of salary
 - Max 50% – 70%
 - Dependent Life
 - AD&D
 - Dental
 - Vision

1. Continued

- (b) Associations
- e.g., AARP
 - Group formed for other than purchase of insurance

 - Brokers/Agents
 - Represents a client/group
 - Sell multiple insurers' products

 - Compensation
 - Commissions earned by Brokers, Agents, Managing General Agents
 - May pay higher 1st year commissions, level subsequently
 - Overrides paid to MGAs
 - Percentage of premiums

 - Direct Marketing
 - Direct mail, 800 Phone Numbers, News Media, Internet

 - Managing General Agents (MGAs)
 - Managing other agents
 - Paid through commissions, overrides
 - May represent more than one carrier

 - Group Service Representatives (or Captive Agents)
 - Employees of an insurance company
 - Salaried, plus commissions / bonuses

 - Other – MET, MEWA, IMO or Consultants
 - Financial Institutions
 - Other carriers
 - Sell additional products to existing customers – ancillary coverages

 - Voluntary Worksite Sales
 - Employer provides onsite access
 - On-site enrollment
 - Employer provides administrative support for billing

 - Web-based Sales
 - Recent development

1. Continued

(c)

- Overall evaluation of the business
 - Plan design – benefit design
 - Location
 - Underwriting assessments
 - Post issue underwriting
- Demographics
 - Age and Gender
 - Individual health status – limits prescribed by NAIC / HIPPA
- Financial viability of employer
 - Concern about ability to pay premiums
 - Persistency required to recoup initial costs
- Industry / Occupation
 - Some industries are riskier than others
 - e.g., blue collar versus white collar
- Group size
 - Impacts credibility
 - Spreading of admin costs
- Workers Compensation – Most insurers require it
- Participation – employees
 - Higher percentages reduce levels of anti-selection
 - Minimums set unless disallowed by regulation
- Employer Contribution
 - Drives participation level
 - Higher percentages reduce levels of anti-selection
- Prior Coverage
 - If none – why?
 - Changing carriers often?
- Prior Experience
 - Claims – historical
 - Persistency

1. Continued

- Eligibility rules
 - Required minimum hours worked – full time vs. part time
 - Avoid high turnover
 - Waiting periods
 - Number of months of continued employment
 - Can vary by class – e.g., union versus management

2. Learning Objectives: 12: Applies principles of pricing, benefit design and funding to an underwriting situation

Source: Group Insurance – Bluhm, Ch. 42 – Underwriting Gain and Loss Cycles

Cognitive Skill Level: Recall

Solution:

(a)

Trends are tied to premiums which influence financial results

In high trend periods, trend estimates overshoot actual trend

In low trend periods, trend estimates undershoot actual trend

Data is inaccurate or incomplete

- Delays in recognizing changes in trend
- Lag between pricing actions implemented and results being reported

Unwarranted optimism and pessimism due to relying on recent experience

- Management focusing on the past rather than anticipating the future

Health insurance operates in a commodity-like environment

- Cannot successfully increase rates unless market is doing the same
- Rates are lowered to attract new business
- When rate increases are low, migration between carriers is low

When rate increases are high, consumers price shop and market becomes price-sensitive

- During high trend periods, companies are vulnerable to any weakness in their pricing structure

Accounting conventions

- Cycles are exaggerated due to carry forward provisions and retrospective refunds
- Full loss are recorded when they occur, even though they may be recouped in the future

(b)

Reasons for past cycle:

- One year rate guarantees
- Pricing changes needing to be phased in over a full year
- Marketplace inertia tends to delay competitive considerations
- Long lags between incurred and paid leading to obscuring financial results

Reasons for current cycle:

- Decline in medical trends
- Blues plans discuss underwriting cycle and ways to control it
- Blues plans becoming “for profit”
- Consolidation of Blues plans

2. Continued

Factors contributing to past cycles:

- Maturing of health insurance market
- New technology
- HMOs
- Removal of wage/price controls
- Recession
- Unemployment
- High inflation / low interest rates
- RBC
- Cost shifting
- Aggressive marketing and rating
- Anti-selection
- Competitive environment
- State and federal regulation

(c)

Risk strategies for targeted market segments

- Having strategies for achieving both marketing and financial objectives by market
- Strategies depend on where you are in the underwriting cycle

Risk evaluation and assumption objectives

- Decide level of risk
- Understand that there may be periods of losses

Timely evaluation of experience and trends

- Tempered and timely responses to change in trend and other factors
- Meaningful management information must be available
- Requires effective system and analytics
- Predictive modeling

Counter-cyclical pricing and marketing

- Up-to-date information is needed
- Adequate contingency reserves must be available
- Understand provider behavior

Cost effective administration and value for services rendered

- Level of administrative costs allowed in pricing is reduced due to competition
- Products are becoming more complex to administer
- Resources must be efficiently managed

Recognition of underwriting cycle in setting management compensation goals and objectives

- Linking management bonuses to financial goals and holding them accountable

3. Learning Objectives: 10: Evaluate the process and be able to develop a medical manual rate for both ASO and insured business

Source: Group Insurance, Bluhm, Ch. 36; GH-D112-07

Cognitive Skill Level: Comprehension/Calculation

Solution:

(a) Typical employer objectives are:

Realistic pricing

- Price tag should represent value of each option
- Reflect expected claims of the whole group
- Do not reflect adverse selection

Equity

- Each employee receives an equal dollar amount of % in credits
- Allocating credits based on age, # of dependents, etc., is appropriate

No losers

- Each employee should be able to purchase prior coverage with no cost increase

No additional company cost

- New plan will cost the same as old plan would have in the next plan year

Each approach will achieve only three of the four goals

	Realistic	Equity	No Losers	No Add'l Cost
Family	Pass	Pass	Pass	Fail Windfall for single
Average	Pass	Pass	Fail Singles win	Pass
Single	Fail Unrealistically low for families Inaccurate relation between single/family	Pass	Pass	Pass

3. Continued

(b) Employer cost = expected claims (including expenses) + credits – price tags

(i) Expected claims in 2010

Claim Range	Single #	Single Cost	Family #	Family Cost
\$0	50	\$0	25	\$0
\$1 – \$2,500	95	\$950	150	\$1,500
\$2,501 – \$5,000	50	\$2,650	325	\$3,900
> \$5,000	55	\$5,700	250	\$7,000
Total	250	\$2,145	750	\$4,323

$$\text{Trend} = 1.2544 = 1.12^2$$

2010 costs (2008 costs with 2 years of trend)

Claim Range	Single #	Single Cost	Family #	Family Cost
\$0	50	\$0	25	\$0
\$1 – \$2,500	95	\$1,192	150	\$1,882
\$2,501 – \$5,000	50	\$3,324	325	\$4,892
> \$5,000	55	\$7,150	250	\$8,781
Total	250	\$2,691	750	\$5,423

\$4,740,064 current plan total cost in 2010

\$4,740 average cost in 2010 per employee

Calc total cost of plan

Employer's share x 80%

\$3,792,051

Calc 80% (ER share)

New plan with choices

Claim Range	A	B	C
\$0	1.00	0.00	0.00
\$1 – \$2,500	0.50	0.50	0.00
\$2,501 – \$5,000	0.00	0.50	0.50
> \$5,000	0.00	0.00	1.00
Total			

Relative Value

A 0.70

B 1.00

C 1.20

Total claims new plan

3. Continued

A	138,407	
	= 100% w/ \$0 claims + 50% w/ \$1–2500 claims (single & family) × relative value of A	
	single = # single Ees × single cost = 95 × \$1,192	
	family = # family Ees × family cost = 150 × \$1,882	
	relative value of plan A = 0.70	
B	1,075,805	
	= 50% w/ \$1–2500 claims (single & family) × relative value of B + 50% w/ \$2501 – \$5000 (single & family) × relative value of B	
	Single = # single Ees × single cost	
	= 95 singles × \$1,192 cost for range \$1 – \$2500	
	= 50 singles × \$3,324 cost for range \$2501 – \$5000	
	Family = # family Ees × family cost	
	= 150 families × \$1,882 cost for range \$1 – \$2500	
	= 325 families × \$4,892 cost for range \$2501 – \$5000	
	Relative value of plan B = 1.00	
C	4,159,841	
	= 50% w/ \$2501 – \$5000 (single & family) × relative value of C + 100% w/ >\$5000 (single & family) × relative value of C	
	Single = # single Ees × single cost	
	= 50 singles × \$3,324 cost for range \$2501 – \$5000	
	= 55 singles × \$7,150 cost for range >\$5,000	
	Family = # family Ees × family cost	
	= 325 families × \$4,892 cost for range \$2501 – \$5000	
	= 250 families × \$8,781 cost for range > \$5,000	
Total	A + B + C	5,374,053 2010 cost of new plan

3. Continued

(ii) Price tags

		Avg price tag/cost	# of EE
A	ind	1,883 relative A-value × average cost (singles)	98 # singles = % of movement between claim range (within plan A)
	fam	3,796 relative A-value × average cost (family)	100 # fam = % of movement between claim range (within plan A)
B	ind	2,691 relative B-value × average cost (singles)	73 # single = % of movement between claim range (within plan B)
	fam	5,423 relative B-value × average cost (family)	238 # fam = % of movement between claim range (within plan B)
C	ind	3,229 relative C-value × average cost (singles)	80 # single = % of movement between claim range (within plan C)
	fam	6,508 relative C-value × average cost (family)	413 # fam = % of movement between claim range (within plan C)
Total		4,898,083	1,000

(iii) Credits

Family	\$4,339	avg family cost in 2010 (\$5,423) × 80% employer paid
Average	\$3,792	avg trended cost in 2010 (\$4,740) × 80% employer paid
Single	\$2,153	avg single trended cost in 2010 (\$2,691) × 80% employer paid

(iv) Employer cost

	(Plus) 2010 new total cost	(Plus) Credit × 1,000 ees	(Minus) 2010 rel value	
Family	5,374,053 +	4,338,551 -	4,989,083 =	4,723,522
Average	5,374,053	3,792,051	4,989,083	4,177,022
Single	5,374,053	2,152,550	4,989,083	2,537,521

3. Continued

(c)

Option	Total #	Trended (2010) Actuarial Value	Expected Experience	Effect of Adverse Selection
A	198	3,318	701	-78.9%
	single + family	current plan (\$4,740) × relative value (0.70)	expected = tot new plan (2010) claims \$138,407 divided by # of those who picked option A	
B	310	4,740	3,470	-26.8%
	single + family	current plan (\$4,740) × relative value (1.0)	expected = tot new plan (2010) claims \$1,175,805 divided by # of those who picked option B	
C	493	5,688	8,446	48.5%
	single + family	current plan (\$4,740) × relative value (1.2)	expected = tot new plan (2010) claims \$4,159,841 divided by # of those who picked option C	
		4,926	5,374	9.1%
		sum product of act'l value	sum product of expected value OR, tot new plan (2010) claims of \$5,374,053 divided by 1,000	

Therefore expected experience is \$5,374,000 vs. Trended 2010 actuarial value of \$4,926,000

Above is not cost-neutral and therefore does not meet objective
Mainly due to anti-selection on new plan

To maximize achieving cost neutrality, ER needs to consider

- Selection/anti-selection of options (plans A, B, C)
- Experience-based pricing (setting realistic pricing) → not necessarily cost-neutral, but focuses on cost-management
- Allow some Ees to be losers (to be cost-neutral to the ER)
- Manage EE expectations
- Need to consider implementation expenses
- Need to consider impact of any X-subsidies

4. Learning Objectives: 12: Applies principles of pricing, benefit design and funding to an underwriting situation

Source: Group Insurance, Ch. 35

Cognitive Skill Level: Recall

Solution:

(a)

- Groups prefer to pay a premium based on their own unique experience
- Insurer wants to charge premiums that are as competitive as possible while meeting profit objectives
- If a lower than average claim group is charged a lower than average premium, higher claim groups must be charged a higher premium
- A competitor who is experience rating will appropriately rate groups with lower than average claims expectations, inducing them to change carriers.

(b)

- Guiding principle is to choose a pooling method that makes rates as attractive as possible to policyholder while meeting the insurers objectives
- Over time the pooling charge of all groups must be equal to the average cost of claims modifications made through pooling process
- Catastrophic Claim Pooling
 - Individual claims above a specified limit are removed
 - Average charge is made for all groups participating
- Loss Ratio/Increase Limits
 - Setting upper limit on loss ratio that will be used or limiting percentage rate increase
 - Must be made up with an average charge to all groups with this feature
- Credibility Weighting
 - Groups are given a credibility factor from 0 to 1
 - Claims after pooling = $C \times$ claims before pooling + $(1 - C) \times$ expected incurred claims
- Multi-Year Averaging
 - Use a weighted average of 2 or more years
- Combination Methods
 - Most of these methods can be combined

(c)

- In retrospective experience rating group gets financial benefit of good experience and is responsible for bad experience
 - Positive experience can be accumulated in an account
 - Or it can be refunded
 - Account is premium stabilization reserve (or any similar name)
- Groups need to be of a specified minimum size because of resources needed

4. Continued

- Retrospective experience rating addresses CFOs concern by giving credit or holding group accountable for their own experience
- (d) Prior Formula Balance
- + Premiums
 - + Investment earnings
 - Claims charged
 - Incurred claims for period
 - Reserve Change in Period
 - Modifications to claims experience
 - Specific stop-loss claims
 - Claims over aggregate stop-loss pooling level
 - Stop-loss pooling charges
 - Credibility pooling
 - Adjustment for conversion experience
 - Expenses Charge
 - Risk Charge
 - Rate Stabilization Addition
 - Profit
- = Current Formula Balance

5. Learning Objectives: 10:

To understand:

- What goes into a gross premium calculation for a PPO product.
- How to use an actuarial cost model to calculate the effect of copayment/limits on specific services.
- How to use a claim probability distribution table to estimate the impact of deductibles and coinsurances on claims costs.
- Manual rate development considerations

Source: Group Insurance, Bluhm, 5th Edition, Ch. 30, Estimating Medical Claim Costs, Individual Health Insurance, Bluhm, 2007, Ch. 5, Setting Premium Rates, Group Insurance, Bluhm, 5th Edition, Ch. 30, Estimating Medical Claim Costs,

Cognitive Skill Level: Recall/Calculation

Commentary:

Part a: On mathematical problems, a step-by-step solution demonstrates an understanding of the concepts and enables the grader to recognize when the student understood the concept but made a minor error along the way. One note on the development of the out-of-network cost is that a number of candidates did not recognize that the out-of-network claims table showed annual claims instead of monthly. The calculated total claims net cost sharing must be divided by 12 in order to get a PMPM value.

Part b: The question asks for the candidate to ‘describe’ rating variable. Candidates that included a description along with the list of rating variables received more credit.

Solution:

(a)

In Network:

Service Category	Annual Utilization per 1,000	Average Charge After Discount	Cost Sharing (Copayment)	Net Charge After Copay	Net Claim Costs PMPM
Emergency Room	207	\$447	\$50	\$397	\$7
Office Visits	2762	\$41	\$15	\$26	\$6

$$ER = (\$447 - \$50) \times 207 / 12,000 = \$7$$

$$OV = (\$41 - \$15) \times 2762 / 12,000 = \$6$$

$$\begin{aligned} \text{Total Net claim costs PMPM for In-network benefit} \\ = \$175 - \$8 - \$9 + \$7 + \$6 = \$171 \text{ PMPM} \end{aligned}$$

5. Continued

Out-of-Network:

Annual Frequency	Annual Claims	Annual Cost Sharing	Annual Claim net of Cost Sharing
0.250	\$0	\$0	\$0
0.500	\$1,000	\$1,000	\$0
0.235	\$6,000	\$2,000	\$4,000
0.010	\$50,000	\$2,000	\$48,000
0.005	\$120,000	\$2,000	\$118,000
	\$3,010		\$2,010

Cost sharing for \$1,000 annual claims = \$1,000 deductible

Cost sharing for \$6,000 annual claims = minimum [\$1,000 deductible + (1 - 80% coinsurance) × (\$6,000 - \$1,000 deductible), \$2,000 out-of-pocket limit] = \$2,000

Cost sharing for \$50,000 & \$120,000 = \$2,000 out-of-pocket limit.

Total Annual claims

$$= 0.25 \times 0 + 0.50 \times 0 + 0.235 \times \$4,000 + 0.01 \times \$48,000 + 0.005 \times \$118,000 = \$2,010$$

$$\text{Monthly out-of-network claims} = \$2,010 / 12 = \$167.5$$

Blended in and out-of-network monthly claims

$$= 90\% \times \$171 + 10\% \times \$167.5 = \$170.65$$

$$\text{Monthly gross premium} = \text{monthly claim costs} / 0.85 = \$170.65 / 0.85 = \$200.76$$

(b)

Important rating variables to consider include:

- Age and Gender
Adjust the historical costs to a “standard population” using age/gender factors
- Geographic area
Area factors can be studied either at a detailed level or in aggregate. A company might use area factors from a competitor or from a consulting firm, and then monitor loss ratios by area.
- Benefit plan
Adjust for deductible, coinsurance, out-of-pocket limits and plan benefit maximums. It is important to adjust the experience period data to reflect a common benefit plan.

5. Continued

- Group characteristics, such as industry and group size
Industries with above average costs typically involve physical labor

Claim cost studies on blocks of small cases are often made on a durational basis
- Utilization management programs
Many managed care plans use UM to assess the necessity and appropriateness of a given treatment and treatment setting.
- Provider reimbursement arrangements
If any provider reimbursement arrangements changed during the experience period, adjust the experience to reflect a common reimbursement level.

6. Learning Objectives:

- 1: Understand and evaluate the effectiveness of the various types of Single Employer group coverage typically offered under Group Life Plan
- 7: Apply U.S. and Canadian taxation rules to employer and individual health plan
- 10: Evaluate the process and be able to develop a medical manual rate for both ASO and insured business

Source: Group Ins., Chapter 29
 GH-102-07
 Can Han Flex Ben

Cognitive Skill Level: Recall/Calculation

Solution:

(a)

Age	# of ees	= 2 × Average Salary	Volume of insurance	Monthly claim rate (/1000)	Monthly expected claims
35	100	\$70,000	\$7,000,000	0.13	\$910
40	350	\$90,000	\$31,500,000	0.17	\$5,355
45	150	\$150,000	\$22,500,000	0.23	\$5,175
50	75	\$190,000	\$14,250,000	0.35	\$4,988
	675		(a) \$75,250,000		(b) \$16,428

$$\text{Average expected monthly claim rate} = \left(\frac{b}{a} \times 1,000 \right) \quad 0.218 \quad (c)$$

$$\text{Adjustment for Industry} = c \times 1.75 \quad 0.382 \quad (d)$$

$$\text{Adjustment for credibility} = d \times 1 - \text{credibility} + 0.50 \times \text{credibility} \quad 0.435 \quad (e)$$

$$\text{Add expenses, risk and profit charges} = e / 1 - 15\% \quad 0.512$$

(b)

Disability factors

- Manual claim table usually assumes that group life insurance on totally disabled employees is subject to a standard waiver of premium disability benefit provision

6. Continued

Effective date adjustment

- Manual claim table is usually appropriate for rates effective July 1st in each year

Regional factors

Lifestyle factors

- Distinction between smokers and non-smokers

Marketing considerations

- Adjust manual claim rate to reflect the source of business

Contribution schedules

- Discount if plan is non-contributory (employer-pay all)

Case size factors and volume adjustments

Plan options (benefit)

- Employees insured for higher amounts exhibit better mortality than those for lower amounts.
- Plans that permit frequent change by employee from one plan to another without EOI tend to have higher claim level

Individual underwriting

- Plans with individual UW exhibit lower mortality costs in the time period immediately afterward

(c)

Obtain catastrophe reinsurance (aka cat cover)

Obtain per-life reinsurance

Participate in an industry risk pool

Limit the volume of business written in certain locations

Eligibility rules

- Minimum participation requirement
- Actively at work requirement
- Waiting period for new employees before coverage takes effect

Benefit design

- Limit the amount of protection (no options offered)

Rate structure

- Use step-rated structure for optional flexible life coverage

(d)

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United States

- The first \$50,000 of group term life insurance protection premiums paid by the employer is not taxable to the employee
- Taxable value of any group term life in excess of \$50,000 exclusion amount is determined under a table (Table 1) provided by the IRC
- If the plan discriminates with respect to eligibility or to benefits, the first \$50,000 for key employees is taxable

6. Continued

- Premiums paid by employer are deductible by the employer as business expense
- Death benefits are received income tax free

Canada

- Benefit is based on actual premiums, using group's average premium rate
- Death benefits are tax free
- Cost of employer-paid coverage is a taxable benefit for employees

(e)

Conversion

- Allows an employee to convert all or part of their group life insurance to an individual policy upon
- No evidence of insurability are required for conversion
- Subject to severe anti-selection
- A "conversion charge" to the group is also frequent

Portability

- Allows those who terminates under an individual termination to continue their group coverage
- Cost is much less under portability than under conversion
- Portability allows term insurance

7. Learning Objectives: 10: Evaluate the process and be able to develop a medical manual rate for both ASO and insured business

Source: Individual Health Insurance, Bluhm, 2007, Ch. 5, Setting Premium Rates
Individual Health Insurance, Bluhm, 2007, Ch. 8, Forecasting and Modeling

Cognitive Skill Level: Analyze/Calculate/Synthesize

Solution:

(a)

- When a policy is sold, it explicitly creates a need for additional capital by the company beyond what would otherwise be needed.
- The level of needed capital is set by company management in response to regulation (i.e. RBC), to rating agencies, or to management's own perception and tolerance of risk.
- Because capital must be put into the assets of the insurer, it isn't available to be used for other purposes, and there is a resulting opportunity cost.
- The capital itself does earn return as an invested asset of the insurer, but typically much less than it would elsewhere. This opportunity cost is called the "cost of capital".
- ROE is defined as Net Income/Shareholder Equity
- If the cost of capital has not been included in the asset share as an expense, it can be included in the profit target assumption.
- That is, the initial investment is supplemented by the capital that is set aside to cover the business, then greater profits are needed to cover that expense. This calculation is ROE.
- A sample target for this might be "profits sufficient to achieve 15% ROE."

(b)

There are four general ways in which models are validated:

- The value of the model in the starting year is compared directly to the actual value of that year. The starting year of the model is generally the year with the latest available information. This is a measure of how well the model represents the book of business at the start date.
- The year-to-year changes produced in the model are compared to actual past historical results. This might involve having the model work backward from the first model year ($t = 0$) to one or more years in the past. This is an important test for long term asset shares.

7. Continued

- The results of the model can be subjected to reasonableness checks by people familiar with the business.
- Models can be validated by “stress testing” them. That is, see how the modeled results behave when some of the underlying assumptions are changed. There are two ways to do this:
 - Changes can be relatively small; the resulting studies are “sensitivity tests” and must be reviewed for reasonableness.
 - Make extreme changes in the underlying assumptions to check for “robustness”, the ability of a model to stand up to varying conditions.

(c)

Policy Year	1	2	3
Premiums	\$3,000	\$2,070	\$1,666
$(\text{Premium})_t = (\text{Premium})_{t-1} * (1 - \text{lapse})_{t-1} * (1 + \text{premium trend})_{t-1}$			

With premium at time (1) = \$3,000

$$1 = 3000$$

$$2 = 3000 * (1 - 0.4) * (1 + 0.15) = 2070$$

$$3 = 2070 * (1 - 0.6) * (1 + 0.15) = 1666$$

# of Policies	1.00	0.60	0.42
$(\# \text{ of policy})_t = (\# \text{ of policy})_{t-1} * (1 - \text{lapse})_{t-1}$ with starting policy, policy at time (1) = 1			

$$1 = 1.0$$

$$2 = 1.0 * (1 - 0.4) = 0.60$$

$$3 = 0.6 * (1 - 0.3) = 0.42$$

Incurring Claims	\$1,200	\$1,242	\$1,333
Premiums * (durational loss ratio at time = t give in the table)			

$$1 = 3000 * 0.40 = 1200$$

$$2 = 2070 * 0.60 = 1242$$

$$3 = 1666 * 0.80 = 1333$$

Commissions	\$750	\$104	\$83
Premiums * (commission scale),			

$$1 = 3000 * 0.25 = 750$$

$$2 = 2070 * 0.05 = 104$$

$$3 = 1666 * 0.05 = 83$$

7. Continued

Expense	\$1,224	\$241	\$200
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of Policies * (per policy expense)_t + Premium * (other expenses)_t + Incurred Claims * (claim expense)_t

$$1 = 1.0 * 150 + 3000 * 0.35 + 1200 * 0.02 = 1224$$

$$2 = 0.60 * 15 + 2070 * 0.10 + 1242 * 0.02 = 241$$

$$3 = 0.42 * 15 + 1666 * 0.10 + 1333 * 0.02 = 200$$

Pre-Tax Profit	-\$174	\$484	\$50
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Premium – Incurred Claims – Commissions – Expense

$$1 = 3000 - 1200 - 750 - 1224 = -174$$

$$2 = 2070 - 1242 - 104 - 241 = 484$$

$$3 = 1666 - 1333 - 104 - 200 = 50$$

After-Tax Profit	-\$113	\$314	\$33
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Pre-Tax Profit * (1 – tax rate) – Pre-Tax Rate is 35%

PV Factor	0.95346	0.86678	0.78799
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$1/(1+10\%)^{t-0.5}$

PV of After-Tax Profit	-\$108	\$272	\$26
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After-Tax Profit * PV Factor

PV of Premium	\$2,860	\$1,794	\$1,313
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Premium * PV Factor

$$\text{Total PV of after-tax profit} = -\$108 + \$272 + \$26 = \$190$$

$$\text{Total PV of premium} = \$2,680 + \$1,794 + \$1,313 = \$5,968$$

$$\text{ROE} = \$190 / (\$5,968 \times 20\%) = 3.18\%$$

8. Learning Objectives: 8: Understand techniques for utilization and claims management:

Source: Duncan

Cognitive Skill Level: Recall/Calculation

Solution:

- (a) Program costs consist of costs of running the DM program
- Direct costs – cost of nurses and staff to contact, assess members
 - Indirect costs – costs of phone, travel, mail, tied to contacting clients
 - Medical management – cost of medical director, management team
 - Overhead – rent, insurance
 - Start-up costs – cost to implement program, contracting, predictive modeling, design of program
- (b) Disease management vs. Medical Home.
- DM consists of a program that attempts to identify through a variety of means chronic patients. Nurses contact, assess, and enroll patients via phone to help them learn to manage their own illness more efficiently and with better outcomes. Usually applies to: allergy, heart disease, CHF, COPD, diabetes. Cost of disease is high.
 - Medical Home is a somewhat newer approach that attempts to make the personal physician the point of reference. It has the following aspects:
 - Physician-directed care
 - Whole person orientation – not just the chronic illness
 - Care coordinated and integrated – across the healthcare spectrum
 - Quality and safety – follow evidenced based medicine, practice guidelines, etc.
 - Enhanced access to physician (i.e., emails, phone, extended hours)
 - Reimbursement to physician structured to incent providers for this type of care
- (c) 2010 expected costs without DM
- $$\begin{aligned} &= 2009 \text{ util} * \text{util trend} * 2009 \text{ unit cost} * \text{unit cost trend} \\ &= 30000 * 1.053 * 7500 * 1.029 \\ &= 236,925,000 \end{aligned}$$

Savings/Costs = 22,000,000 / 236,925,000 = 9.3% reduction in utilization needed

8. Continued

(d)

	Vendor 1	Vendor 2
Claim Cost Savings	22,000,000	21,000,000
Net ROI	$(\text{Claim Cost Savings} - \text{Program Cost}) / \text{Program Cost} = (22,000,000 - 6,285,715) / 6,285,715 = 2.5$	Given 3.3 = $(\text{Claim Cost Savings} - \text{Program cost}) / \text{Program Cost}$
Gross ROI	Given 3.5 = $\text{Claim Cost Savings} / \text{Program Cost}$	$\text{Net ROI} + 1 = 3.3 + 1 = 4.3$
Program Cost	$\text{Claim cost Savings} / \text{Gross ROI} = 22,000,000 / 3.5 = 6,285,714$	$\text{Claim Cost Savings} / (\text{Net ROI} + 1) = 21,000,000 / (3.3 + 1) = 4,883,721$
Net Total Savings	$\text{Claim Cost Savings} - \text{Program Cost} = 22,000,000 - 6,285,714 = 15,714,286$	$\text{Claim Cost Savings} - \text{Program Cost} = 21,000,000 - 4,883,721 = 16,116,279$

Choose Vendor 2 since net ROI, gross ROI, and net total savings are all bigger. Most important comparison is net total savings since it factors in both program costs and the size of population enrolled in the DM program.

- 9. Learning Objectives:** 6: Apply U.S. and Canadian nation-specific regulation to product design and pricing ;and
10: Evaluate the process and be able to develop a medical manual rate for both ASO and insured business

Source: AAA Monograph, CDH Plans, May 2009 / Health Watch may 2008, Timing's Everything: The impact of Benefit Rush / EBRI Issues Brief No 273: Health Savings Accounts / Group Insurance Chapter 38 Applied Statistics

Cognitive Skill level: Synthesis

Solution:

(a)

- 1st yr cost reductions due to the use of the account feature
- Trend as low as -15%, compared to 7-9% trend for traditional
- Not clear if multi-year trend reductions will materialize
- Concern selection bias is causing the savings (healthier members choose)
- Concern that reduced utilization will spill over to reduce needed services
- Concern that a delay in needed care may increase long-term costs

Studies Indicate:

- Preventive care utilization higher for CDH
- Chronic care measures similar to better for CDH
- Evidence-based care similar to better for CDH
- Rx trends tended to be higher for CDH

Benefit Rush – Members use more services in anticipation of change

- Depends upon the type of benefit change and timing/announcements

Benefit Hush – lower claims due to accelerated rush

Trend Crush – second year trend higher due to lower base

(b)

Higher deductible plans do shift costs to the member/employee

- This happens with traditional plans too though
- Not legally required to have a HDHP with HRA plan either

Limited available data to assess impact with much confidence

Monograph studies show cost-sharing similar for traditional and CDH

Suggests ERs hoping for utilization reduction from account feature

When considering “all-in” amount w/ER-funded accounts, some CDH plans result in lower member OOP than traditional plan

9. Continued

(c) CDH

Claims	Probability	1. Amount Applied to Deductible	2. Member's payment (Coinsurance)	3. HSA/HRA Balance	Members total Cost
\$0	0.25	\$0	\$0	\$600	-\$600
\$500	0.40	\$500	\$0	\$100	-\$100
\$2,000	0.30	\$1,500	\$0	\$0	\$900
\$10,000	0.05	\$1,500	\$0	\$0	\$900

Indemnity

Claims	Probability	1. Amount Applied to Deductible	2. Member's payment (Coinsurance)	3. HSA/HRA Balance	Members total Cost
\$0	0.25	\$0	\$0	\$0	\$0
\$500	0.40	\$250	\$25	\$0	\$275
\$2,000	0.30	\$250	\$175	\$0	\$425
\$10,000	0.05	\$250	\$975	\$0	\$1,225

Claims	Probability	CDH Cost	Indemnity Cost	Higher Cost
\$0	0.25	-\$600	\$0	Indemnity
\$500	0.40	-\$100	\$275	Indemnity
\$2,000	0.30	\$900	\$425	CDH
\$10,000	0.05	\$900	\$1,225	Indemnity

The employee pays more in cost sharing in one year only when the claim amount is \$2,000

Answer: 30%

(d)

Year	Random #	Claims Amount	EE Cost	Health Account Beginning Balance	Health Account Used	Health Account Ending Balance
1	0.66	\$2,000	\$1,500	\$600	\$600	\$0
2	0.76	\$2,000	\$1,500	\$600	\$600	\$0
3	0.15	\$0	\$0	\$600	\$0	\$600

The Health Account Balance at the end of three years will be \$600.

10. Learning Objectives: 1: Understand and evaluate the effectiveness of the various types of Single Employer group coverage typically offered under:

- Group health plan, including Consumer driven plans, etc.
- Prescription Drug
- Group dental plan
- STD or LTD plan (incl. mention of coverage within other plans)
- Group life plan
- Post ret coverages:

Source: GH-D102-07; GH-D101-07; Bluhm Ch. 11; GH-D100-07.

Cognitive Skill level: Recall/Analysis

Comments:

To fully receive credit for Part A of this question, it is imperative to remember to answer all parts requested, that is a description of disability benefits available in group life, benefit provisions of LTD policies, and benefit provisions of critical illness policies. Though the question asks for a comparison of group life products to these latter two products, in this situation the comparison is not best achieved by giving a benefit-by-benefit comparison or a chart, but rather is best done as shown below with separate descriptions of each type of coverage. For each of the benefit provisions listed under each part of the question, note that it is generally expected that the candidate can provide a brief bit of detail regarding each listed item to receive maximum credit.

For Part B, it is most important to put down several other individual disability benefit alternatives to the three listed in Part A. Also, because this question asks for the candidate to *describe* the coverages, it is important to include a brief description of each item where relevant. For this part of the question, it is very important to only answer what is specifically asked. More to the point, a very common mistake on this question was to overlook the fact that this question asked for other coverages to protect *individuals*, and include non-individual coverages such as key-person coverages or buy-out coverages.

Solution:

- (a) Disability Benefits in Group Life
- Waiver of Premium – Allows life coverage to remain in force with no premium while insured individual is disabled.
 - Total and Permanent Disability – Provision to pay out entire face amount of insured’s life policy upon total and permanent disability.
 - Extended Death Benefit – Pays the beneficiary’s death benefit if the beneficiary dies within a specified time of disability.
 - Accelerated Death Benefits – pays portion of death benefits upon requiring LTC care or having a terminal disease; pays remaining face amount at death.

- (i) Benefit Provisions of LTD

10. Continued

- Benefit Amount – 50% - 70% of salary
 - Maximum Benefits – to reduce over-insurance

 - Elimination Period – length of time the insured must be disabled before receiving benefits
 - Maximum Benefit Duration – usually between 2 years and up to age 65
 - Definition of Disability
 - Own Occ – receive benefits if cannot perform own occupation
 - Any Occ – receive benefits only if cannot perform any occupation
 - Specialty Occ – receive benefits if cannot perform duties of specialty occupation

 - Integration
 - Direct Integration – dollar for dollar offset of benefits

 - COLA – cost of living adjustment, increases benefits with inflation
 - Survivor Benefits – monthly benefit paid to beneficiary’s survivor
 - Minimum Benefit – guaranteed benefit to receive if offsets would otherwise reduce monthly benefit below this amount.
- (ii) Benefit Provisions of Critical Illness Policies
- Usually provides a lump sum upon the diagnosis of a specific critical illness such as heart attack, cancer, or stroke.
 - Usually only for first occurrence, but some policies may have a recurrence benefit if the disease occurs after a specified period of time or a different critical disease occurs.
 - The benefit may be related to hospital confinement.
 - Ratings and exclusions apply to some of the higher-benefit policies.
- (b) Other Coverages to Protect an Individual’s incomes in the Event of Disability
- STD (Short-term Disability) – a sick pay plan for short-term illnesses
 - Social Security Disability Coverage – provided by the government; OASDI
 - Individual Disability Policies – bought and paid for by individual rather than group
 - Worker’s Compensation Plans – covers work-related accident or illness
 - Disability mortgage or Credit Insurance – covers debt payments in the case of disability

11. Learning Objectives: 2: Understand and evaluate the effectiveness of the various types of Individual and multi-life coverage typically offered under:


- Individual health plan
- LTC or
- Individual DI plan
- Medicare Supplement

Source: Individual Health Insurance, Bluhm, Ch. 2 The Products,

Cognitive Skill Level: Recall


Solution:

(i) Renewability

More risk		<ul style="list-style-type: none">• Non-cancelable – Policy must renew and premiums cannot change• Guaranteed renewable – Policy must renew but premiums can change over time• Conditionally renewable / non-renewable for stated reasons / optionally renewable – There are circumstances under which the insurer doesn't need to renew the policy and premiums can change
Less risk		

Risk to the insurer increases as the ability to renew and ability to change premiums is limited.

(ii) Definition of occupation

More risk		<ul style="list-style-type: none">• “Specialty occ” – Disability benefits are payable if the insured cannot perform the duties of a specialized profession (e.g. surgeon, pilot). This definition is most restrictive and therefore there is more risk to the insurer.• “Own occ” – Disability benefits are payable if the insured cannot perform the duties of their current (or similar) occupation. This definition of occupation is less restrictive than specialty occupation and therefore carries less insurer risk.• “Any occ” – Disability benefits are payable if the insured cannot perform the duties of any occupation for which he/she is suited by training or education. This is the least restrictive definition of disability and carries the least insurer risk.
Less risk		

Often times, to limit risk, insurers will offer a limited period of “own occ” (e.g. 2 years) followed by a period of “any occ”.

(iii) Benefit period

- The period of time after the elimination for which the insured may receive benefits.

11. Continued

- This period will end at either recovery and return to work, a specified number of years or at a specified age.
 - The longer the benefit period the greater the risk to the insurer.
- (iv) Elimination period
- The period of time after disability and before benefits commence.
 - The purpose of elimination periods is to reduce the number of disability claims which actually receive benefits; these disabilities are typically shorter-duration and less severe. The shorter the elimination period, the greater the insurer risk.
- (v) Integration with other plans
- An insured individual may be eligible to receive disability income from other sources such as under social insurance programs or worker's compensation.
 - Individual disability policies will often integrate with these other sources of income in order to reduce the insurer's cost and maintain a target income replacement. Methods of integrating disability income include Direct Integration and All-Sources Integration.
 - Integration reduces the likelihood of over insurance, thus encouraging return to work and reducing the insurer's risk.

- 12. Learning Objectives:** 6: apply U.S. and Canadian nation-specific regulation to product design and pricing...
- (b) Describe key provisions of major legislation.

Source: Group Insurance Ch. 9

Cognitive Skill Level: Recall

Solution:

- (a) Initial ALR = PV (claims)/PV (premiums)

$$v = 1/1.04$$

Discount premium to 2008 assuming paid at start of year (BOY or mid year are acceptable assumptions):

$$PV(\text{premiums}) =$$

$$1,000,000 + 902,000 * v + 800,000 * v^2 + 702,000 * v^3 + 595,000 * v^4 \\ = \$3,739,637$$

Discount Initial Claims from midpoint of year (BOY, mid year or EOY are acceptable assumptions):

$$PV(\text{claims}) = 450,000 * v^{0.5} + 475,000 * v^{1.5} + \\ 525,000 * (v^{2.5} + v^{3.5} + v^{4.5}) = \$2,262,806$$

$$\text{Lifetime MLR Initial} = 2,262,806 / 3,739,637 = 60.5\%$$

- (b) Standard 1: Future lifetime MALR must be greater than or equal to 60%
Standard 2: Entire past and future lifetime MALR must be greater than or equal to 60%

Future lifetime test:

$$\text{Premiums as of 1/1/2010} = 800,000 + 702,000 * v + 595,000 * v^2 = \$2,025,111$$

$$\text{New claims as of 1/1/2010} = 525,000 * 1.1 * (v^{0.5} + v^{1.5} + v^{2.5}) = \$1,634,353$$

$$\text{Future MLR} = 1,634,353 / 2,025,111 = 0.807$$

$$\text{This would allow an increase of } (0.807 / 0.6) - 1 = 34.5\%$$

If the lifetime (including prior experience) must hit an MLR of 60% then
Adjusted MLR = 60.5% * 1.1 = 66.55%

$$\text{This would allow an increase of } (0.6655 / 0.6) - 1 = 10.9\%$$

12. Continued

Rate increase must meet both tests, so acceptable rate increase is
 $\text{Min}(10.9\%, 34.5\%) = 10.9\%$

13. Learning Objectives: 10: Evaluate the process and be able to develop a medical manual rate for both ASO and insured business

Source: Group Insurance Ch. 31; GH-D113-07

Cognitive Skill Level: Recall, analysis, and calculation skills

Solution:

(a)

- Age and gender
 - May need to adjust for pregnancy.
- Occupation
 - Adjust for hourly/salary, union/non-union, etc.
- Industry
 - More appropriate for group insurance than occupation.
- Average earnings per employee
 - Higher paid usually \Rightarrow better disability rates, but not always (e.g. surgeons).
- Area and AIDS
 - Usually by state.
- Group size
 - Larger size \Rightarrow greater spread of fixed costs.
- Economic cycle
 - E.g. High unemployment can lead to worsening experience.
- Distribution system
 - Marketing methods/coverage under association programs.
- Terrorism risks
 - e.g. Consider impact of a chemical attack

(b)

Adequacy = Reserve (t) – [Payments * $v^{1/2}$ + Reserve(t + 1)*v], where v is the discount factor

Duration	Adequacy
1	= \$500,000 – [\$30,000 * $1.04^{-1/2}$ + \$475,000 * 1.04^{-1}] = \$13,852
2	= \$15,194
3	= (\$4,417)
4	= (\$4,798)
Total	= \$19,830

13. Continued

- Overall, reserves are adequate by \$19,830.
- Deficiencies in later periods are offset by excesses in earlier periods.
- Impact to pricing: Loss ratios may be higher going forward and previous pricing will be inadequate.

(c)

- Adequacy by various time periods
 - Have changes in benefit processes affected run out patterns?
- Adequacy by diagnosis
 - Assess the 'failure rate' of limiting provisions.
- Adequacy by business segment
 - Assess run out pattern by product, case size, etc.
- Analysis of claim incidence
 - Actual-to-expected analysis.
 - Understand timelines around reporting and adjudication.
- Analysis of claim termination
 - Understand benefit limitation provisions for certain conditions (e.g. mental/nervous limits).
 - Understand provisions altering the definition of disability after a set period (e.g. Own Occ and Any Occ).

14. Learning Objectives: 4: Evaluates employer strategies for designing and funding benefit plans for:

- i) Active employees
- ii) Dependents
- iii) Pre-65 retirees
- iv) Post-65 retirees
- v) Disabled (short and long-term); and

7: Apply U.S. and Canadian taxation rules to employer and individual health plan

Source: Canadian handbook of Flexible Benefits, Ch. 2, 4, 7, 12, The Handbook of Employee Benefits, Ch. 37
Rosenbloom Ch. 37
McKay Ch. 2, Ch.3 Ch. 4
EBRI Issue Brief No. 273

Cognitive Skill Level: Recall/Analysis

Solution:

(a)

Employee advantages

Directly save money because they pay for their share of benefit expenses on tax-favored basis (U.S.)

Contributions exempt from federal income tax

Contributions not subject to Federal Insurance Contribution Act (FICA) and Federal Unemployment Tax Act (FUTA) taxes

Most state and local tax laws follow federal tax treatment

Significant tax advantages to employees in Canada but not pre-tax contributions although may be able to exchange bonuses for additional pre-tax credits

Maximize overall value of benefit dollars

Employee disadvantages

Primary disadvantage is that all benefit elections must be made prior to the beginning of the plan year

With limited exception, election is irrevocable during entire period

“Use it or lose it rule” for flex spending accounts (U.S.)

Dollars unused at end of year are forfeited

Can be avoided with proper planning

Flex spending accounts in Canada are allowed one-year carry forward of expenses or credits

For dependent care benefit, employee may be better off financially taking tax credit on personal tax return instead of paying for expenses through cafeteria plan (U.S.)

14. Continued

No FICA tax on cafeteria plan benefit dollars means participating employees may realize slight reduction in Social Security benefits or in accumulation under his or her employer sponsored retirement plan (U.S.)

Employer advantages

Significant financial incentives

Payroll cost savings because employer does not pay FICA or FUTA tax on amounts contributed (U.S.)

Deferral amounts not considered wages for purposes of determining worker's compensation premiums and other payroll-based expenses (U.S.)

State and local tax treatment typically varies federal treatment

Helps employees conceptualize overall value of their benefits

A vehicle to increase awareness of overall cost and value of employee benefits

Mechanism to contain health care costs and prevent wasting benefit dollars on duplicate or unneeded benefits

Workers have varying needs, no longer a one-size-fits-all approach

A form of consumer-driven or –directed health care

Makes benefit consumers take more active role in controlling benefit costs

Employees invest and make choices based on expected needs

Minimizes impact of shift to have employees share in more of the cost

Employer disadvantages

Ongoing cost of administration and operation

May be underwritten by payroll tax savings (U.S.)

Must be operated in accordance with strict adherence to federal tax law via a written plan document (U.S.)

If there is a medical reimbursement feature, uniform coverage rules require that full amount of benefit elected be available during entire plan year regardless of how much an employee has actually contributed to date (U.S.)

Means employer assumes certain amount of financial risk with respect to elected benefits

Potential problems with adverse selection

Could result in underwriting problems

From public relations perspective, employees may view shift as mechanism for benefit delivery with negativity and skepticism especially if introduced at same time as cutbacks or cost increases

Subject to complex coverage and nondiscrimination testing (U.S.)

Some apply to plan as a whole and some to underlying benefits

Depending on underlying demographics, some tests may be difficult to pass

14. Continued

(b)(i)

U.S.

Internal Revenue service governs cafeteria plans due to special tax treatment given to contributions made and benefits paid from plan
Cafeteria plan not governed by Employee Retirement Income Security Act (ERISA) because not classified as a welfare benefit plan under ERISA Section 3

Some underlying benefits funded through the plan may be subject to ERISA because they are considered to be welfare benefits
Cafeteria plans that include welfare benefits are subject to ERISA.
Some benefits subject to other employment laws

Plan must be operated in accordance with written benefit plan maintained by employer primarily for benefit of its employees

Plan must allow participants to choose between two or more benefits consisting of cash (or a taxable benefit which is treated as cash) and qualified benefits

Plan cannot be designed to offer only a choice among qualified benefits, without the cash or cash equivalent component

Salary-reduction-agreement is sufficient to satisfy cash requirement

Written plan must include following provisions:

Specific description of each benefit available and period of coverage applicable to each

Rules governing employees' eligibility and participation

Procedures for making participant elections under the plan, including when elections made, rules governing irrevocability of elections and period of coverage for which elections are effective

Manner in which contributions may be made such as via salary reduction agreement between employer and employee, non-elective employer contributions or a combination of both

Maximum amount of employer contributions available to any participant by stating maximum amount of elective contributions available either by maximum dollar amount or percentage of compensation

Plan year

If considered to have welfare benefit plans, a claims provision that satisfies ERISA must be included

Canada

No formal legal document is required to establish a flexible program

Depending on design, it may be necessary to modify other plan document

Insurance contracts and administrative service agreements will need to be developed or extensively rewritten

14. Continued

(b) (ii) S.

U.S.

Employee salary deferrals

To avoid constructive receipt of compensation, a salary reduction agreement is entered into between the employer and the employee prior to the beginning of the period of coverage (usually the plan year)

Employee agrees to forgo a portion of his or her salary

In lieu of compensation, employer contributes amount towards cost of certain benefits which employer can pay on a tax-favored basis, and which employees can buy on a pre-tax basis

Because participant has entered into an agreement to forgo salary in lieu of benefits, amounts that are deferred as contributions are not considered wages for federal income tax purposes

Employees may be able to sell vacation days and turn the cash equivalent of these days off into other qualified benefits or cash

Some plans designed to eliminate carry forward of unused vacation days to next plan year

Canada

Rearranging employer benefit subsidies (U.S. also)

Useful when current benefits are more valuable than all employees need (or the employer can afford to support)

Employer may offer lower or core level of benefits or even permit employees to waive coverage

New employer money (U.S. also)

Most employers not interested in increasing their benefit expenditures, but a number have added flexible credits to a plan for non-bargained employees coincident with signing a new collective agreement with a union (so pays same cost for non-bargained employees as negotiated with union but provides more economic value to employees)

Employers need not lock in to an allocation of additional dollars each year

A profit-related or gain-sharing technique can be used to provide additional credits based on financial performance of employer

Renegotiation of compensation

Direct salary reduction not tax effective because the Canada Revenue Agency has ruled that where an employee reduces salary to increase the flexible credit allocation, the amount of reduction must be included in the employee's income

Some exceptions – e.g. may be able to exchange bonuses and other forms of contingent pay for additional pre-tax credits

14. Continued

(b) (iii) .

U.S.

Employer-provided accident or health coverage under Sections 105 and 106

Includes health, medical, hospitalization coverage, prescription plans, over-the-counter drugs, dental and vision programs, disability insurance and coverage under an AD&D policy

Business travel, accident plan, hospital indemnity or cancer policies and Medicare supplements can be funded as can short and long-term disability

Reimbursement for health care expenses under a health care flexible spending account be able to exchange bonuses for additional pre-tax credits

Individually owned accident or health insurance policies, provided that the employer requires an accounting to insure that the health insurance is in force and is being paid by the employees

May not reimburse health insurance premiums under a health care flexible spending account

May not reimburse policies maintained by another employer

Employer-provided group-term life insurance coverage excludable from income under section 79 or includible in income solely because the benefit exceeds the \$50,000 limit of section 79

Dependent group term life insurance may not be included if the benefit is eligible for exclusion under Code section 132

Employer-provided dependent care assistance under code section 129

Employer-provided adoption assistance under code section 137

A 401(k) plan or purchase of retiree group term life insurance by participants employed by certain educational institutions

Contributions to a health savings account under code section 223

Canada

Areas that most readily accommodate choice-making include indemnity plan coverages and time off with pay

Choices include supplemental medical, dental, health spending account, employee life, survivor's income, spouse's life, children's life, employee AD&D, spouse's AD&D, children's AD&D, short-term disability, long-term disability, vacation buying, vacation selling, defined contribution pension/RRSP, defined benefit pension, flexible account

14. Continued

Defined benefit pension plans represent an area where choice-making is not easily introduced because the value of any benefit trade-off varies significantly with age and pay

Employers often tempted to initially restrict types and levels of choice as means of simplifying decisions of employees or managing financial stability of the program

Experience shows that employees feel comfortable with even most complex flexible programs provided choices are communicated well

(c).

U.S.

FSA i., ii. Description and sources of funds

Can be offered by employer on a stand-alone basis or as part of a larger cafeteria plan

Employee pre-tax contributions are the only source of funds

Must be designated in year prior to plan year

Once made, changes only allowed in certain circumstances (e.g. family status change)

Contributions withheld in equal amounts from each paycheck

Full amount must be made available to employee at beginning of the year

FSA iii. Eligible expenses

Must be used for health expenses

Excluded from taxable income if used for qualified medical expenses as defined under IRC 213

FSA iv. Tax and forfeiture rules (some tax rules for benefit in iii.)

Employee pre-tax contributions reduce salary for federal income tax purposes

Also reduce wages on which Social Security and Medicare taxes are paid

“Use it or lose it” forfeiture rule

Employers can keep forfeited funds and use them for any purpose except they cannot be returned to the employees that forfeited them

Employers typically use funds to offset losses or pay administrative costs

Limited access to account upon end of job

HSA i., ii. Description and sources of funds

Employee-owned trust or custodial accounts for reimbursement of health care expenses

14. Continued

Owned by the individual with a high deductible plan and completely portable

Must be high deductible plan of not less than \$1,000 for self-only, \$2,000 for family (at time funds placed in HAS, not necessarily at time of distribution)

Out-of-pocket maximum may not exceed \$5,000 for self-only, \$10,000 for family (indexed in future)

Must be administered by bank, insurance company, or other non-bank trustee approved by the IRS

Both individuals and employers are allowed to contribute

HSA iii. Eligible expenses

Must be used for health expenses of account holder and dependents or subject to penalty

If nonqualified expenses, subject to 10% penalty

Distributions for premiums for COBRA, long-term care insurance, health insurance while receiving unemployment, insurance while eligible for Medicare other than Medigap (also tax free)

Excluded from taxable income if used for qualified medical expenses as defined under IRC 213

HSA iv. Tax and forfeiture rules (some tax rules for benefit in iii.)

Contributions excluded from workers' taxable income if made by employer

Contributions deductible from adjusted gross income if made by individual

Earnings on contributions also not subject to tax

Roll-over of funds allowed, even to another HSA (as long as less than 60 days)

Funds accessible upon end of job

MSA i., ii. Description and sources of funds

Tax-exempt trust or custodial account that an individual can use to pay for health care expenses for self-employed and employees at firms with 50 or fewer employees covered by high deductible plan

Both employees and employers are allowed to contribute to a worker's MSA, but both may not make contributions in the same year

Maximum contributions exist

14. Continued

MSA iii. Eligible expenses

Must be used for health expenses of account holder and dependents or subject to penalty

If nonqualified expenses, subject to 15% penalty

Distributions for premiums for COBRA, long-term care insurance, health insurance while receiving unemployment

MSA iv. Tax and forfeiture rules (some tax rules for benefit in iii.)

Contributions excluded from taxable income if made by employer

Contributions deductible from adjusted gross income if made by individual

Roll-over of funds allowed

Funds accessible upon end of job

HRA i., ii. Description and sources of funds

Plan that reimburses employees for qualified medical expenses

Typically combined with high deductible health plan (not required)

Can be offered on stand-alone basis or with comprehensive insurance that does not use a high deductible

Employer contributes, typically set up as notional arrangements and exist only on paper

Employers do not incur expenses until an employee incurs a claim

If set up on funded basis, would incur full expense at time of contributions

HRA iii. Eligible expenses

Must be used for health expenses of account holder or subject to penalty

Excluded from taxable income if used for qualified medical expenses as defined under IRC 213

Lots of flexibility, comprehensiveness of health insurance subject to variation

Often cover preventive services in full, not subject to deductible

HRA iv. Tax and forfeiture rules (some tax rules for benefit in iii.)

Employer contributions not taxable to employee

Provide “first dollar” coverage until funds exhausted

Leftover funds at end of each year can be carried forward

Employers can place restrictions on the amounts that can be carried forward

Access at end of job depends on employer

14. Continued

Canada

i., ii. Description and sources of funds

HSA/HCEA i., ii. Description and sources of funds

Individual employee account that provides reimbursement of eligible health care expenses

At start of plan year employee decides whether or not to establish an account and how many flex credits to allocate to it

Direct employer contributions

Flex credits freed up from trade-offs in other benefit areas (not for stand alone accounts)

Deposits can be spread proportionally throughout the year or deposited in blocks

HSA/HCEA iii. Eligible expenses

Health-related expenses not covered by provincial health insurance or any other health plans

Must be health care expenses that would otherwise have been eligible for a tax credit under the Income Tax Act

Expenses can be reimbursed for employee and eligible dependents

Expenses can include:

Deductible and co-payment amounts, plus benefits exceeding maximum limits under the medical and dental plans

Medical practitioners' fees, such as acupuncturists, chiropractors

Dental expenses

Health care facilities, such as nursing homes and institutions

Medical devices and supplies, including artificial limbs, walkers

Other expenses, such as ambulance service

Payment of premium to other insurers for purchase of medical and dental insurance

Payment of premiums to Quebec and Nova Scotia for provincial prescription drug coverage

HSA/HCEA iv. Tax and forfeiture rules (some tax rules for benefit in iii.)

One-year rollover of unused balances or one-year rollover of unpaid claims is allowed

Majority of plans roll over unused balances

At end of second year, any unused amounts are forfeited

Must incorporate one, but not both, of these approaches in order to maintain their tax-free status

Unused balances cannot be paid out in taxable cash at end of year

Contributions and benefits paid not subject to tax

14. Continued

Personal Acct i., ii. Description and sources of funds

Used to reimburse employee for specified expenses that are not eligible for payment under a health spending account
Funded using excess credits that employee does not spend on other benefits and does not wish to direct to a health spending account
Employers create personal accounts when they are not comfortable allowing employees to take unused credits as taxable cash and when the intent is to complement other employer initiatives, such as employee wellness

Personal Acct iii. Eligible expenses

Wide range of expenses, some employers restrict reimbursement to health/wellness/fitness-related items
Examples are fitness club memberships, personal trainer fees, exercise equipment for home expenses for sports activities
Others allow reimbursement for health, financial management, and lifestyle expenses
Examples are child care/elder care, financial counseling, golf green fees, gym membership home/auto insurance, legal counseling, registered education savings plan, services of a professional accountant, sports equipment

Personal Acct iv. Tax and forfeiture rules (some tax rules for benefit in iii.)

Unused balances can be rolled over indefinitely and even cashed out at termination of employment (as long as tax taken up front)
Items reimbursed counted as taxable income to the employee

Perquisite Acct. i., ii. Description and sources of funds

A discretionary personal spending account for executives
Participants provided with allowance to purchase perquisites from list of choices
Employer wants to tailor program to needs of each executive, reduce burden of administration by simplifying execution of plan, assist with cost control by establishing limits and guidelines, and communicate value of perquisites for executives

Perquisite Acct. iii. Eligible expenses

Eligible expenses in typical perquisite account include automobile, business attire, business-class air travel, cellular phone, charitable contributions, child care, club memberships, elder care, entertainment expenses, financial counseling, health/fitness club, home computer, home security, legal counseling, newspaper/magazine subscriptions, optional life insurance, retirement counseling, school fees, spouse travel if business-related, vacation travel

14. Continued

Perquisite Acct. iv. Tax and forfeiture rules (some tax rules for benefit in iii.)

Likely that any unused amounts would need to be paid out or forfeited at year-end

Tax treatment depends on type of perquisite being reimbursed (some taxable, some non-taxable)

(d) Consideration in deciding whether to offer a Flex program for retirees in Canada and the U.S.

U.S. only

Retirees not permitted to pay for medical coverage on a pre-tax basis through a cafeteria plan using qualified retirement plan contributions

Canada and U.S.(unless otherwise specified)

Usually comparable to the employee plan (providing health only or health and dental only) or permitting the employee to make a onetime election of pre-retirement coverage and allowing that coverage to remain in force throughout retirement (Canada)

Could provide a health spending account to retirees combined with catastrophic medical coverage (Canada)

Are retirees more homogeneous than active workers (and therefore their needs do not vary significantly)?

May be difficult to communicate to retirees

Some of the key motivations for introducing flexible benefits to actives may not apply to retirees (e.g. increasing employee awareness of benefits, attracting and retaining employees, competitiveness)

Greater concern about adverse selection because retirees with chronic diseases would elect options with maximum medical coverage (could drive up costs in future years)

Increasing cost of retiree benefits encourages employers to adopt a defined contribution funding approach whereby employers agree to pay a specified number of dollars per retiree

Any additional costs would be paid by the retiree

Future inflationary increases are not factored into post-retirement liabilities, substantially lowering the employer's annual expense

Possibility that provincial health insurance plans will try to pay less of the medical bills for the elderly is also a concern that has encouraged some employers to limit their future liabilities through flexible programs

“Retiree flex” allows employers to reward career employees by providing Employees could accrue benefits over their careers (similar to how they earn pensions), tie credits to years of service

As employers cut back their contributions to retiree health care for all employees or for selected groups, the need for choice increases

14. Continued

Important case in Canada (Dayco) led to conclusion that retiree benefits accrue during the life of a collective agreement and vest at retirement

In absence of clear statement to retirees at time they were active, employer's ability to terminate or substantially change retiree benefits may be limited

Carefully examine whether a "promise" was made to current retirees before changing their programs

- 15. Learning Objectives:** 5: Evaluate the various types of coverages typically offered under a government health plan (e.g., Medicare, Medicaid, Canadian health plan, Social Security Disability Income, states' Temporary Disability Income programs, Workers Compensation, etc.)
12: Applies principles of pricing, benefit design and funding to an underwriting situation

Source: Update on MA Health Care Financing Review (Bela Gorman – Health Watch Issue No 57, January 2008) Medical Underwriting: Approaches and Regulatory Restrictions (Streve – nMilliman Research Report)

Cognitive Skill Level: Analyze, Calculate, Synthesize

Solution:

Part (a)

- (i) Acute
 - Costs spike initially when the disease is present, then return to lower levels upon recovery
 - Apply pre-ex for a period of time
- (ii) Chronic
 - Claim cost start out high and stay high since disease is ongoing
 - Rider out conditions or use higher rating class
- (iii) Relapsing
 - Costs are high, then decrease with recovery; then increase again; pattern repeats
 - Rider out conditions or exclude certain classes of disease

Part (b)

- Guaranteed Issue
 - * AMABO can no longer deny applicants
- Combined small and individual markets
 - * Decrease individual rates
 - * Increase small group rates
- Created Commonwealth Connector where individuals or groups can purchase insurance directly
- Requires all individuals to have health insurance
 - * Penalty – individuals cannot deduct personal tax exemption of state tax return
 - * Increase AMABO's individual line of business
- Subsidized Premium
 - * Provides premium assistance for low income (<300% of FPL)
- Requires employers with > 11 employees to provide “fair & reasonable” coverage or pay penalty

15. Continued

- * Increase AMABO's group line of business
- Created new cheaper plan for young adults – healthier individuals who do not need rich benefits
 - * Younger healthier people will move to cheaper plan

Part (c)

Small group current premium

$$250 \times 120 * 0.40 + 150 * 0.9 + 180 * 1.5 + 120 * 0.3 + 150 * 1 + 180 * 1.4 = 222,750$$

Individual premium

$$300 * 20 * 0.4 + 35 * 0.9 + 60 * 1.5 + 25 * 0.3 + 34 + 60 * 1.4 = 76,500$$

$$\text{Total premium} = 222,750 + 76,500 = 299,250$$

Total demographic factor:

$$140 * 0.4 + 185 * 0.9 + 240 * 1.5 + 145 * 0.3 + 184 * 1 + 240 * 1.4 = 1,146$$

Use equation: Base rate * Total Demo Factor = Total Premium (from previous step)

Solve for new base rate

$$\text{New base rate} = 261.13$$

Impact on Small Group:

$$\text{Premiums increase by } 261.13 / 250 - 1 = 4.45\%$$

Impact on Individual:

$$\text{Premiums decrease by } 261.13 / 300 - 1 = -12.96\%$$

16. Learning Objectives: 1: Understand and evaluate the effectiveness of the various types of Single Employer group coverage typically offered under:

- Group health plan, including Consumer driven plans, etc.
- Prescription Drug
- Group dental plan
- STD or LTD plan (incl. mention of coverage within other plans)
- Group life plan
- Post ret coverages

10: Evaluate the process and be able to develop a medical manual rate for both ASO and insured business

12: Applies principles of pricing, benefit design and funding to an underwriting situation

Source: GH-D100-07, GH-D103-07, GI, Ch29, 24-25, GH-D102-07

Cognitive Level: Recall/Analysis

Solution:

(a)

- Determine the risk profile of the market
 - * Select an insured population whose general health and risk profile is understood
- Determine the specific questions that will be asked
 - * Marketing method and competitive practices will influence questions
- Decide what actions company will take for different responses
 - * Accept/reject is common
- Estimate proportion of insured group that will have different responses to quantify morbidity

(b)

Individual Product

- Sold through agent
- Policyholder freedom of purchase choice
- UW will vary by type of product

Group Product

- Sold to employer or association
- Insurance is incidental to group's existence
- With broader population, anti-selection limited and UW liberalized
- Review characteristics of group

Group Life

- Industry
 - * Occ risks
- Contribution Level

16. Continued

- * Non-contributory is more desirable
- Eligibility
 - * Need to be clearly defined, eg – full time
- Participation Levels
 - * 75% required in many states
- Benefit Schedule
- Prior Experience
- Prior Rate History
- Individual Information
 - * For high amounts

Long-Term Care

- Face-to-face interviews for over 65
- Past health history
- Telephone interview
- APS
- Comprehensive UW

(c)

Population Data

- Nursing home most popular
- Adjust to reflect:
 - * Maturity of population
 - * Data bias
 - * Facility transfer

Insured Data

- Own experience, with limitations
 - * Consistent coding practices
 - * Older issues
 - * Mix of business

(d)

Provisions for tax qualified status

- Meet definition of chronically ill
- Certify impairment expected to last at least 90 days

Tax treatment of benefits and premiums to individual

- Tax qualified benefits not taxable income
- Premiums are deductible to extent premium and med expense exceed 7.5% gross income

16. Continued

Insurance Company tax on profit

- Calc active life reserve on one year term basis
- Reduces tax burden

17. Learning Objectives: 1: Understand and evaluate the effectiveness of the various types of Single Employer group coverage typically offered under:

- Group health plan, including Consumer driven plans, etc.
- Prescription Drug
- Group dental plan
- STD or LTD plan (incl. mention of coverage within other plans)
- Group life plan
- Post ret coverages

Source: Employee Benefits (Rosenbloom), Chapter 11 – Alternative Prescription Drug Plans and Their Impact on Employers

Cognitive Skill Level: Recall/Calculation/Analysis

Solution:

(a)

Role of pharmaceutical marketing
Drugs coming off of patent
Federal and state regulation, drug approval process
Growing demand as a result of society's fixation on Rx drugs as a cure all
Increasing utilization caused by an aging population

(b)

Current plan is **coinsurance** – member pays a percentage of each drug dispensed.
Could add a deductible.

Advantages include: simple to understand, member cost sharing increases keep pace with increases in cost of drugs, makes members aware of the true cost of drugs

Disadvantages include: member doesn't know their cost in advance, may result in underutilization of coinsured drugs.

Reference based pricing – for each therapeutic class, plan chooses a specific drug to set the maximum (reference) price; member is responsible for the difference between the cost of the drug dispensed and the reference price.

Advantages include: Helps patients understand the cost of their drugs, helps patients become better consumers, creates competition between drug manufacturers to be selected as the reference drug

Disadvantages include: only appropriate for classes where there are significant differences in costs and outcomes for various drugs, administration costs could

17. Continued

outweigh savings, presents challenges in analyzing and selecting the reference drug

Reverse copay – plan sponsor pays a fixed amount per script

Advantages include: Insulates plan against price inflation, simple for member to understand what plan pays

Disadvantages include: Requires monitoring to ensure plan doesn't penalize low income and sickest members, member doesn't know their costs in advance

Consumer directed health care – provide Rx coverage through health savings accounts (HSAs), flexible spending accounts or high deductible plans

Advantages include: tax savings to members, places more responsibility on member (consumerism)

Disadvantages include: implementation can be expensive; some members may be unable to handle responsibility and make poor decisions

Other strategies:

Promote generic usage

Tiered benefits – include high cost drugs with coinsurance, while promoting low cost drugs with lower flat copays

Formularies – steer members towards appropriate medications with lowest cost

Step therapy –

Dispensing limits

Pre authorization – requires that patients obtain pre approval for expensive drugs that have potential for misuse or abuse

(c)

- (i) Reverse co-pay
- (ii) Single tier-copay
- (iii) Reference based pricing

Current average drug cost to client = 80% of

$$(0.10 \times \$40) + (0.20 \times \$70) + (0.25 \times \$909) + (0.30 \times \$110) + (0.15 \times \$130) = \$74.40$$

Next year's spending goal is to reduce by 20% = $0.80 \times \$74.40 = \59.52

- (i) **Reverse copay** – Drug A cost is below \$59.52, therefore the plan pays only \$40.

17. Continued

Need to determine average cost to client:

$$\$59.52 = (0.10 \times \$40) + (0.90 \times \text{reverse copay (RC) for Drugs B to E})$$

Solving for (RC) = \$61.69.

To achieve 20% spending reduction, reverse copay amount should be \$61.69 or less.

(ii) Single tier copay

Let copay = C, the flat copay paid by the member

$$\{(0.10 \times (\$40 - C)) + (0.20 \times (\$70 - C)) + (0.25 \times (\$90 - C)) + (0.30 \times (\$110 - C)) + (0.15 \times (\$130 - C))\} = \$93$$

Solving for C = \$33.48

(iii) Reference based pricing

Question stated that all drugs fall within the same therapeutic class. Need to determine maximum price paid by the plan for any drug purchased within this class.

Since Drug B = \$70 and is greater than our spending goal of \$59.52, the only option is to select Drug A as the reference price of \$40.

The plan would only pay \$40 for each drug dispensed within this therapeutic class.

18. Learning Objectives: 11: Understands and applies the concept of credibility theory

Source: GH-D115-07

Cognitive Skill Level: Calculation

Solution:

$$(a) \quad \text{Net Premium} = \frac{\sum \text{freq} \times \text{severity}}{n} \quad \text{GP} = \frac{\text{NP}}{\text{Loss Ratio}}$$

$$\begin{aligned} \text{NPI} &= (0.2)(0.8 \times 1500 + 0.2 \times 1000) && 280 \\ 2 &= (0.4)(0.5 \times 1500 + 0.5 \times 1000) && 500 \\ 3 &= (0.8)(0.1 \times 1500 + 0.9 \times 1000) && 840 \end{aligned}$$

$$\text{NP} = \frac{1}{3}(280 + 500 + 840) = 540$$

$$\text{GP} = 540 / 0.75 = 720$$

$$(b) \quad Z = \frac{n}{n + K} \quad n = \# \text{ observations}$$
$$K = \frac{E(\text{NP Process Var})}{\text{Var}(\text{Hypothetical Mean of NP})}$$

$$E[\text{Process Var}] \text{ given} = 305,333$$

$$\begin{aligned} \text{Var}[\text{Hypothetical Mean}] &= \frac{1}{3} \sum x_i - \bar{\mu}^2 = \sum x_i^2 - \mu^2 \\ &= 280^2 + 500^2 + 840^2 - 540^2 \\ &= 53,067 \end{aligned}$$

$$K = \frac{305,333}{53,067} = 5.754$$

$$n = 7$$

$$Z = 7 / (7 + 5.754) = 0.549$$

(c) For Jim

$$\text{Experience Net Premium} = \frac{(1000 + 1000 + 1500)}{7} = 500$$

$$\text{Exp GP} = 500 / 0.75 = 666.7$$

18. Continued

$$\begin{aligned} & \text{Credibility Weighted GP} \\ &= Z(\text{Experience Gross Premium}) + (1 - Z)(\text{Expected Gross Premium}) \\ &= (0.549)(666.7) + (1 - 0.549)(720) = 690.73 \end{aligned}$$

- 19. Learning Objectives:** 4: Evaluates employer strategies for designing and funding benefit plans for:
- (i) Active employees
 - (ii) Dependents
 - (iii) Pre-65 retirees
 - (iv) Post-65 retirees
 - (v) Disabled (short and long-term)

Source: Yamamoto Chapter 4

Cognitive Skill Level: Recall

Solution:

The following changes can be made to reduce the post retirement benefit obligation for PAL Inc.

- Redefine eligibility criteria for benefits
 - * Make the requirements more stringent than the pension plan by adding a minimum service requirement or increasing the minimum age
 - * Reduce the employer subsidy to employees with low service at retirement
 - * If a certain service threshold is not met prior to retirement retirees will be permitted to enroll in the plan with no company subsidy
 - * Future cost increases are not controlled with this method as the underlying plan risk has not been removed
- Relate benefit levels to service at retirement
 - * Employer portion of plan varies according to years of service at retirement
 - * Employer contribution could be set as a percentage of cost times the years of service at retirement or a service grouping schedule
 - * Future cost increases are not controlled with this method as the underlying plan risk has not been removed
- Adjust retiree contribution based on age at retirement
 - * In the US medical benefits paid before Medicare eligibility are 3 to 6 times more expensive
 - * Pension plans automatically adjust for early retirements as benefits are based on years of service and early retirement reduction factors
 - * Future cost increases are not controlled with this method as the underlying plan risk has not been removed
- Set the employer contribution as a fixed dollar amount
 - * Fixed dollar subsidy or cap
 - Employer has control over net expenditure
 - Retirees pay full cost of rate increases
 - * Total expenditure cap
 - Expressed in today's dollars
 - E.g. 2009 amounts per employee times 2

19. Continued

- * Defined contribution cap
 - Fixed per person amount capped in the future
- * Account balance or health spending account
 - Employer subsidy is a lump sum provided each year
 - Account used as needed and withdrawn at retirees discretion
 - When balance is depleted retiree has no further coverage
- Introduce managed care programs
 - * Reduce cost through provider discounts and better management of care
 - * PPO, POS, HMO can be used for pre-Medicare retirees
 - * HMO's are most common plans used by Medicare retirees
 - * HMO's offer lower premium levels than indemnity plans
 - * Coordination with Medicare part D benefits
- Active plan design management
 - * Large case management results in potential savings for extremely large claims
 - * Utilization review
 - Medical treatment appropriateness is reviewed prior to treatment
 - * Medicare balance billing limits
 - Place limits on reimbursement of a physician above what Medicare pays
 - * Adjust reasonable and customary limits paid by employers to shift cost to retirees
 - * Encourage spouses to use their own plan through spousal initiatives
 - Surcharge if spouse has another plan
 - Bonus' provided to retiree if spouse uses their own plan
 - Spouses with coverage are ineligible for additional coverage
 - * Dynamic plan provisions such as indexation of deductibles and copays
 - * Managed prescription drugs can reduce current costs and decrease future cost increases
 - Negotiate reimbursement rates with limited pharmacies
 - Reduce administration fees
 - Real time eligibility information
 - Mail order drug plans
 - * Enhance quality of services
 - Center of excellence
 - Health care coalitions
 - Outcome monitoring
 - * Managed health awareness programs
 - Lifestyle education
 - Lifestyle based contribution rates
 - Credits for health lifestyle

19. Continued

- * Consumer awareness initiatives
 - Ensure employees have enough information on cost and quality of care to make decisions
 - Provide info through the telephone or internet
 - Provider payments based on the quality of care
- * Medicare Advantage PPO & PFFS
- * Other
 - Terminate dental, vision and hearing benefits at age 65
 - Reduce benefit at a certain age or introduce a flat amount
 - Require employees enroll in Medicare Part A and B
 - Look at various funding alternatives to take advantage of FAS 106 asset

- 20. Learning Objectives:** 4: Evaluates employer strategies for designing and funding benefit plans for:
- vi) Active employees
 - vii) Dependents
 - viii) Pre-65 retirees
 - ix) Post-65 retirees
 - x) Disabled (short and long-term)

Source: Ch.7 Handbook of Employee Benefits –
Ch. 7 handbook of Employee Benefits –

Cognitive Skill Level: Calculation and Recall

Solution:

- (a) 2010 benefit cost under current plan = $5,000,000 * 1.08 = 5,400,000$
Employer cost = $5,400,000 * 0.8 = 4,320,000$

Cost neutral, so want proposed plan cost to equal 2010 employer cost

Proposed level 1 employer cost = $15\% * 5,000,000 * 1.08 * 0.9 * 1.02 * 0.9 = 669,222$
 Proposal level 2 employer cost = $75\% * 5,000,000 * 1.08 * 0.8 = 3,240,000$
 Proposal level 3 employer cost = $10\% * 5,000,000 * 1.1 * 1.15 * x = 632,500x$
 Where x = employer cost share

$$4,320,000 = 669,222 + 3,240,000 + 632,500x$$

$$x = 0.649$$

$$1 - x = 35.1\% \quad \text{Employee cost share}$$

- (b)
- Graduated from an accredited medical school
 - Valid state license
 - Current malpractice coverage
 - Privileges at local participating hospital
 - No involuntary terminations
 - No prior disciplinary actions
 - Willingness to comply with UM programs

21. Learning Objectives: 5: Evaluate the various types of coverages typically offered under a government health plan (e.g., Medicare, Medicaid, Canadian health plan, Social Security Disability Income, states' Temporary Disability Income programs, Workers Compensation, etc.)

Sources: Group Insurance, Ch. 13 & Managed Health Care Handbook, Kongstvedt, Ch. 57

Cognitive Skill: Recall

Solution:

- (a)
- (i) This program is funded at the state level, with support from the Federal government & dependent upon the state's average per capita income.
Federal funding comes from general revenues
The lower the state's average per capita income, the higher Federal support percentage
 - (ii) The Federal Government sets the minimum criteria and States are free to expand eligibility.
Aid for Families with Dependent Children (AFDC) – Children and adults in poor, single-parent families that qualify for cash assistance
Supplemental Security Income (SSI) – Low-income aged, blind and disabled individuals on cash assistance
Recipients of foster care
Recipients of adoption assistance
Low-income Medicare beneficiaries
States have the option to expand eligibility to other groups
Income requirements are defined as a % of the federal poverty level
States may extend to medically needy
 - (iii) Inpatient and outpatient hospital
Physician
Lab and x-ray
Home health care
Preventive care, prenatal care, vaccines for children
Family planning
Services at federal qualified health centers and rural health clinics
Skilled nursing facility
Transportation
 - (iv) Outpatient prescription drugs
Prosthetic devices and hearing aids
Optometric services and eyeglasses
Rehabilitation and physical therapy
Dental

21. Continued

(b) Successes:

Access

Most states audits have generally found improved use of primary care.
Increased access to services and broadened coverage

Cost

Modest savings over traditional fee-for-service Medicaid
Capitation rates below FFS in some states

Quality/Outcomes

Organize care and measure experience of enrollees in way not possible
under FFS
HEDIS requires measures to be reliable, timely and actionable

Member Satisfaction

Managed care models have forced many agencies to evaluate through the
eyes of their beneficiaries
Prepare the population to assess features unfamiliar to them and are
attractive
Use of enrollment brokers

Accountability

Gives Medicaid directors an entity to hold responsibility

Devolution

Medicaid managed care has aided in the devolution of authority from the
federal to the state government
Improved delivery
Many states used Section 115 to transform Medicaid plans

Shortfalls:

Lack of Data/Evidence of Impact

Savings may not be carefully calculated
Data may not be reliable

Administrative Capacity and Performance

States have trouble keeping up with technology

21. Continued

Adversarial Contracting Environment

- Tensions between state and Medicaid purchasers and plans
- Increasing number of plans withdrawing from the Medicaid market
- Tension attributable to overall financing
- Some states have sharply reduced capitation rates or without actuarial soundness

Serving Special Needs Groups

- Lack of evidence that has shown improved quality of care for the special needs groups have hindered serving this population.
- Slow implementation reflects lack of readiness
- Adversarial relationship between States Agencies
- Case management has limited use in Medicaid Managed Care
- Absence of well proven risk adjustment schemes