UnitedHealth Premium Case-mix, severity and risk

Additional UnitedHealth Premium® methodology documents are located on **unitedhealthpremium.uhc.com.**

Overview

Physician case-mix accounts for variations in the composition of the patients and cases each physician treats. Condition/procedure severity accounts for the variation in cost that can be explained by an episode's clinical characteristics. Patient risk accounts for the variation in cost that can be explained by the clinical characteristics of a patient's episodes.

Case-mix

Effective quality care

To adjust for the physician's case-mix, the number of measures expected to be compliant is calculated by multiplying the national compliance rate for each measure by the number of those measures attributed to the physician.

Premium calculates the national compliance rate for each measure by unique combinations of:

- **Premium specialty**
- **Patient population** (commercial, Medicare, Medicaid)
- **Condition or procedure**
- **Severity level** (when applicable)

Premium specialty

A separate compliance rate for each measure is established for each Premium specialty.

Patient population

A separate compliance rate for each measure is established for each population of patients:

- Commercial
- Medicare
- Medicaid

Condition or procedure

A separate compliance rate for each measure is established for each condition or procedure. Conditions and procedures are defined using Symmetry® EBM Connect® (EBM®), Symmetry® Procedure Episode Groups® (PEG®) and 3M™ All Patient Refined DRG (APR DRG).

Severity level

A separate compliance rate for each surgical care outcome measure is established for each severity level. Severity is determined using PEG for outpatient procedures and APR DRG for inpatient procedures. Other measures account for severity through specific clinical exclusions, and some measures do not require a separate severity adjustment because they apply regardless of the severity of a patient's condition. For example, medical evidence indicates that all patients with pharyngitis should be tested for group A streptococcus before antibiotic treatment, regardless of the severity of their pharyngitis.

Case-mix

Efficient quality care and total cost of care

To adjust for the physician's case-mix, Premium puts patient annual costs and patient episode costs into comparable "treatment sets" by unique combinations of:

- **Premium specialty**
- **Condition or procedure** (patient episode cost only)
- **Care setting** (inpatient or outpatient for patient episode cost only)
- **Patient population** (commercial, Medicare, Medicaid)
- **Product/network**
- **Geographic area**
- **Inclusion of pharmacy cost**
- **Severity level** (patient episode cost only)
- **Risk level** (patient annual cost only)

Premium specialty

A separate treatment set is established for each Premium specialty.

Condition or procedure

A separate treatment set is established for each condition or procedure.

Condition episodes

Condition episodes are defined using Symmetry® Episode Treatment Groups® (ETG). Conditions are defined using ETG units that differ from one another with respect to resource use. The ETG units used for patient episode cost measurement are ETG base class (condition) and ETG treatment indicator code (treatment).

Procedure episodes

Procedure episodes are defined using PEG. Procedures are defined by an anchor procedure (the major procedure performed) and sub-procedure, if applicable. Inpatient procedure episodes are further classified using APR DRG (note: Premium combines some APR DRGs like chest pain and angina). The APR DRG classification system assigns each patient a base class for the underlying condition. The patients grouped into each base class are similar in terms of both clinical characteristics and the hospital resources they use.

Care setting

A separate treatment set is established for each procedure episode performed inpatient or outpatient, except for lumbar surgery where severity level 1 procedures are combined based on diagnosis, irrespective of care setting.

Patient population

A separate treatment set is established for each population of patients:

- Commercial
- Medicare
- Medicaid

Product/network

A separate treatment set is established for each product/network.

Geographic area

A separate treatment set is established for each geographic area. Geographic areas are defined using a specialty-relevant health care market definition reflecting the physician's Premium specialty and place of service ZIP code(s).

Inclusion of pharmacy cost

A separate treatment set is established for patients and episodes with pharmacy cost included. Pharmacy cost is included for patient annual cost and patient episode cost (condition episodes only) when complete pharmacy claims information is available. When complete pharmacy claims information is not available, patients and episodes are put into separate "without-pharmacy" treatment sets. Pharmacy costs are not used for procedure episodes.

Severity level

A separate treatment set is established for each episode severity level. The expected cost within an episode is based on clinical factors such as disease progression, comorbidities and other patient attributes that correlate with clinical need.

Condition episodes

ETG accounts for differences in episode severity by assigning a severity score to each episode. A higher severity score for an episode means a higher expected cost relative to other episodes of the same type. ETG assigns the following weights:

- Demographic: Patient age and gender
- Comorbidity: Comorbidities associated with the episode
- Condition status: Condition specificity, disease progression, etc. associated with the episode

These weights are episode specific. For example, a 50-year-old male with asthma and congestive heart failure may receive different demographic weights for those two episodes. The episode of asthma with a comorbidity of diabetes can have a different comorbidity weight than the episode of congestive heart failure that also has a comorbidity of diabetes. ETG has separate condition status and comorbidity weights for age 65 and older.

The weights are added to produce the severity score for the episode. Based on the severity score, a severity level of 1 to 4 is assigned to each episode. The severity level indicates a ranking of the specific episode relative to the population of all episodes of that same type. The value of 1 indicates a less severe episode and the value of 4 indicates the most severe episode. The severity levels are determined by analyzing the distribution of episodes using a large, nationally representative data set.

Procedure episodes

Inpatient episodes

APR DRG accounts for differences in inpatient episode severity. There are 4 severity of illness levels:

1: Minor

2: Moderate

3: Major

4: Extreme

The underlying clinical principle of APR DRGs is that the patient severity of illness is highly dependent on the patient's underlying problem, and patients with high severity of illness are usually characterized by multiple serious diseases or illnesses. The evaluation of severity is disease-specific. As a result, the significance attributed to complicating or comorbid conditions is dependent on the underlying problem. For example, certain types of infections are considered a more significant problem in a patient who is immunosuppressed than in a patient with a fractured arm. High severity of illness is primarily determined by the interaction of multiple diseases.

To determine the patient severity of illness, APR DRG first determines the severity for each secondary diagnosis. Once the severity of each secondary diagnosis is established, APR DRG determines patient severity based on all the patient's secondary diagnoses. The final patient severity level is determined by incorporating the impact of:

- Primary diagnosis
- Age
- Operating room procedures
- Non-operating room procedures
- Multiple operating room procedures
- Combinations of categories of secondary diagnoses

Outpatient episodes

PEG accounts for differences in outpatient episode severity by assigning a severity score to each episode. A higher severity score for an episode means a higher expected cost relative to other episodes of the same type. PEG assigns the following weights:

- Demographic: Patient age and gender
- Condition status: Condition-specificity, disease progression, etc. assigned to the ETG episode associated with the PEG episode
- Comorbidity: Comorbidities associated with the member and the procedure episode's PEG category

The weights vary from one PEG category to the next. For example, the same member with two different procedure episodes (each with a different PEG category) would likely have a different demographic weight for each episode.

The weights are added to produce the severity score for the episode. Based on the severity score, a severity level of 1 to 4 is assigned to each episode. The severity level indicates a ranking of the specific episode relative to the population of all episodes of that same type. The value of 1 indicates a less severe episode and the value of 4 indicates the most severe episode. The severity levels are determined by analyzing the distribution of episodes using a large, nationally representative data set.

Risk level

A separate treatment set is established for each patient risk level. The expected cost within a patient's episodes is based on clinical factors such as disease progression, comorbidities and other patient attributes that correlate with clinical need.

Symmetry® Episode Risk Groups® (ERG) accounts for differences in patient risk using ETG episodes as markers of risk rather than the diagnoses from individual medical encounters. By using episodes, the focus is placed on the key information describing a patient's underlying medical condition rather than the individual services provided in its treatment. Separate ERG models are developed for each unique combination of Premium specialty, patient enrollment (7–9 or 10–12 months) and pharmacy costs included (yes or no).

The fundamental building blocks of ERG are a patient's ETG episodes of care, which represent the unique occurrences of a medical condition or disease, and the health care services involved in diagnosing and managing their treatment. The nature and mix of the included episodes provide a clinical profile for a patient that serves as a marker of his or her need for medical care. Once the relevant patient episodes are identified, the ERG risk score is calculated as follows:

- **Translate ETGs to ERGs:** Episodes for each patient are categorized into ERGs. The ERGs are markers of patient risk and represent ETG episodes of similar clinical and risk characteristics.
- **Generate ERG profile:** The mix of ERGs provide a clinical profile for a patient. Patients can be assigned zero, one or more ERGs. Patients with multiple medical conditions would have multiple ERGs.
- **Calculate ERG risk score:** Using predetermined weights for the applicable ERG model and the patient's ERG profile, a risk score is calculated. A patient's risk score is the sum of the weights attached to each ERG observed in the patient's ERG profile.

Based on the patient's risk score, a patient's risk level is determined, which indicates a ranking of the patient relative to the population of all patients for the applicable ERG model. The number of levels varies by ERG model with a value of 1 indicating a lower-risk patient. The risk level values are established by analyzing the distribution of patient risk scores using a large nationally representative data set.

Important notes about UnitedHealth Premium

The information from UnitedHealth Premium is not an endorsement of a particular physician or health care professional's suitability for the health care needs of any member. UnitedHealthcare does not practice medicine nor provide health care services. Physicians are solely responsible for medical judgments and treatments.

A Premium Care Physician designation does not guarantee the quality or the outcome of any health care services members receive. The fact that a physician does not have a Premium Care Physician designation does not mean the physician does not provide quality health care services.

All physicians in the UnitedHealthcare Network have met certain minimum credentialing requirements. Regardless of whether a physician has received a Premium Care Physician designation, members have access to all physicians in the UnitedHealthcare Network as described in the member's benefit plan.

There are various reasons why a physician may not be designated as a Premium Care Physician. A physician may not receive a designation because that physician has not been evaluated. This occurs when a physician does not practice in a specialty or market that is evaluated by Premium, or the physician's evaluation is in process. This also occurs when there are not enough measures, patients, and or episodes attributed to the physician for evaluation. This is not an indicator of the total number of patients treated by the physician, or the number of procedures performed by the physician.

UnitedHealthcare informs members that designations are intended only as a guide when choosing a physician and should not be the sole factor in selecting a physician. Members are encouraged to discuss designations with a physician before choosing them or consult with their current physician(s) for advice on selecting other physicians.

As with all programs that evaluate performance based on evaluation of a sample, there is a risk of error. There is a risk of error in the claims data used and in the way patient care is attributed to physicians. UnitedHealth Premium uses statistical testing to compare a physician's performance to benchmarks. There is a risk of error in statistical tests when applied to the data and a result based on statistical testing is not a guarantee of correct inference or classification. Physicians have the opportunity to review the data and evaluation results and may submit requests for changes and or corrections.

The information contained in this document is subject to change.

Learn more

UnitedHealth Premium I unitedhealthpremium.uhc.com
9700 Health Care Lane, MN017-W700, Minnetonka, MN 55343

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