Medicare Managed Care: Risk Adjustment and Coding Implications

by Vera Rulon, ART, CCS

Increasing expenditures in Medicare have caused the Health Care Financing Administration (HCFA) to rethink its approach to reimbursing—and caring for—beneficiaries. Since managed care emerged as the acceptable alternative to help keep costs under control, the number of Medicare beneficiaries choosing Medicare-approved managed care plans has grown at an astounding pace. As of April 1997, more than 5.1 million Medicare beneficiaries are enrolled in HMOs, representing nearly 14 percent of the Medicare population. Five years ago, only 6.4 percent of Medicare beneficiaries were enrolled in health plans.[1]

Managed care was chosen as an alternative and a way to drive costs down for several reasons. Primarily, its case management capabilities were intended to monitor the medical care beneficiaries receive, thereby assuring that patients do not receive unneeded services. The goal is a reduction in utilization, be it admissions to an acute care facility, or unnecessary tests performed in the diagnostic phase of illness. Examples of "unnecessary tests" include duplicative tests—such as a specialist to whom the patient is referred repeating the same test that a primary care physician just performed on the patient, or a routine performance of a chest x ray on every patient who is seen regardless of substantiating symptomatology. In addition, these plans were able to contract with providers at competitive rates, compared with current fee-for-service Medicare. This has been highly effective as a cost-saving measure, although some may argue that it is a short-term solution. A managed care plan must apply and be approved for admittance into the Medicare program. In return, it is paid a premium from HCFA for each member. The concept is simple: HCFA pays approved managed care plans a monthly rate to care for beneficiaries who have chosen to participate in the plan's program. Sounds simple enough. However, this becomes a complex process when the health plan's responsibilities include a myriad of regulated services. These services include:

- Provider networks: An HMO must offer the required range of services through contracted providers—i.e., acute care facilities, skilled nursing facilities, DME providers, ambulance services, or home health provisions
- Provider contracts: All provider contracts must meet HCFA's specifications
- Benefits: A Medicare HMO must, at a minimum, provide the same benefits that Medicare does. Additional benefits (i.e., pharmaceutical coverage—which Medicare does not cover), would give a plan a competitive advantage over other plans, thus enticing more members

In addition to the above regulations, managed care plans that have been approved to administer the Medicare product also are responsible for implementing case management programs which do not limit a beneficiary's access to care. Also of paramount importance is the fact that a plan's quality assurance programs must be well documented, including processes for identifying substandard services, the action that would be taken to remedy the situation, and the effectiveness of the remedial action. Finally, data on performance and results must be collected and interpreted for providers.

HCFA also performs on-site visits. This is done to assess a plan's application to become a managed care administrator. However, once the plan is approved, HCFA will periodically conduct reviews of the plan's effectiveness. HCFA requires availability of certain documents which must be up to date, and it also interviews staff members in key areas within the organization, such as utilization management, quality assurance, marketing, and finance, to name a few.

Current Payment Rate Methodology

HCFA pays approved Medicare managed care plans a fixed amount per beneficiary on a monthly basis—essentially a capitated rate—based on the county in which they reside. A capitated rate means that a provider or health plan receives a set fee for all medical services a patient may require, rather than a fee-for-service method where each encounter gets paid separately. The plan's goal is to be able to provide all the traditional Medicare benefits—as well as any additional ones—while maintaining the rest of HCFA's regulatory requirements and remaining solvent. The formula is expressed as follows:

Capitated Rate = Average per beneficiary cost x .95 x Risk adjustment factor

Average Per Beneficiary Cost

This element of the formula refers to the average cost of treating a Medicare member. Overall costs are estimated through a process which produces the US per capita costs (USPCC). Further county specific costs are derived producing the adjusted average per capita costs (AAPCC). It is the AAPCC which is considered in the above calculation and further refined for historical and geographic variation. Each of the nation's 3300 counties is assigned a projected per-member, per-month Medicare cost.

.95 Adjustment

Medicare law stipulates that the capitation rate be set at 95 percent of the costs that Medicare would have incurred for HMO enrollees if they had continued using the same reimbursement methods Medicare does (fee-for-service).[2] This refers to 95 percent of claims experience, not the entire cost of administering a managed care product. Managed care plans must not only pay for their claims costs with this amount, but also cover administrative costs such as marketing, medical management, and customer service, which can run to 10 percent of premiums. Taking this into account, the net effect is that HCFA is actually realizing savings of at least 15 percent. The extra 5 percent discount is taken on the assumption that managed care plans achieve certain efficiencies compared to traditional fee-for-service reimbursement. These efficiencies, for example, would include a plan's ability to negotiate cost-effective contracts with various providers, such as acute care and other healthcare facilities, medical equipment companies, and other ancillary providers.

Risk Adjustment Factor

HCFA's current risk adjustment factor classifies beneficiaries based on demographic characteristics including age, sex, Medicaid status, and institutional and working status.

Each of these classifications is further assessed individually based on its average cost—compared to the average cost to treat all beneficiaries nationwide. For example, younger beneficiaries in the Medicare program would have a lower risk factor than older ones due to their assumed healthier status. In his testimony before the Subcommittee on Health (a subcommittee to the House Ways and Means Committee), William J. Scanlon, director of Health Financing and Systems in the Health, Education, and Human Services Division, gives this example: "...in 1995 the risk factor for younger seniors (65 to 70-year-old males) was .85, whereas for older seniors (85 or older males) it was 1.3."[3]

Based on the formula, the rate paid to managed care plans is further adjusted.

Risk Adjustment Defined

Simply stated, risk adjustment of payments means paying more for ill beneficiaries and less for healthy ones. This is simply stated, yet it is quite a complex mission to create a methodology that adequately adjusts risk based on clinically relevant criteria.

HCFA's current methodology uses adjustments that are not clinically related. Although the members' age is considered, the conditions for which he or she might be treated are not. As health information management professionals, we know that the patient's diagnosis has a greater effect on how much money is spent on medical care than does the patient's age. In fact, the Physician Payment Review Commission stated in its 1997 Annual Report to Congress[4] that the current risk adjustment methodology explains only 1 percent of the variation in beneficiaries' healthcare costs.

We know that clinically, a 70-year-old, noninstitutionalized woman with breast cancer has very different expected spending than does a 70-year-old, noninstitutionalized woman with no chronic illness. However, HCFA's current payment method would pay a plan the same amount for each woman.[5]

From HCFA's perspective, current methodology is insufficient since, according to the organization, HMOs have enrolled a healthier than average group compared to Medicare beneficiaries overall. As the rates are based on Medicare's current fee-for-service reimbursement—and reflect a sicker than average population—HCFA feels that the rates are not adjusted appropriately to reflect these differences, leaving the rates potentially inflated. The Physician Payment Review Commission

estimated that by applying a more clinically relevant risk adjustment methodology, the annual excess payment to managed care plans nationwide could total $2 million.

Several studies have been performed to assess the "health" of the Medicare HMO enrollee versus the traditional Medicare fee-for-service member. Of note, Oxford Health Plans produced data—which can be found in the Congressional Record—that compares New York Medicare HMO admissions to downstate New York's overall admissions. This analysis, which assessed inpatient case mix index on these populations, showed that at least in the New York area, overall Medicare HMO case mix was comparable, if not higher than traditional Medicare.[6]

Inadequate risk adjustment, from the managed care plan's perspective, can affect the plan's profits and its competitive advantage. For example, a plan could be quite efficient, but be burdened with very sick, high-cost beneficiaries. On the other hand, a plan might be inefficient but faring quite well in market share due to a healthier membership. Clinically relevant risk adjustors would even out the playing field, as well as focus competition on value and effectiveness of delivery systems, rather than on selection.

Managed care plans also argue that over time, their Medicare beneficiaries' health status does change, and that in the long run costs even out—perhaps even bending in the opposite direction—putting the plans' bottom line at risk. An effective risk adjustor would reflect this change over time.

Other methods suggested by the current government to reduce overpayments to managed care plans include lowering the 95 percent of the total annual amount of the predicted cost-per-beneficiary in the traditional fee-for-service environment (see HCFA's current formula description above), and "durational rating" where new enrollees to a managed care plan would have lower rates than their long-term counterparts. Although both methods would achieve a quick savings, most agree that a clinically meaningful risk adjustment methodology is the best long-term alternative.

Overview of Various Risk Adjustment Methodologies

Risk adjustment methods come in two flavors: demographic or health status. The current HCFA method using AAPCC is an example of demographic risk adjustors, where consideration is taken for the age, sex, Medicaid, and institutional status of the plan's membership. Notice that the clinical conditions are not considered in this scenario.

Health status measures can be further classified into two groups: self-reported health status and diagnosis-based adjustment. Self-reported health status is difficult to apply to a monthly payment rate like the method currently applied by HCFA. This option requires that beneficiaries are surveyed regarding their health status, functional disabilities—such as difficulties in performing activities of daily living, and chronic conditions. Clearly subjective, this approach to data collection makes consistency difficult to achieve.

If this type of adjustment were to be implemented, there would be two types of surveys required to make an accurate assessment for payment to the managed care plan. The first survey would be administered to a large sample of beneficiaries in the traditional fee-for-service Medicare program. Responses would then be used to estimate average cost of treating certain patients. Then, an additional survey of a sample of beneficiaries in a particular managed care plan would be required. The responses of this survey would be used to calculate the payment rate for each managed care plan. The percentage of members reporting themselves in poor health would be reflected in the rate as if the same percentage of the entire plan's membership were in poor health.

A disadvantage to this method, as mentioned above, is its subjective nature. Not only is this risk adjustment based on a sample of membership, but only on those willing to participate in the survey. This type of information is difficult to audit, since there are no benchmarks with which to compare responses. The lack of benchmarks makes it difficult to ensure consistency and comparability of information. Integrating survey information to HCFA's payment methodology would be difficult as well, since it is currently based on fee-for-service equivalents. Clearly, this survey information could not reflect detailed claims information. Finally, the major disadvantage to this approach is the need for a large number of beneficiaries to be surveyed. With the huge increase of Medicare members moving to the managed care environment, the costs of administering a survey like this would skyrocket.

Although there are stronger disadvantages, there are two advantages to using a survey-based risk adjustment method. One is that Medicare could begin gathering the information immediately--without waiting for diagnosis information to become available. Diagnosis information is derived from claims data, which routinely experiences delays in submission. This is a natural effect of the system. For example, a patient may be discharged from a facility on January 1, the record coded on January 15, and the claim submitted to the carrier on January 30. This is called a "claim lag" and could range from one week to one year from the date of service or discharge to a carrier actually receiving the claim.

Second, surveys allow data to be collected on a more consistent basis from traditional fee-for-service beneficiaries and those enrolled in managed care plans. Survey questions can be standardized and responses limited to multiple choice options.[7] Often requirements for claims submission vary among insurers, making comparability between plans and traditional Medicare quite difficult. Data collection issues will be discussed further.

Diagnosis-based Risk Adjustment

Risk adjustment that is diagnosis based works by identifying patients with more costly diagnoses—like cancer or diabetes with manifestations. The information to support this method would be derived from routinely submitted claims data.

HCFA's Office of Research and Demonstrations has funded the development of several diagnosis-based risk adjustment methodologies: ambulatory care groups (ACGs), diagnostic cost groups (DCGs), and the most recent—hierarchical coexisting conditions (HCCs), which are a refinement of the aforementioned DCGs. Each method, although ultimately quite varied, follows the same basic approach, identifying the most costly illnesses and utilizing routinely collected Medicare claims data.

Ambulatory Care Groups (ACGs)

ACGs, developed at Johns Hopkins University, were designed initially as an ambulatory case mix measure, but have been used to predict total medical expenses. This measure first assigns beneficiaries to none or several of 34 ambulatory diagnostic groups (ADGs) based on the ICD-9 diagnoses recorded from claims data over the period of time being studied. The method further classifies ADGs into 52 mutually exclusive ACGs, based on ADGs, age, and gender.

Diagnostic Cost Groups (DCGs)

DCGs were designed specifically to predict future medical needs, based on diagnoses observed for an individual. ICD-9 codes are grouped according to predictive costs rather than on clinical similarity, and DCGs are mutually exclusive, meaning that a patient can fall into one and only one DCG. Initially based solely upon inpatient diagnosis, DCGs have expanded to include ambulatory diagnostic information.

Hierarchical Coexisting Conditions (HCCs)

Using DCGs as a starting point, HCCs also consider coexisting conditions, whereas DCGs do not. DCGs were expanded to include secondary diagnoses from inpatient bills, outpatient hospital diagnoses, ambulatory, and inpatient physician diagnoses. Further, ICD-9 codes were grouped to 432 diagnostic groupings, the goal being to identify the higher versus lower cost conditions. These were grouped using clinical judgment and cost information from a sample of Medicare data.[8] These groupings are hierarchical, meaning that a patient cannot fall into a lower cost clinical grouping if he or she is already classified as having a high cost condition. For example, the Neoplasm hierarchy is expressed as seen in Figure 1, page 62.

An extension to this method considers life-sustaining medical procedures as another predictor of costs. However, risk adjustment using procedures is undesirable, since the number of procedures performed is not necessarily an indicator of a sicker patient, and volume of procedures may be related to financial incentives. HCC clinicians felt, however, that there are certain medical procedures that are purely for life-sustaining purposes, and it is unlikely that physicians would be influenced by financial considerations when performing these procedures. The procedures include major organ transplants, dialysis, chemotherapy, radiation therapy, mechanical ventilation, major surgical amputation, and creation of artificial opening in the body, such as tracheostomy, gastrostomy, or enterostomy. These procedures are also placed in HCCs and are hierarchical. They were not, however, considered in the payment model.

Advantages/Disadvantages

There are several advantages to using diagnosis-based risk adjustment methods to enhance HCFA's model. According to the Physician Payment Review Commission, these methods would capture a significant portion of the risk selection among groups of beneficiaries, meaning that plans who enroll healthier members would be identified.[9]

Another advantage is that diagnostic information would be collected from all beneficiaries, rather than the survey method's sampling approach, as this would assure more stable payment rates. As discussed earlier, the health status survey sampling method is subjective, thereby creating an unstable payment rate methodology. The ability to collect data on all beneficiaries also would allow HCFA to set a rate for those diseases that occur less frequently. A disadvantage to diagnosis-based adjustment, however, is that it does not accurately account for beneficiaries' functional limitations. Although the survey can account for this, it would be preferable to have clinicians submit this information, as the beneficiary's perception of his or her own health status may differ from the clinical perspective. The administrative and cost implications of this type of surveying are considerable.

The third and final advantage to this method is that diagnosis-based adjustment is easily integrated into HCFA's current methodology. Since current methodology uses Medicare fee-for-service data—that is, claims data—there would not be any adjustment in data requirements. This does, however, pose a problem for the managed care plans. Data quality, data collection, and current coding practices are of paramount importance in a model such as this, requiring further discussion.

Coding and Data Quality in Diagnosis-based Risk Adjustment

In order for diagnosis-based risk adjustment to work, comparable information from Medicare's fee-for-service environment and the managed care claims data is required. In addition, the information must be reported in such a way as to permit auditing when necessary. Diagnosis data is readily available, since Medicare requires submission of ICD-9 codes on both the HCFA-1500 (for professional and ancillary claims), and the UB-92 (for facilities).

The first run of data when using a diagnosis-based model would be done using Medicare data. Subsequently, to assign the correctly adjusted payment rate to each managed care plan, each plan's data would be run through the same methodology. The dilemma managed care plans would face would be the requirement of submitting detailed encounter data to HCFA. This data submission would probably be done electronically and put through the same editing and auditing processes that HCFA uses on its own data. This would place a significant burden on plans since they may not require the same detail on their encounter forms as Medicare does, and the additional requirements may be difficult to enforce. Although a summary of diagnoses per member may be an alternative, HCFA would not know where and when these diagnoses were treated, making it difficult to adequately risk adjust a plan. Various incentives for plans to submit encounter data have been considered, such as making submission of data a condition of participation in the program, or setting payment rates to nonreporting plans at a significant discount from their competitors.

There are several coding practice issues which will also affect payment rates if a diagnosis-based risk adjustment is applied to Medicare managed care plans' payment rates.

- Incomplete ICD-9 coding: A plan's membership may be assessed as healthier than average if ICD-9 codes are submitted only to the third-digit category. For example, if code 250, diabetes mellitus, is recorded on an encounter form, but the patient is actually an insulin-dependent diabetic with renal manifestations—code 250.41—the member's condition has been underreported. Enough encounters with incomplete coding may place a managed care plan in jeopardy of a reduced payment from HCFA.
- Inappropriate over-coding: Most managed care plans and physicians' offices do not employ experienced certified coders in their claims payment area. The possibility of coding a more costly diagnosis in error is real, and plans can expect more intense audits of diagnostic data once this type of risk adjustment method is employed. The most common example of this type of coding error would be the Office of the Inspector General's (OIG) focus on pneumonia coding in the inpatient setting. If bacteria is not identified, the diagnosis for pneumonia is coded 486, pneumonia, organism unspecified. When inappropriately coded as 482.89, pneumonia, bacteria unspecified, the facility receives a higher reimbursement under HCFA's DRG system. This type of scenario could certainly occur under the diagnosis-based methodology, although not as frequently.
- Conflicting coding guidelines: Although physician office coding guidelines specify that a condition that is "ruled out" should not be coded as if it exists, this guideline is rarely adhered to. In addition, inpatient coding guidelines specify that if a diagnosis is suspected yet not confirmed during the stay, it is to be coded as if it does exist. These conflicting

guidelines could skew the results of a diagnosis-based methodology, since most of the "rule out" diagnoses are the higher-cost ones, such as tuberculosis or breast cancer.

The more we delve into measuring costs associated with diagnoses across the continuum of healthcare delivery, the more consistency and accuracy in coding is required. If diagnosis-based risk adjustment becomes a reality, health information management professionals can certainly apply their expertise to help managed care plans, HCFA, and providers to assure that they are accurately assessed. The shift to ensuring that diagnostic coding is accurate and complete in all healthcare settings opens the profession to more opportunities than we ever imagined.

Notes

1. American Association of Health Plans' Policy Brief (April 28, 1997).
2. Section 1876(a)(4) of the Social Security Act, 42 USC 1395mm(a)(4) 1994.
3. Scanlon, William J. Testimony before the Subcommittee on Health, Committee on Ways and Means, House of Representatives, February 25, 1997.
4. Physician Payment Review Commission. *1997 Annual Report to Congress* (Chapter 4: Implementing Risk Adjustment in the Medicare Program). Washington, DC: 1997.
5. Newhouse, Joseph P., Melinda Beeuwkes Buntin, John D. Chapman. "Risk Adjustment and Medicare: Taking a Closer Look." *Health Affairs*, September/October 1997.
6. Oxford Health Plans, Medical Analysis Group, 1997.
7. Although this sounds contradictory to previous comments regarding surveys' subjective results, to clarify: Survey questions and responses can be standardized, but a person's perception of their health status cannot.
8. At the time, 1991 Medicare data was being used to predict 1992 expenditures.
9. See note 3 above.

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Vera Rulon *is manager of case mix and classification systems, Oxford Health Plans, Norwalk, CT. She is a member of the* Journal of AHIMA's *Editorial Advisory Board.*

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