GH RM Model Solutions
Fall 2024

1. Learning Objectives:

1. The candidate will understand how to evaluate and recommend an employee benefit strategy.

Learning Outcomes:

(1a) Describe structure of employee benefit plans and products offered and the rationale for offering these structures.

Sources:

GHRM-101-23, Health Plan Payroll Contribution Strategies and Development for Employers

Commentary on Question:

Most candidates performed well on this question and received full credit.

Solution:

(a) Describe strategy considerations related to payroll contributions.

Total compensation philosophy – Employee benefits are a significant part of the total compensation. The employer's compensation philosophy and goals for employee retention need to be taken into consideration when setting payroll contributions.

Benefits competitiveness – The benefits and the contributions should be competitive compared to the employer's peers in the market to ensure the employees are receiving market level benefits to retain talent pool and support employee needs.

Benefits Budget – As healthcare costs are rising, the employer has budget limitation on how much they can spend on benefits. The employee payroll contributions should consider budget available for benefits.

Collective Bargaining - Usually unions have collective bargaining agreements with employers. These unions typically have richer benefits/lower employee contributions than non-union employees. The contribution setting strategy should consider the presence of unions and the related contracts before setting contributions.

1. Continued

Legislative and regulatory impacts – State and federal laws need to considered for employer sponsored plans in not only designing the benefits but also when deciding on the employee contributions. For example, the ACA requires contributions to be affordable i.e., less than 9.5% of household income or meet safety threshold.

(b) Contrast defined benefit and defined contribution approaches for an employee benefits program.

Defined Benefit – The employer contributes a fixed percentage of premium as employer contribution to the benefits.

Defined Contribution – The employer contributes a fixed dollar amount per employer as employer contribution for health premium. This approach can have a different fixed dollar subsidy based on the employee tier – Single & Family.

Contrast:

- The defined benefits approach provides higher subsidy for more expensive plans whereas the defined contribution approach has a fixed dollar subsidy, so employees electing richer plans need to pay higher amounts out of pocket
- On the other hand, defined contribution approach incentivized employees to choose less generous plans
- Defined contribution approach is easier to budget for and is more popular especially with private exchanges

The defined benefits approach is more equitable between plan selection

2. Learning Objectives:

3. The candidate will understand how to evaluate healthcare intervention programs.

Learning Outcomes:

(3a) Describe, compare and evaluate programs.

Sources:

Managing and Evaluating Healthcare Intervention Programs, Duncan, Ian G., 2nd Edition, 2014

Commentary on Question:

Most candidates performed well on this question. Some candidates struggled with part (a) but performed well on parts (b) and (c). Part (a) asked candidates to describe medical management programs. Candidates needed to describe these programs versus providing only a list to receive full credit.

Solution:

(a) Describe common features of medical management interventions aimed at patients and providers.

1.) All rely heavily on identification of at-risk members, often through medical claims and sophisticated scoring (identification and stratification) algorithms.
2.) More recent models attempt to integrate clinical data into the identification and prediction process
3.) All rely on some form of standardized treatment or evidence-based care. The at-risk patient is then either encouraged to seek best-practice care (in the case of third-party programs) or the treating physician is expected to comply with evidence-based guidelines.
4.) All rely on clinical resources to perform evaluation of the patient's condition (with assistance where possible form automated systems such as gaps-in-care algorithms or telemedicine) and either practice according to evidence-based guidelines or to provide coaching for those members whose care deviates from best practice guidelines.
5.) All rely (to some degree) on participation by the member or patient in the member's own care. The newer models leverage internet portal technology to provide the clinician and the patient with information, and in addition for the patient, to schedule appointments and provide reminders when necessary.
6.) All have proven to be difficult (to a greater or lesser degree) to assess and justify financially

2. Continued

(b)

(i) Explain challenges with demonstrating the link between quality and cost improvement.

(ii) Describe factors to resolve these challenges.

(i)

1. The measurement of financial outcomes is not sufficiently stable (e.g., subject to variation or external factors that have been inadequately controlled), or our measurement techniques are not sufficiently sensitive to be able to detect positive financial outcomes
2. Programs (particularly early DM programs) were either not focused on financial outcomes or were not structured to optimize the financial outcomes. Programs were often implemented by Medical Management Department or were established to achieve clinical improvement. Many programs, for example, are designed to improve HEDIS scores or improve patient clinical outcomes, but few clinical HEDIS measures are correlated with short-term financial outcomes.
3. Program sponsors do not understand the economics of DM programs and therefore do not optimize the programs for financial return in relation to the resources required.
4. Some health outcomes appear not to be associated with financial savings. There appears to be increasing evidence that improved quality = lower cost is not necessarily true. Some quality improvement may increase cost overall, but still be worth the investment on other grounds.

(ii)

1. A better understanding of the economics of DM programs, to help set reasonable expectations.
2. More rigorous measurement of financial outcomes. Core problem is the way a methodology is applied, assumptions made, and data decisions affect the outcomes.
3. Reconciliation among DM program savings, overall claims costs, and cost trends.

(c) Contrast:

(i) care management and utilization management.

(ii) pre-authorization and concurrent review.

2. Continued

(i)

1. Utilization management has traditionally focused on providers and has acquired a negative connotation
2. Care management is a broader term that fosters patient participation and includes healthcare professionals that are not physicians
3. Utilization management is essentially “downstream” management of medical services through processes such as pre-authorization, concurrent review, etc.
4. Care management has focused more on “upstream” prevention of illness and improving the quality of care delivered.

(ii)

1. Pre-authorization requires the physician or hospital to obtain approval for a procedure or medical service prior to performing it.
2. Concurrent review occurs while the member is receiving care or is hospitalized.
3. Pre-authorization is generally applied to inpatient procedures, although it is increasingly being used for certain outpatient procedures, e.g., advanced imaging, and high-cost outpatient drugs.
4. Concurrent review traditionally occurs while a member is in an acute hospital or nursing home

3. Learning Objectives:

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

Learning Outcomes:

(2a) Calculate provider payments under various reimbursement methods.

(2d) Understand accountable care organizations and medical patient home models and their impact on quality, utilization and costs.

Sources:

GHRM-105-23 Avoiding Unintended Incentives in ACO Payment Models (Health Affairs)

Healthcare Risk Adjustment and Predictive Modeling, Duncan, Ian G., 2nd Edition, 2018, Ch. 22: Intro to Risk Adj: Accountable Care Organization

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) Calculate the cumulative marginal revenue over the two MSSP contract period (2021 through 2026) under the following scenarios. Show your work.

(i) The surgery occurs in 2022

(ii) The surgery occurs in 2023

Commentary on Question:

Candidates did well on this question. Most candidates applied the appropriate weights, depending on the year of the surgery. Some candidates missed the fact that the surgery is considered revenue to the HMO and applied it as a cost.

Candidates with an alternative solution citing recent updates to the ACO gainsharing calculation described in Chapter 22 of Duncan (equal weights for second period benchmarking, 40% loss sharing) also received credit.

The model solution for this part is in the Excel spreadsheet.

(b) Propose weights to use in determining the benchmark such that the cumulative marginal revenue does not exceed net payments for the surgery.

3. Continued

Commentary on Question:
Many candidates understood that by using equal weights, the cumulative marginal revenue would equal the FFS payments. Equal weights is not the only solution, as the question asked that cumulative marginal revenue not exceed the surgery cost. Candidates who illustrated that proposed weights might not be possible due to a minimum shared savings rate also received credit.

The model solution for this part is in the Excel spreadsheet.

(c) Recommend other changes to the MSSP structure to ensure the ACO and Centers for Medicare and Medicaid Services (CMS) both realize savings. Justify your response.

Commentary on Question:
Candidates generally did well on this part of the question. Candidates who did not receive full credit either only justified one change or listed changes without justification.

Extend the benchmarking period to five years with equal weights.

- This will penalize cost savings less heavily, adding an incentive for the ACO to reduce costs while limiting the ability for short-term gaming of the MSSP sharing formula

Blend an ACOs benchmark with local benchmarks (yard stick approach) such as the traditional FFS Medicare spending in the ACO's market.

- Recognizes local characteristics and best practices – ensuring both CMS and the ACO consider the relative costs of care in the applicable area and base compensation accordingly
- Promotes competition on value, efficiency, and savings.

4. Learning Objectives:

1. The candidate will understand how to evaluate and recommend an employee benefit strategy.

Learning Outcomes:

(1a) Describe structure of employee benefit plans and products offered and the rationale for offering these structures.

Sources:

The Handbook of Employee Benefits, Rosenbloom, Jerry, 7th Edition, 2011, Ch. 2: Functional Approach to Designing and Evaluating Employee Benefits

Commentary on Question:

Most candidates performed well on parts (a) and (b) but some struggled on parts (c) and (d).

Solution:

(a)

(i) Describe the functional approach in designing and evaluating employee benefits.

The functional approach is structured way of classifying and analyzing benefits to make sure that benefits are allocated in a way that best meet the needs of employees. This can involve analyzing the risks/benefits to be covered, the classes of people (active, retired, dependents, etc) as well as where there may be overlaps or coverage gaps. This can help make sure the benefit plan is structured to best meet the needs of employees while minimizing employer costs (by reducing wasteful spending) and remain compliant.

(ii) List the usefulness of the functional approach in designing and evaluating employee benefits.

- A structured approach helps analyze the benefits to keep them current, competitive, and compliant
- With all of the different benefits an employer offers, a structured approach is needed to make sure the benefits can be integrated with each other properly
- The functional approach can help map out benefits to see where there overlaps that offer opportunities to reduce cost
- The functional approach can help identify coverage gaps that can be addressed to better align with company goals and employee needs.
- Benefits are a significant part of labor costs, and a structured approach can help ensure the benefits are as effective for employees as possible

4. Continued

(b) Company ABC is a large, well-established employer in a mature industry and is considering the benefits offered to its employees. The company has not updated benefits since it was founded 15 years ago.

ABC's current approach is to measure its benefit offerings relative to those provided by growth companies and developing industrial firms.

Evaluate ABC's current approach.

ABC is already well-established, and its approach is comparing itself to companies that are growing and developing. There are a few considerations with this approach:

- How different are benefits from established companies' vs developing companies. Developing companies may not be investing as much in benefits given that their budgets for employee benefits are likely not as large as developed companies.
- Developed companies are also more likely to have pension benefits vs a developing company and ABC would not be able to make comparisons on level of benefits.
- There could be also regulatory differences between what is required from a large employer vs a small developing employer
- Large employers usually evaluate a self-insured approach given their size, but developed companies are more likely to choose a fully insured approach to benefits. These differences may not be caught with ABCs approach.
- It should review benefit against its direct competitors to make sure benefit are comparable to those companies to be able to attract and retain top talent

(c) Summarize how ABC would analyze their current employee benefits against the objectives and current criteria under the functional approach.

1. Type of benefit- look at what benefit is payable to a representative employee under given circumstance
2. Level of benefit- what amount of benefits are available? How much do they cost?
3. Probationary periods- how long must employee wait to be eligible
4. Eligibility- who is eligible for benefits?
5. Current participation levels- at what rate do employees choose to participate? When coverage is waived, it may reflect benefits are not sufficient
6. Employee contributions- what does the employee owe for benefits? Is it defined benefit or defined contributions?
7. Flexibility given to employees to choose benefits that best meet their needs and goals

4. Continued

(d) Compare and contrast the compensation/service-oriented benefit philosophy and the benefit-or-needs-oriented philosophy.

Compensation/service-oriented benefits: These are benefits that are focused more on employee compensation or the number of years they have worked for the company. This is most common in life or retirement benefits, as these are often a percent of salary or based on the number of years of service. These benefits are provided to reward employees for their service to the company. Companies with this philosophy tend to prioritize salary and other compensation-related benefits rather than health and other benefit needs. They would be likely to attract younger, healthier people who are focused more on compensation.

Benefit-or-needs-oriented benefits: These are benefits that are designed to meet employee needs, rather than compensation-based. These are often related to health benefits, as those are not based on salary or service, but on need. These benefits are provided to attract talent, as need-based benefits are an important consideration for employees when deciding where they want to work. Companies with this philosophy tend to prioritize benefits over salary and spend more of their money on ensuring employee needs are met over employees getting very high salaries. They are likely to attract older, more unhealthy people who need to needs-based benefits and care less about compensation, which is on the contrary to compensation based.

5. Learning Objectives:

4. The candidate will understand how to apply risk adjustment in actuarial work.

Learning Outcomes:

(4a) The candidate will understand how to apply risk adjustment in actuarial work.

(4b) Apply risk adjustment to underwriting, pricing, claims and care management situations

Sources:

Restoring the Indifference Ideal: If It's Not Adjusting for "Risk," It's Not "Risk Adjustment"

Commentary on Question:

This question was testing candidates' knowledge of ACA risk adjustment and how to calculate transfers.

Solution:

(a) Describe the intention, aim, and design of risk adjustment as it pertains to the ACA marketplace.

Commentary on Question:

Most candidates had a general knowledge of risk adjustment and received at least partial credit on this part of the question.

- The aim of ACA risk adjustment is to foster markets where health plans compete on quality, efficiency, and value, not on risk selection
- A rating gap exists between the premium rates offered under the current market regulatory environment and the premium rates that would have been offered in an environment without regulations limiting rating factors
- 'Risk adjustment' is designed to bridge the rating gap
- Risk adjustment is needed as health plans are not permitted to develop rating factors that properly reflect risk

(b)

(i) Describe the "indifference ideal."

(ii) Describe how the "indifference ideal" is supported by ACA risk adjustment.

Commentary on Question:

Most candidates demonstrated some knowledge of this concept.

5. Continued

- Differences in rates reflect differences in cost
- Health plans are indifferent to enrollment mix if rating factors are developed to promote actuarial equity and level profitability across various demographic characteristics and products
- also characterized as insurers being "ambivalent" to any characteristics
- Federal government assumes responsibility for the development of rating factors
- The ACA risk adjustment methodology needs to be developed with both a detailed understanding of risk characteristics and a technical comprehension of how the ACA regulatory limitations on premium rates reflect these risk characteristics.
- Paradigm shift: In the ACA world, health plans are not permitted to develop rating factors that properly reflect risk.
- Risk adjustment addresses the rating gap due to regulations OR "bridge the gap"
- Risk adjustment fosters "indifference ideal" or reinforces rating rules

(c) Calculate the allowed premiums and equitable risk transfer payments and receipts for Insurer A and Insurer B under each of the following scenarios. Show your work.

(i) Without age rating.

(ii) With age rating and premiums three times higher for Older Adults than Young Adults.

Commentary on Question:
Some candidates did well on part i) but couldn't apply correct age rating in part ii).

The model solution for this part of the question is in the Excel spreadsheet.

(d) Describe reasons why ACA metal level premium relationships are disparate across the country.

Commentary on Question:
Other than Cost Share Reduction (CSR), most candidates struggled on this part.

5. Continued

- Federal guidance is not uniformly enforced.
- Deference to states with "effective rate review" processes.
- Rating dynamics associated with AV are technical and paradoxical, the comprehensiveness & rigor of state's review processes vary in detail & in nature.
- Some states have specifically addressed premium alignment issues through formal rulemaking.
    - Example states: Colorado, Texas, New Mexico, Pennsylvania, Virginia
- Different distribution of silver enrollees in CSR defunded environment.

(e) List differences between the ideal ACA environment and the alternative environment.

Commentary on Question:
Most candidates received partial credit on this part of the question, but few provided enough detail to receive full credit.

Ideal ACA environment:

- ACA rating rules are enforced
- The risk adjustment methodology reinforces the ACA rating rules
- Health plans are generally indifferent to the populations they enroll
- Risk adjustment appropriately adjusts for risk
- Consumer equity

Alternate environment:

- The ACA risk adjustment methodology is effectively not risk adjustment.
- The ACA risk adjustment methodology is merely a complicated financial mechanism that feeds actuarial rating formulas.
- Health plans compete for targeted populations without regard for the indifference ideal.
- Result is lower premium subsidies.

6. Learning Objectives:

3. The candidate will understand how to evaluate healthcare intervention programs.

Learning Outcomes:

(3a) Describe, compare and evaluate programs.

Sources:

Managing and Evaluating Healthcare Intervention Programs Ch. 11, Duncan, Ian G., 2nd Edition, 2014

Commentary on Question:

The sections of this question tested the candidates understanding of what propensity score matching (PSM) is. It also tests the candidate's ability to interpret the results of a propensity matched study.

Solution:

(a) Verify the accuracy of the following statements. Justify your response.

(i) Propensity score matching (PSM) is a technique for estimating what would happen to a population if a program was implemented.

(ii) PSM reduces a large number of variables into a few key scores that allow for more effective matching.

(iii) PSM should consider the variables themselves when matching and not just rely on PSM scoring alone.

(iv) PSM has many advantages including matching on both observed and unobserved variables.

Commentary on Question:

Most candidates performed well on this part of the question

1.) False: PSM is a technique for estimating what would happen to a population if a program was **Not** implemented
2.) False: PSM reduces many variables into a **single score** that allows for more effective matching
3.) True: When matching, variables other than the single score should be considered during the matching process
4.) False: One of the shortfalls of PSM is that it **does not** match on non-observed variables

6. Continued

(b)

(i) Describe methods used for PSM.

(ii) List important considerations for matching.

Commentary on Question:
Most candidates performed well on this part of the question.

(i)

a. Nearest neighbor matching: First member of comparison population with closest score is matched
b. Caliper matching: Match is made if member and match's propensity score are within a fixed difference
c. Mahalanobis metric matching: Metric that can be used to measure the dissimilarity between two vectors
d. Stratification matching: Technique called coarsened exact matching in which observations are stratified and then matched by stratum

(ii)

a. With or without replacement?
b. What determines the closeness of a match?
c. What constitutes a satisfactory percentage of matched members?

(c) Compare and contrast results from the matched and unmatched studies, with respect to the hypotheses.

Commentary on Question:
Some candidates became distracted by metrics in the table that were not relevant to the hypothesis. Many of those candidates became fixated on the P-values provided which, while important, were not at the heart of the question. Those that connected the hypothesis to metrics that spoke to DSME/T, medication adherence, admissions, and costs in both the matched and unmatched study generally performed better on this part of the question.

Comparison:
In the propensity matched study and the unmatched study, education/1000 and medication adherence is higher for low cost-sharing members than high cost-sharing members,

Contrast:
In the propensity matched study, Diabetes admits/1000 is a more reliable metric and shows that the low-cost sharing members have lower admits/1000. The unmatched study shows higher admit/1000 in the low-cost sharing members than the high cost-sharing members.

6. Continued

Cost per diabetes admit is similar for both studies but you can see a clear reduction in overall Inpatient claims PMPM in the matched study that does not exist in the unmatched study.

(d) Describe considerations for testing the results of a PSM model.

Commentary on Question:
Almost all candidates received some credit on this part of the question, although few provided enough detail to receive full credit.

1. Test for appropriateness
2. Test for bias
3. Should control for unequal distribution of covariates between intervention and comparison populations
4. Ensure the model is parsimonious
5. Validate that the matched sample satisfactorily adjusts for observed differences
6. Minimum visual comparison between treatment and comparison populations is required

7. Learning Objectives:

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

Learning Outcomes:

(2a) Calculate provider payments under various reimbursement methods.

(2c) Understand contracts between providers and insurers.

(2d) Understand accountable care organizations and medical patient home models and their impact on quality, utilization and costs.

Sources:

Healthcare Risk Adjustment and Predictive Modeling, Duncan, Ian G., 2nd Edition, 2018
Ch. 22: Intro to Risk Adj: Accountable Care Organization

Provider Payment Arrangements, Provider Risk, and Their Relationship with Cost of Healthcare, 2015 (excluding Appendices)

Commentary on Question:

Commentary listed underneath question component.

Solution:

(a) Describe how a provider group-based accountable care organization (ACO) can generate savings.

Commentary on Question:

Most candidates performed well on this part of the question.

1. **Care Coordination:** The practice will implement "care coordination" to manage the care of the patients who need additional services.
2. **Data-Driven Management and Decision Making:** Access to integrated medical records and consistent management by the physician will reduce the need for tests.
3. **Efficient Contracting and Cost Management:** The ACO will develop a network of efficient providers for referrals and will limit the use of less efficient and more expensive providers.
4. **Focus on Quality:** The focus on quality will also result in fewer unnecessary services, and by emphasizing preventive services, lead to later savings as population health is improved.

7. Continued

(b)

(i) Explain whether each beneficiary meets the assignment criteria established by the Medicare Shared Savings Program. Justify your response.

(ii) Identify the entity to which the beneficiary is assigned, assuming each beneficiary meets the necessary criteria. Justify your response.

Commentary on Question:
Most candidates performed well on this part of the question. However, in part (i), some candidates were unaware that Puerto Rico and Guam are U.S. territories, although it is covered in the study materials. In part (ii), some candidates failed to point out Beneficiary C would not be assigned to an ACO.

(i)

- Beneficiary A does not meet the beneficiary assignment criteria
  - does not have at least one month of Part A and Part B enrollment
- Beneficiary B does not meet the beneficiary assignment criteria
  - enrolls in Medicare group (private) health plan
  - does not live in the United States or U. S. territories and possessions
- Beneficiary C does not meet the beneficiary assignment criteria
  - does not have at least one month of Part A and Part B enrollment (only 6 months in Part A)
- Beneficiary D meets the beneficiary assignment criteria
  - lives in the United States or U. S. territories and possessions
  - has a record of Medicare enrollment
  - has at least one month of Part A and Part B enrollment

(ii)

- Beneficiary A – Entity 1
  - Beneficiary A receives the plurality of primary care at $375 from Entity 1: an ACO Entity.
- Beneficiary B – Entity 1
  - Beneficiary B receives the primary care at $800 only from Entity 1: an ACO Entity.

7. Continued

- Beneficiary C – Not assigned
  - Beneficiary C has the highest charges from Entity 3 (Non-ACO Entity) at $400, which is not tied to the ACO. Since MSSP assigns beneficiaries to an ACO only if the majority of their primary care services are provided by ACO-linked entities, Beneficiary C would not be assigned to an ACO.
- Beneficiary D – Entity 2
  - Beneficiary D receives the plurality of primary care at $400 from Entity 2: a Federally Qualified Health Center (FQHC) where the physician NPI is included on the ACO Participant List.

(c)

(i) Calculate the historical benchmark per capita. Show your work.

(ii) Calculate the updated benchmark per capita. Show your work.

Commentary on Question:
Most candidates demonstrated basic knowledge of the benchmark calculations; however, few successfully followed through to arrive at the correct final answer. In part (c)(ii), partial to full credit was awarded if the calculation was based on an incorrect input from part (c)(i) but was otherwise performed correctly.

The model solution for this part is in the Excel spreadsheet.

(d)

(i) Explain how XYZ meets the requirements to share savings with Centers for Medicare & Medicaid Services (CMS). Justify your response.

(ii) Calculate the shared savings to XYZ. Show your work.

Commentary on Question:
In part (i), most candidates were able to list the requirements; however, some did not provide explanations on how XYZ specifically met those requirements. In part (ii), partial to full credit was awarded if the calculation was based on an incorrect input from part (c) but was otherwise performed correctly.

7. Continued

(i)

- **Meet Quality Performance Standards**: ACOs must achieve specified quality benchmarks across four main domains:
  - Patient/Caregiver Experience
  - Care Coordination/Patient Safety
  - Preventive Health
  - At-Risk Population Management
    - The ACO meet the quality standards.
      - ACO XYZ was assigned a positive health equity adjusted quality performance score of 55 (%).
      - Because XYZ is in its first year, they do not need to compare their performance score to a target.
- **Achieve Savings Beyond the Minimum Savings Rate (MSR)**: There is a MSR savings hurdle rate that the ACO must surpass in order to be eligible for shared savings.
    - The ACO meet the MSR requirement.
      - The savings ($32.7M) are greater than the MSR ($16.4M). (details in Excel spreadsheet)

(ii) The model solution for this part is in the Excel spreadsheet.

(e) Contrast an ACO shared savings reimbursement model and a fee-for-service (FFS) model for the following risks:

(i) Technical

(ii) Insurance

Commentary on Question:
Most candidates performed well on this part of the question. Additional responses outside of those covered here but relevant to the question were also acceptable.

(i) Technical

ACO Shared Savings – High

- The providers are typically still paid on an FFS basis. However, shared savings model requires the calculation of the benchmark, reconciliation of the savings, measurement of the agreed-upon quality measures, auditing the agreed-upon attribution method, and distributing savings or losses among providers.

7. Continued

- ACOs take on the technical risk associated with investments in data infrastructure, electronic health records (EHRs), and population health management tools. These technologies are essential for tracking patient outcomes, coordinating care, and reporting to CMS. If these systems fail or underperform, ACOs risk missing quality benchmarks and losing out on shared savings.

FFS – Low

- The FFS model is easier to implement, design and monitor and thus less dependent on advanced technology for care coordination because providers are reimbursed per service without the same incentive to track patient outcomes. There is less technical risk for providers regarding care management systems and data interoperability.
- The main technical risk in FFS is centered on accurate billing and coding systems to ensure providers receive payments. There is less emphasis on integrated care technology, though billing errors can still result in lost revenue or compliance issues. Also, nonspecific codes or codes for new technologies and new drugs can bring in more technical risk as they can be more difficult for claims departments to monitor. Updating the price list each year can also be complex.

(ii) Insurance

ACO Shared Savings – Medium/High

- ACOs bear insurance risk through cost management, as ACOs must manage the unpredictability of patient health needs while controlling costs.
- Since ACOs are accountable for a defined population, they assume insurance risk related to unexpected shifts in patient health status. If a patient population has higher-than-expected medical costs, the ACO might fail to achieve savings or even incur losses in a two-sided risk arrangement.

FFS – Low

- In FFS, providers do not bear insurance risk directly because they are paid per service rendered, regardless of patient outcomes or overall costs. The insurance risk is largely borne by the payer rather than the provider.
- However, there is still some risk associated with patient volume variability, which can impact provider income.

8. Learning Objectives:

3. The candidate will understand how to evaluate healthcare intervention programs.

Learning Outcomes:

(3a) Describe, compare and evaluate programs.

Sources:

Managing and Evaluating Healthcare Intervention Programs, Duncan, Ch. 3 Valuation of Care Management Vendors, Health Watch, May 2020

Commentary on Question:

Most candidates performed well on parts (a) and (b). Candidates needed to provide descriptions for these parts of the question versus only a list of programs or variables to receive full credit. For part (c), many candidates struggled and set MPR and PDC to the same values.

Solution:

(a) Describe care management programs that could be implemented by a health plan.

1. Pre-authorization: Requires that a physician or hospital obtain approval from a Managed Care Organization before performing a diagnostic procedure or surgical intervention on a health plan member.
2. Concurrent review: Involves monitoring a health plan member's care while the member is still receiving care in an acute hospital or nursing home.
3. Case management: A health care professional coordinates the care of a patient with a serious disease or illness.
4. Demand management: Informational intervention that is often provided by clinical staff over the telephone.
5. Disease management: Focuses on chronic conditions with certain common characteristics that make them suitable for clinical intervention, such as coronary artery disease, diabetes, chronic obstructive pulmonary disease, asthma, and heart failure.
6. Specialty case management: Performed by a care manager who has expertise in a particular area and to whom the MCO has assigned primary responsibility for coordinating the patient's care.
7. Population health management: Intervention in which a broad set of medical conditions is addressed by looking at the population as a whole, irrespective of its conditions.

8. Continued

Other acceptable responses (with descriptions):

8. Patient centered medical home
9. Accountable care organizations
10. Non-traditional provider interventions and care settings
11. Gaps in care and quality improvement programs
12. Telehealth, telemedicine and automated monitoring systems
13. Bundled payment initiatives

(b) Describe variables that should be considered when measuring the medical cost savings of a care management program on different populations.

1. **Scope.** When a vendor arrangement is defined by specific data, such as procedure codes, the definition of included procedures can change over time as new codes are added and others become obsolete. Such changes in scope must be documented regularly, and savings analysis must account for them.
2. **Trend.** Over any significant period of time, changes in average cost per service must be accounted for. Changes in average utilization must also be considered—the effect of the vendor's introduced care management should be removed by identifying market utilization based on nonparticipating membership, external benchmarks or some other source that is not significantly affected by the vendor.
3. **Class of claims.** Will savings be measured in terms of billed dollars, allowed dollars, paid dollars or some combination? This may affect how calculations should be performed; for example, trend could have a higher impact on paid dollars than on allowed dollars due to copay leveraging.
4. **Seasonality.** If data and/or projections do not comprise complete years, adjustments may have to be made for seasonal patterns in utilization.
5. **Episodic care.** In some cases where a vendor's activities are specific to a given set of procedures, there can be a corresponding effect on associated procedures not included in the vendor contract. For example, if specific types of surgery are managed, all other claims associated with the day of an outpatient surgery, or the admitted days of an inpatient surgery, should be considered in calculating savings.
6. **Care shifting.** If an insurer is going to stop paying, or pay less, for a specific type of claim, it's possible that provider behavior will respond by shifting care to other types of claims that have not been impacted by the vendor's care management. For example, if the fictitious procedure HCPCS = AAAAA has a near-equivalent procedure HCPCS = BBBBB, a certain amount of utilization that appears to have been prevented for AAAAA might simply shift to BBBBB. This possibility must be allowed for in savings projections.
7. **Risk adjustment.** Average risk level may vary over time, between covered and noncovered populations, or between test and control populations. Where risk factors are available, they can be used to identify and adjust for such variance.

8. Continued

8. **Overlap.** If multiple vendors or company initiatives affect the same types of claims for the same population, there is a risk of giving a vendor credit for savings generated, in whole or in part, by a different initiative.
9. **Credibility.** Some vendor activities only affect a small number of people, or one might be analyzing a relatively short experience period. In either case, the credibility of the measured savings may be limited.
10. **Delay in claim impact.** A care management initiative may not become fully effective upon implementation. It may take a while for providers' practice patterns to reach full effectiveness or to build up a managed population when active enrollment in an initiative is required. This can have a pronounced effect on savings measurement in the first year and sometimes beyond that.

(c)

(i) Calculate the Medication Possession Ratio (MPR) and the Proportion of days covered (PDC) for this member. Show your work.

(ii) Evaluate whether the Medicare STAR measure of 80% adherence has been met. Show your work. Justify your response.

The model solution for this part is in the Excel spreadsheet.

9. Learning Objectives:

4. The candidate will understand how to apply risk adjustment in actuarial work.

Learning Outcomes:

(4a) The candidate will understand how to apply risk adjustment in actuarial work.

Sources:

Restoring the Indifference Ideal: If It's Not Adjusting for "Risk," It's Not "Risk Adjustment"

ASOP 45: The Use of Health Status Based Risk Adjustment Methodologies

Commentary on Question:

Candidates were expected to understand changes in risk adjustment program affecting market stability and profitability of the ACA and know the recommended actuarial practices regarding input data used for risk adjustment models. This included understanding how to evaluate hybrid Risk Adjustment Models, including both diagnosis and prescription drugs.

Solution:

(a) Explain the impact of the following changes to the CMS risk adjustment program between 2017 and 2019, on profitability and stability of the Individual Health Insurance market.

- Durational impact
- Administrative load
- Pharmacy data
- Risk adjustment weights
- Claims pooling

Commentary on Question:

Most candidates performed well on this part of the question.

Durational impact

- In 2017, an adjustment was added for partial year enrollees.
- The relative profitability between full- and partial-year SEP enrollees is expected to be much closer.

Administrative load

- In 2018, the administrative load reduced by 14%
- Risk adjustment transfers will be based only on claim amounts and variable administrative components,
- This may improve the profitability of healthier members with no medical conditions and decrease the profitability of members with conditions triggering a risk adjustment payment.

9. Continued

Inclusion of pharmacy data

- In 2018, pharmacy data will be incorporated, which has the potential to alter the results significantly. CMS has yet to release the details for this portion of the risk adjustment model.

Updated weights

- Any update to the risk adjustment weights assigned to medical conditions will change the risk adjustment transfers
- Updates to weights should more accurately capture relative costs by medical condition since the changes are likely to take into account recent changes in costs, such as changes in high-cost drugs.
- The current proposal for 2019 is to include, for the first time, actual ACA data to establish the weights. This could also significantly impact future results.

Pooling mechanism

- The risk adjustment methodology is also including a pooling mechanism for 60 percent of costs of any claimant with claims above a $1 million threshold.
- The issuer will not be directly responsible for 60 percent of a person's costs above the threshold.
- It will protect issuers who have catastrophic level claims.

(b) Describe considerations for the consistency of input data used in the application of risk adjustment methodologies, according to ASOP 45.

Commentary on Question:
Almost all candidates received some credit on this part of the question, although few provided enough detail to receive full credit.

- Input data should be reasonably consistent with the type of data used to develop the model.
- Input data should be reasonably consistent across organizations, populations, and time periods.
- If such consistency is not possible, the actuary should document why the combination of that data and the selected model was used,
- The actuary should document any adjustments made to the data, model, or methodology to address limitations in the data.
- If sufficient information concerning the quality and type of input data used to develop or apply the model is not available, the actuary should consider whether use of the model is appropriate.
- The actuary should consider the differences in provider contracts and the potential impact of these differences on the risk adjustment results.

9. Continued

- The actuary should determine how the model handles diagnostic services and whether data for those services should be included in the data input into the model.
- The actuary should consider the impact of differences in the accuracy and completeness of coding across organizations and time periods.