HealthCorum

Enabling High-Value Provider Performance
Through Tailored Healthcare Analytics

Methodology Documentation

Background

HealthCorum is a health data analytics company founded with the mission to reduce healthcare costs through the identification and reduction of low-value care, driving greater efficiencies in provider networks while reducing wasteful spending.

HealthCorum's proprietary technologies combined with AI-powered algorithms help identify providers with efficient practice patterns when compared to other similar providers. The high level of transparency and accuracy offered by their solutions empower at-risk organizations to reduce waste in their networks and maximize the outcome per dollar spent.

HealthCorum's management team and advisors, which comprise of leading clinical and technical individuals with exact domain expertise, bring decades of relevant experience to define their solutions and unique value proposition in the healthcare provider analytics field.

Measuring Quality

Effectiveness + Cost + Appropriate Care = Overall Quality

HealthCorum's scores identify providers of high-value care using a blend of population-based effectiveness, cost, and appropriateness metrics to define value. Knowing which providers offer the highest value care makes it easier to choose a physician and obtain the highest quality, most appropriate, cost-effective care available in the region.

What is high-value care?

High-value care follows evidence-based prevention and clinical care guidelines, considers patients' personal preferences, tends to be less invasive and less costly, avoids unnecessary testing, imaging, and procedures, and results in better quality and outcomes, lower costs, and higher patient satisfaction. Some examples of high-value care include:

- Access to care
- Care planning and coordination
- Pain management
- Lower hospitalization and ED visit rates
- Palliative support during end of life
- Lower prescription drug costs
- Less invasive care
- Higher patient satisfaction
- Preventive care and screening

What is low-value care?

Low-value care is the flip side of high-value care. Low-value care is characterized by the provision of care that may be done routinely even when it is unnecessary, does not improve outcomes, leads to higher costs, lower patient satisfaction, and may even cause harm. Some examples of low-value care include:

- Higher use of brand name medications
- Routine use of tests and advanced imaging
- Higher complication rates (e.g., nosocomial or post-op infections)
- Higher use of more expensive biologic over biosimilars or conventional medications
- Higher readmission rates
- Unnecessary surgeries
- longer lengths of stay

Methodology Overview

HealthCorum applies a combination of evidence-based clinical guidelines, clinical review, analysis of unwarranted variation and specialty-specific definitions of low-value care to develop the risk-adjusted, population-based metrics that define its value scores. Each provider is assigned to a peer group of similar providers based on their specialty, an analysis of their medical and pharmacy claims data, and their Hospital Referral Region (HRR). Metrics are calculated for each provider, then scored and ranked into quintiles based on how they compare to their peers. HealthCorum analyzes national claims datasets to generate one overall score and three separate component scores for each provider:

Overall Quality Score

- Combines the 3 component scores measuring effectiveness, cost, and appropriateness into a single value score
- A higher rating shows which providers are most likely to follow best practices and achieve better outcomes at lower cost compared to their peers

Effectiveness Score

- Includes evidence-based measures of quality, patient safety, and outcomes
- A higher rating shows adherence to clinical guidelines and better patient outcomes compared to other similar doctors.

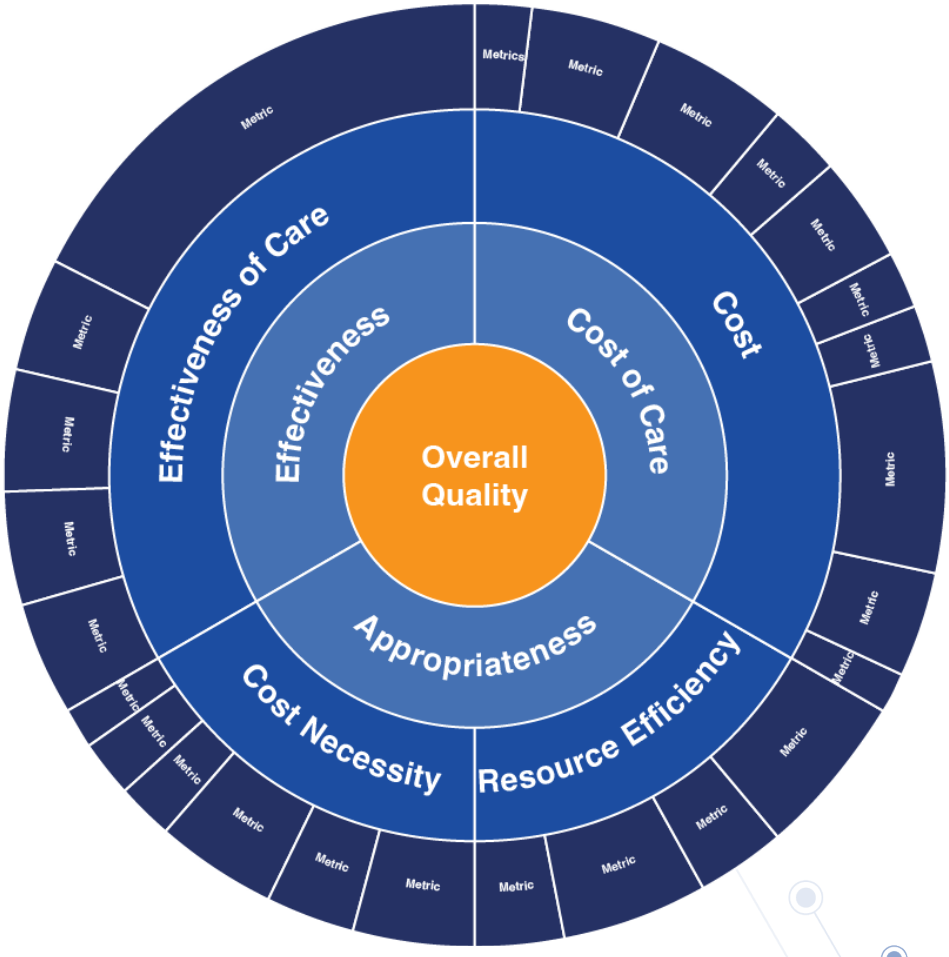
Cost Score

- Includes cost of diagnostics, procedures, and medications
- A higher rating reflects the use of less costly options and/or more conservative decision-making compared to other similar doctors

Appropriateness Score

- Includes tests, procedures, and medications that are prone to overuse, often unnecessary, provide little or no value for the patient, increase downstream utilization and cost, and can even lead to harm
- A higher rating indicates a greater proportion of medically necessary care and less low-value care compared to other similar doctors.

Score Visualization



Effectiveness

Clinical evidence sources such as US Preventive Services Health Task Force Recommendations, ACC/AHA/SCAI Clinical Guidelines, ADA Clinical Guidelines, JNC 8 hypertension guidelines, and published clinical research inform HealthCorum's Effectiveness score. Effectiveness encompasses evidence-based measures of quality, patient safety, and outcomes. HealthCorum uses a combination of standard quality measures from CMS, AHRQ, and NQF, plus internally developed measures based on best practice and clinical guidelines, depending on the data available.

Variations in effectiveness tend to reflect a problem of underuse or gaps in care, when recommended tests or treatments do not reach the entire eligible population. This can be due to a variety of factors ranging from lack of access, inequity, practice patterns, or patient factors.

For example, rates of antihypertensive medications for Medicare cardiology patients are 3.1 times higher for the highest versus lowest scoring general cardiologists in the Dallas region (Figure 1).

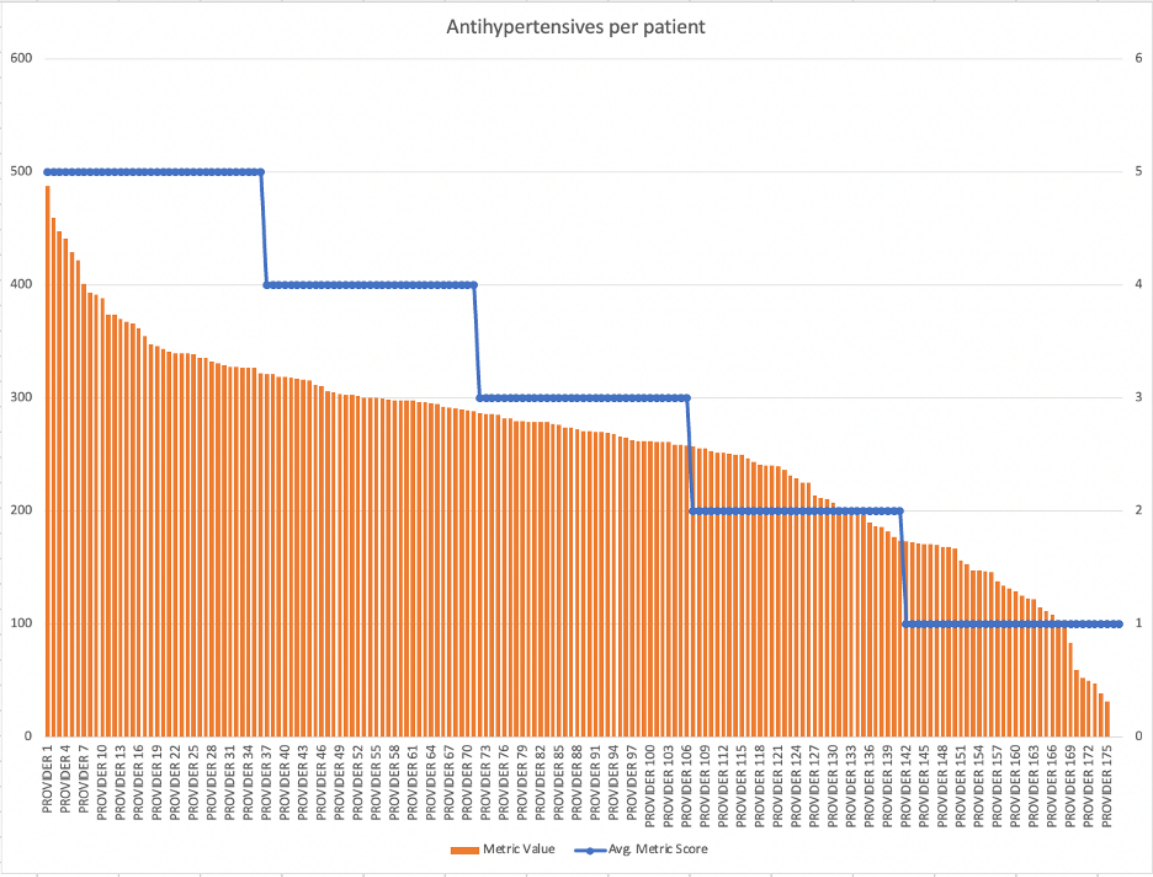


Figure 1. Variation in average days supply of antihypertensives for cardiology patients, Dallas HRR

Outcome measures, such as readmissions following surgery, are another indicator of effectiveness where variation can differentiate higher value from lower value providers. Rates of all cause 30-day readmissions for cardiac surgeons in the Philadelphia region, for example, are nearly 8 times higher among low(poor) scoring than high(better) providers (Figure 2).

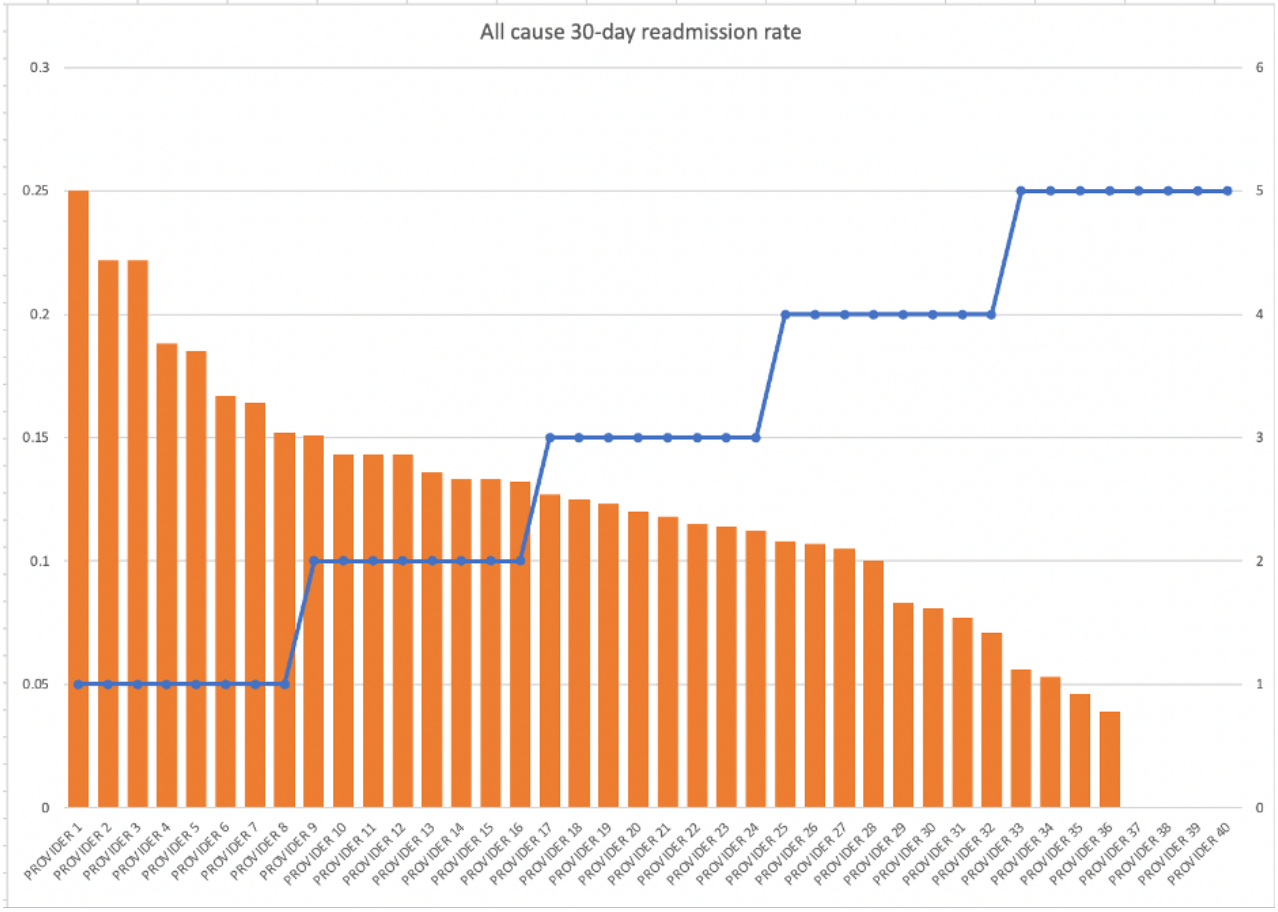


Figure 2. Variation in all cause 30-day readmission rates among cardiac surgeons, Philadelphia HRR.

Referral-based metrics provide an even broader view of the value a patient can expect to receive from a physician by incorporating the value of facilities and specialists that the physician interacts with into their overall quality score. A high-value spine surgeon operating at a hospital with lower readmissions and complications will have a better score than a high-value counterpart operating at a low-value facility.

A higher Effectiveness rating shows adherence to clinical guidelines and better health outcomes compared to other similar doctors.

Cost

HealthCorum's cost score uses standardized costs for visits, tests, treatments, and prescription medications to identify the highest and lowest cost providers compared to similar peers.

Having higher costs than peers may be due to a variety of factors, such as higher rates of prescribing brand name medications, keeping patients on medications longer, doing more routine tests and advanced imaging, or opting for more expensive treatment options.

For example, the percentage of prescription drug cost that is for brand name drugs is 1.6 times higher for the lowest scorers than the highest scorers in the Bangor region (Figure 3).

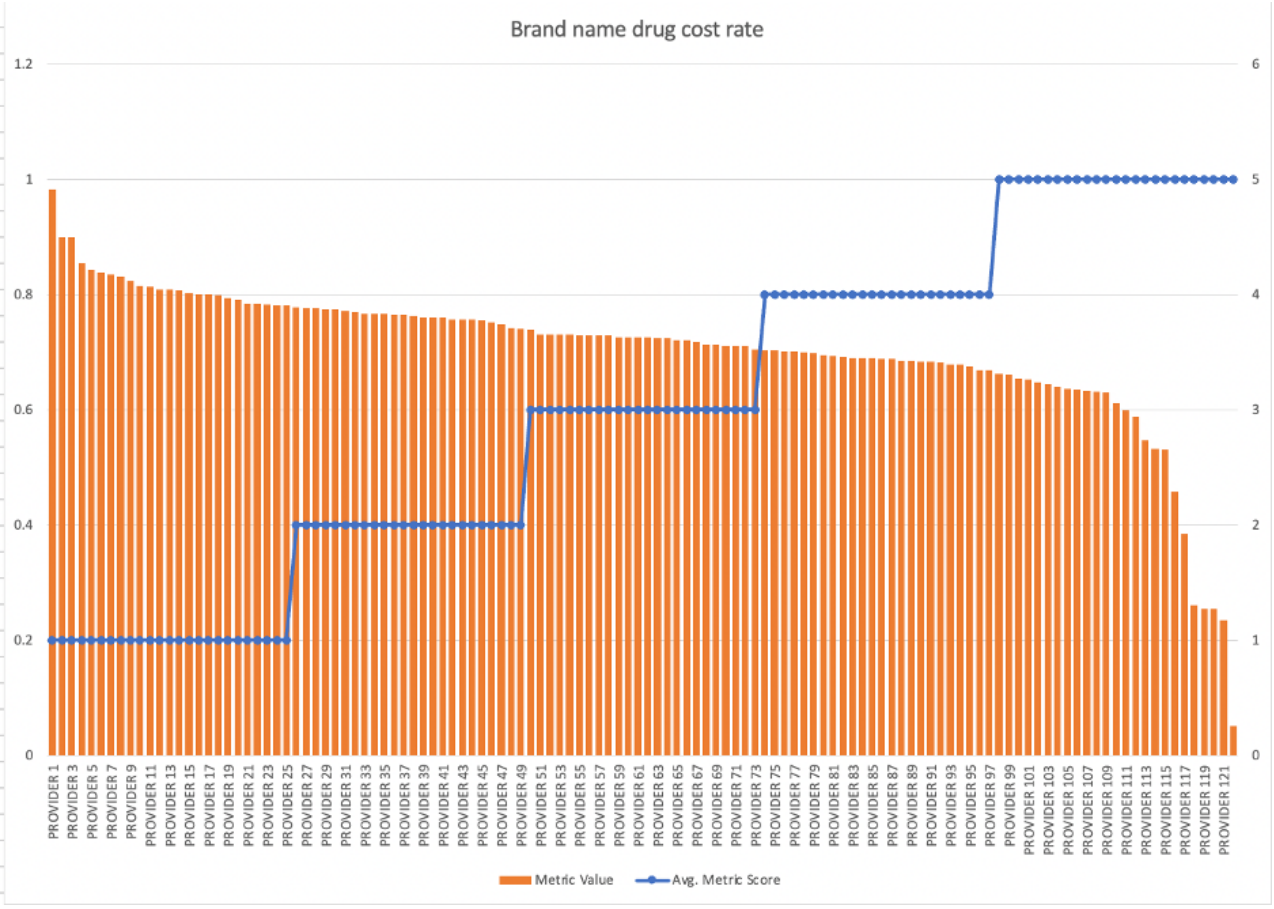


Figure 3. Variation in brand name drug cost rate among primary care physicians, Bangor HRR.

A higher cost rating shows a tendency to provide care at more reasonable costs compared to peers. Patients going to providers scoring high on cost can expect to have lower out-of-pocket expenses than if they were to go to a provider with a lower cost score.

Appropriateness

HealthCorum's appropriateness metrics are based on recommendations from ABIM's Choosing Wisely, evidence-based clinical guidelines, and the Dartmouth Atlas, and integrate the concepts of resource efficiency and care necessity. These include broad-based metrics of resource efficiency, such as treatments per patient, and specialty-specific metrics of unnecessary or low-value care, such as low back imaging rate.

Variations in appropriate care tend to reflect overuse, including routine testing that may be done automatically, and other low-value treatments that provide little or no value, increase downstream utilization and cost, and can even lead to harm to the patient.

For example, variation in rates of pre-op chest X-rays, opioid prescribing, lumbar spine imaging and surgeries are some of the metrics used to help differentiate between providers of high and low-value care.

The following two examples are from the Houston HRR. As shown in Figure 4, patients of general gastroenterologists with the lowest (poorest) scores receive 8.4 times more acid suppressants than patients of physicians with the highest scores. Similarly, figure 5 shows wide variation in large joint aspiration rates, with the lowest-scoring knee surgeons performing the procedure 12 times more frequently than the highest-scoring knee surgeons in the region.

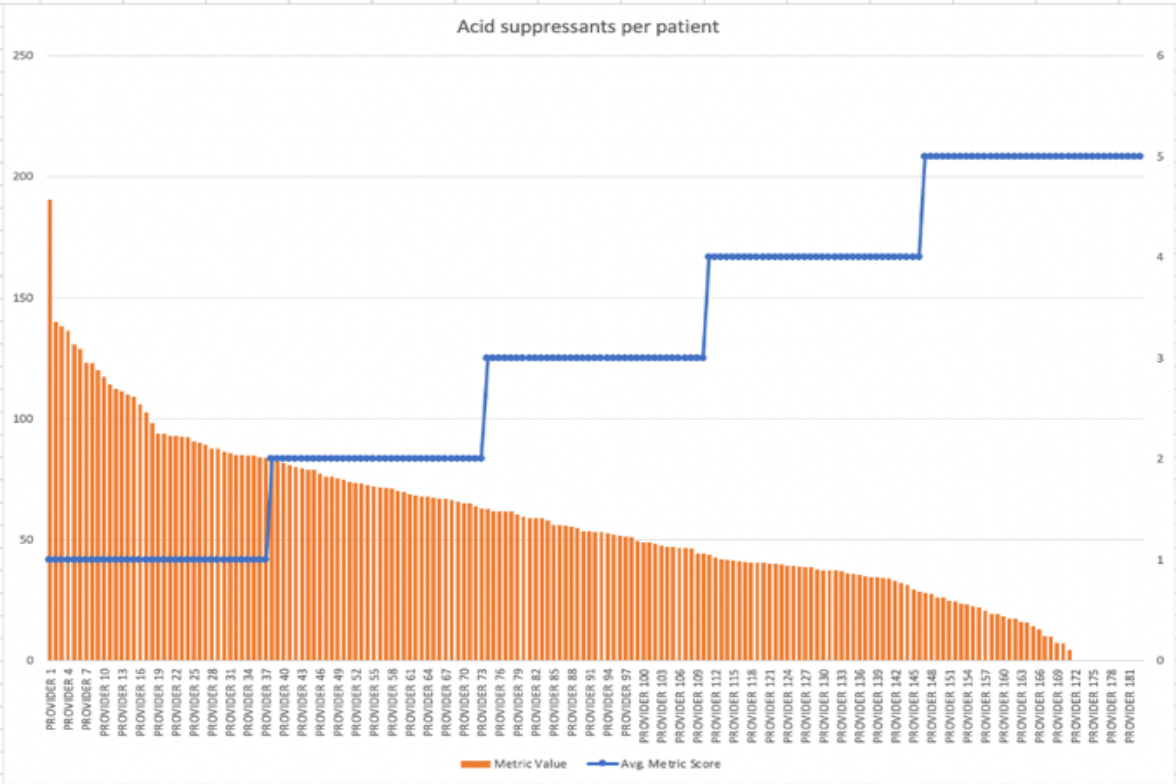


Figure 4. Variation in days supply of acid suppressants among general gastroenterologists, Houston HRR

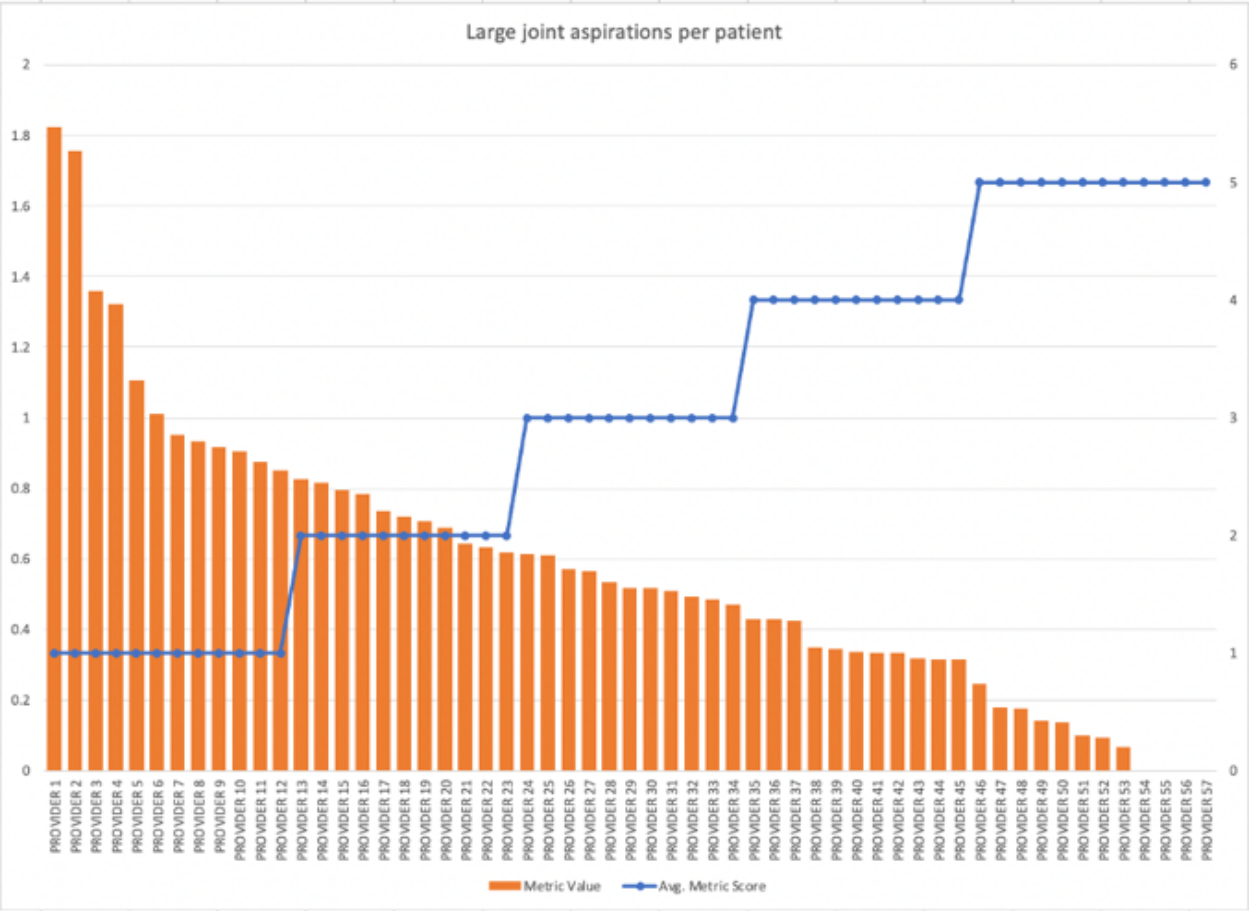


Figure 5. Variation in large joint aspiration rates among knee surgeons, Houston HRR

A higher appropriateness score shows a more judicious use of testing and conservative treatments compared to other similar doctors, resulting in less time and money spent on unnecessary, low-value care.

Safeguards

Peer Group Creation

All metrics and scores are ranked in relation to a provider's peer group. To ensure fair and relevant provider comparisons for scoring, HealthCorum defines peer groups based on provider type, geography, and analysis of services, treatments and procedures billed in claims data.

Algorithms are developed to differentiate subspecialties within a specialty, while staying at a high enough level to maintain a sufficient volume of providers within a group for meaningful comparisons. For example, orthopedic surgery has several different subspecialties, depending on the specific surgical specialty. In this way, orthopedic surgeons who specialize in spine surgery are compared to other spine surgeons who may have a neurosurgery provider type. Similarly, a distinct subspecialty for hepatologists ensures they are not unfavorably compared to general gastroenterologists. Peer group geography is defined as the Hospital Referral Region (HRR). When there are not enough peers in the HRR, the geography is expanded to the national level.

Due to the importance of peer groups in defining and interpreting HealthCorum's scores, subspecialty algorithms undergo extensive testing and refinement throughout the development and maintenance stages. Subspecialty definitions are validated and refined with client feedback and web-based verification.

Risk Adjustment

In addition to peer grouping, HealthCorum applies patient-level risk adjustment to its metrics in order to level the playing field and enhance the validity of provider comparisons. Risk adjustment normalizes metric values according to the illness burden and demographic characteristics of the patient population, allowing providers with sicker, higher-need patients to be compared to providers treating younger, healthier patients.

HealthCorum's primary method of risk adjustment uses CMS's HHS-HCC derived patient level risk adjustment factors (RAFs) for adjusting provider metrics. For some metrics, based on their distribution characteristics and case-mix variation, we also use chronic condition (CC) category, age-group, sex based direct and indirect adjustment methodologies, and both best fit individual metrics and their combined impact on higher level scores.

Cost standardization

HealthCorum's cost standardization methodology normalizes the variation of contract pricing differences using relative value units (RVUs) specific to each care setting: MSDRGs for inpatient cost, APCs and RVUs for outpatient cost, RVUs for professional cost, and AWPs for pharmacy cost. This means that the cost values displayed in our metrics represent an overall monetary equivalent of resource use rather than actual total paid amounts. By removing bias due to differences in payor/provider contracting rates, HealthCorum's cost metrics and scores allow for fair and valid comparisons among providers that reflect actual resource use.

Methodology Validation

The HealthCorum team brings decades of clinical, population health and health informatics experience to its provider benchmarking and scoring methodology that is designed to turn observed patterns of unwarranted variation and low-value care into actionable insights to improve overall healthcare value. Many steps are taken to ensure clinical and measurement validity throughout the entire score development, production, and update process:

- External clinical evidence sources such as US Preventive Services Health Task Force Recommendations, ACC/AHA/SCAI Clinical Guidelines, ADA Clinical Guidelines, JNC 8 hypertension guidelines, ABIM's Choosing Wisely Recommendations, Dartmouth Atlas, and published clinical research are consulted to inform the development of effectiveness and appropriateness metrics.
- HealthCorum uses a combination of standard quality measures from CMS, AHRQ, and NQF, plus internally developed measures based on best practice and clinical guidelines, depending on the data available.
- HealthCorum follows accepted standards of metric methodology published in sources such as CMS and Yale/CORE white papers, in development, testing, and benchmark evaluations.
- Risk adjustment, cost standardization, metric weighting, and subspecialty-based peer grouping are employed to level the playing field for fair and meaningful comparisons.
- Subspecialty assignments undergo extensive testing and external validation through web-based verification and direct feedback from client clinicians and practice managers.
- Observed metric values are checked and compared with expected results for similar metrics when available from external sources such as CMS, client reports, and all payor claims databases (APCDs).
- HealthCorum conducts open and transparent review of metrics and scores with provider practices, discussing outliers and collaborating on data checks to ensure a high standard of quality, consistency, and comparability of our findings.

Comments or questions? Please email info@healthcorum.com for more information or to speak with our team!