ACA Risk Adjustment Models Emerge in Commercial Care

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Known as the "Three Rs," three mechanisms were included with the implementation of the Affordable Care Act (ACA) to reduce incentives insurers may have for avoiding the enrollment of high-cost members.

The "Three Rs" are:

1. Risk corridors
2. Reinsurance
3. Risk adjustment

Two of these programs, risk corridors and reinsurance, are temporary measures and will only remain in effect for three years. This article addresses "risk adjustment," which is a permanent program. Under the ACA, the goal of the risk adjustment program is to level the playing field by spreading the risk of adverse patient selection among plans.

Risk adjustment is currently utilized by various payers including Medicare, Medicaid, and some private insurers. The risk adjustment models in use, however, vary among different groups and states. The Centers for Medicare and Medicaid Services (CMS) utilizes the CMS Hierarchical Condition Category (HCC) model to risk adjust its Medicare Advantage (Part C) population. The Department of Health and Human Services (HHS), the agency responsible for the ACA risk adjustment program, has designed the program based on the Medicare HCC model.

While there are many similarities between the ACA program and HCC model, some very significant differences arise between the two out of the necessity for the ACA risk adjustment program to address a broader patient population.

CMS-HCC Model Provides a Working Foundation

The CMS-HCC model was first implemented in 2004 and uses both demographic information, such as sex, age, Medicaid dual eligibility, and disability status, and the disease burden of the member to calculate a risk score for each member. The disease burden component of the risk score is calculated based on the HCCs assigned to the member. HCCs are groups of similar conditions, identified by ICD-9-CM diagnosis codes, with similar resource consumption.

Where a member may have the same diagnosis code assigned multiple times in the year, the assignment of that diagnosis will count only once toward the patient's risk score for the year. While multiple codes mapping to the same HCC are assigned during the year, the HCC will count only once for the year. While many of the HCCs are additive, several HCCs fall into hierarchies. When a patient has two or more diagnosis codes that map to two or more HCCs within the same hierarchy, only the HCC with the highest weight is considered. For example, there are five CMS-HCCs in the cancer hierarchy (008, 009, 010, 011, 012). If a patient has a diagnosis of breast cancer (CMS-HCC 012) which has metastasized to the lung (CMS-HCC 008), only CMS-HCC 008 will be considered in the patient's risk score as it supersedes CMS-HCC 012 in the hierarchy.

The CMS-HCC model is a prospective model where diagnoses/HCCs captured in the current year inform reimbursement for the following year. While not all diagnoses are included in the model, those that are included are considered conditions that would have an impact on the patient's care in the following year. Most of the diagnoses included are chronic, such as chronic kidney disease or diabetes, but the model does contain acute conditions as well such as sepsis and hip fracture. Each new data year requires recapture of chronic condition HCCs as well as any new acute conditions/HCCs that may occur in order to impact reimbursement for the following payment year. This is a different financial impact than that found in the HHS-HCC model.

HHS-HCC Adds Complexity to CMS' Model

The HHS-HCC commercial risk adjustment model is specific to non-grandfathered individuals and small groups, both on and off the insurance exchanges—both federally- and state-created ACA exchanges. The commercial model is a concurrent model with diagnoses captured in a benefit year applicable to that benefit year. Data capture is used to calculate average risk scores and affects payment transfers going in and out of the risk pool in support of risk sharing.

In the HHS commercial model, plans receive funds from member premiums and copayments. Risk adjustment, as stated earlier, is meant to level the playing field by spreading the risk of adverse patient selection among plans. HHS uses the plan member's individual risk scores to calculate the plan's average risk score and applies "a payment transfer formula in order to determine risk adjustment payments and charges between plans within a risk pool within a market within a state," according to CMS.[1] Simply put, if a plan's average risk score is lower than the average risk score within the plan's market in that plan's state, then the plan will pay into the risk pool. If the plan's average risk score is higher than the average market risk score within the state, then the plan will receive funds from the risk pool.

The HHS-HCC model builds upon the CMS-HCC model, with similarities that include the use of demographics as well as the illness burden of the patient in calculating the patient's risk score. But the HHS-HCC model is more complex. Instead of a separate demographic score being added to the HCC risk score, the demographics are built into the HCCs themselves. There are three different HHS-HCC models based on the age of the patient:

- The adult model (ages 21+)
- The child model (ages 2-20)
- The infant model (ages 0-1)

The applicable model is determined by the age of the member at the end of the benefit year. The one exception is for infants who are born in one benefit year and discharged from the hospital in the next benefit year. In this circumstance, the infant will be considered age 0 for both years. In addition, each HCC is weighted differently based on the "metal level" in which the member is enrolled. There are five metal levels:

- Platinum
- Gold
- Silver
- Bronze
- Catastrophic

Demographics can impact HCCs in other ways. For instance some HCCs are banded—restricted to a particular criteria—according to age or sex. Pregnancy-related HCCs cross both the adult and child models but are limited to females age 12 to 55; therefore, these HCCs are considered banded across age and sex. Age/sex banding can also apply at the diagnosis level. Malignant neoplasm of the breast in patients age 50 and over is assigned to HHS-HCC 012 (Breast (Age 50+) and Prostate Cancer, Benign/Uncertain Brain Tumors, and Other Cancers and Tumors), while patients under 50 with the same diagnosis are assigned to HHS-HCC 011 (Colorectal, Breast (Age < 50), Kidney, and Other Cancers).

Congenital factor VIII disorder maps to HHS-HCC 066 (Hemophilia) for males and HHS-HCC 075 (Coagulation Defects and Other Specified Hematological Disorders) for females. As in the Medicare model, the HHS-HCCs do not roll over from one benefit year to the next. Each new benefit year requires recapture of chronic condition HCCs as well as any new conditions or HCCs that may occur in order to impact the new benefit year's average risk score.

While the HHS-HCC model does not contain all of the diagnoses found in the CMS model, it does contain many additional conditions that are not present in the CMS-HCC model as it applies to a more diverse population. There are a total of 3,518 ICD-9-CM diagnosis codes with 3,479 of those being unique codes. Some codes appear in the model twice as the age/sex variables can result in unique codes mapping to multiple HHS-HCCs.

There are a total of 127 HHS-HCCs as compared to 83 in the CMS model. Additions to the HHS commercial model include 656 pregnancy codes mapping to six different HHS-HCCs. Other examples are diagnoses specific to newborns including birth weight, weeks of gestation, newborn sepsis, neonatal neutropenia, and many others. Missing from the HHS model is alcohol dependence and acute intoxication, but complications from alcohol dependence are included. There has been an extreme reduction in the number of injury codes with only 24 injury codes in the HHS-HCC model compared to 640 in the CMS model. These are just small examples of some of the changes.

The commercial model utilizes hierarchies and, in addition, also utilizes groups. Groups are similar HCCs that may or may not be in a hierarchy but have been assigned the same weights. When a member is assigned one or more HCC(s) in the same group, the weight of each HCC is not additive, but instead the member receives the group weight which is always equal to a single HCC weight. For example, Group G03 contains two HCCs, HHS-HCC 054 (Necrotizing Fasciitis) and HHS-HCC 055 (Bone/Joint/Muscle Infections/Necrosis). Each HCC, as well as the group, is weighted at 7.508. Whether the patient is assigned one or both of the HCCs the patient will only receive the group weight of 7.508.

While the risk scores for the adult and child models are based on HHS-HCCs, the risk score for the infant model is based on a combination of the infant's maturity category at birth (i.e., term, premature, extreme immaturity) or one year of age and the highest level of severity assigned to the infant from the five available levels, with a five representing the highest level. A diagnosis of hypoplastic left heart syndrome would be assigned a severity level of five. If the infant is delivered at term, with a normal birth weight, the resulting combination is "Term * Severity Level 5" with a risk score weight of 130.511. This example uses the Infant Model, Silver Metal weight.

Note

1. Centers for Medicare and Medicaid Services. "HHS-Developed Risk Adjustment Model Algorithm Instructions." 2013. https://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/ra-instructions-4-16-13.pdf.

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