



HealthPartners®

HealthPartners Technical Paper

# Triple Aim Comparative Reporting

---

## Guidelines and Considerations for Risk-Adjusting, Case-Mixing, and Segmentation

The purpose of this technical paper is to overview the use of methodologies needed for effective Triple Aim comparative performance measurement and improvement activities. It will give a brief background, level-set on terms, as well layout different types of measurement and the adjustments needed to maximize measure benefits for stakeholders.

## Background

---

Risk adjustment refers to the adjustments made to measurement to reflect the health status of patients. It is the “use of patient-level information to explain variation in health care spending, resource utilization and health outcomes over a fixed time period.”<sup>ii</sup> Risk adjustment is a two step process, the first step is risk assessment which is the method used to ascertain the relative health risk of a person or group (commonly called risk adjuster). The second step is the risk adjustment process, which is the method used to adjust rates in order to reflect the differences in health risk as measured by risk assessment.<sup>iii</sup>

Risk adjustment allows for comparability of heterogeneous populations. It levels the playing field by accounting for health status differences, ensuring measure results reflect differences in care provided and resources used. Risk adjustment acknowledges and accounts for the uniqueness of a provider’s patient population based on health status.

Risk adjusters typically use age, gender, diagnosis code and sometimes prescriptions to create categorizations of patients with similar health and resource consumption needs. Risk adjustment is commonly used in quality outcomes measurement, case and disease management, predictive modeling and historical comparative reporting. They are also used in risk-based payment approaches.

## Definitions

---

While risk adjustment is the most commonly used term when discussing adjustments for comparative reporting, it is often mistakenly used interchangeably for other terms. The misuse of these terms can create confusing dialogues and unintended consequences when stakeholders have different understandings of comparative reporting. This section will level-set on these terms.

### Retrospective vs. Prospective Risk Adjustment

Retrospective risk adjustment, also called “concurrent”, uses claims data from a period of time to assess the differential risk driving experience for the same time period. Prospective risk adjustment uses historical claims to predict the future risk of a population. The explanatory power of retrospective risk adjustment is superior to that of prospective risk adjustment and is preferred for comparative reporting of performance measurement results.

### Case-mix Adjustment

Case-mix adjustment refers to an adjustment made to a measure for population differences beyond an individual’s health status. One example is the provider’s capabilities: for treatment of heart disease, one hospital has capabilities to insert stents and another has capabilities to perform coronary artery bypass graft (CABG). Case-mix adjustment allows for comparability of these two hospitals without different service capabilities confounding the results.

## Segmentation

Segmentation, sometimes called stratification, is the concept of dividing a population into meaningful categories, or segments, for reporting and improvement work. For example, payment reform related measurements require segmentations by payer type (i.e. commercial, Medicare, Medicaid) because of unique policies, measures, and targets in those arrangements. Co-mingling results across payer types does not serve the needs of most stakeholders since they are independently measured and evaluated. Costs of care and utilization metrics should be reported by payer to make the most cost effective care decisions. Combined measurement across payer type, in this case, may actually lead to increased costs if consumers are directed to less cost effective care for their payer type.

Another application of segmentation is to report select performance measure results by race or ethnicity in an effort to reduce and eliminate disparities. Segmentation is preferred over case-mix adjustment for demographic factors, such as race and ethnicity, since case mix adjustment removes the ability to identify and eliminate disparities by adjusting away population differences. When race and ethnicity data points are available, segmentation allows for targeted improvement efforts by providers and informed decision-making by consumers. It is important that segmentation maintain the integrity of the measure; segmented populations must be large enough to reliably assess performance.<sup>iv</sup>

## Applications

Prior to determining risk adjustment, case-mix adjustment and segmentation methodologies, it is important to consider potential confounding factors for each type of measure. The table below outlines five different types of comparative measures. It also indicates if risk adjustment (adjustment for health status) and/or segmentation (in this case, dividing the population by payer type), is typically applied and the rationale for each application.

### Guidelines for Comparative Reporting Applications

Measure Type	Risk Adjustment (Health Status)	Segmentation (By Payer Type)	Risk Adjustment Rationale
<b>Quality: Process Measures</b> (Example: Preventive Screenings)	No	Yes (Aggregating Results is also Acceptable)	<ul style="list-style-type: none"> <li>Adherence to recommended clinical guidelines regardless of patient health status.</li> <li>Payment reforms require segmentation by payer type.</li> </ul>
<b>Quality: Outcome Measures</b> (Examples: LDL/ Bad Cholesterol Results, Readmissions)	Yes	Yes (Aggregating Results is also Acceptable)	<ul style="list-style-type: none"> <li>Clinical outcomes are dependent on patient health status.</li> <li>Adherence to ask and assist, regardless of health status.</li> <li>Payment reforms require segmentation by payer type.</li> </ul>

Measure Type	Risk Adjustment (Health Status)	Segmentation (By Payer Type)	Risk Adjustment Rationale
<b>Experience Measures</b> (Example: CGCAHPS, Refers to Clinics & Groups Consumer Assessment of Health Care Providers and Systems)	No	Yes (Aggregating Results is also Acceptable)	<ul style="list-style-type: none"> <li>Measures patient experience regardless of patient health status.</li> <li>Payment reforms require segmentation by payer type.</li> </ul>
<b>Total Cost of Care</b> (Example: Total Cost Index)	Yes	Yes	<ul style="list-style-type: none"> <li>Vastly different cost and use patterns that are not fully accounted for by health status alone.</li> <li>Payment reforms require segmentation by payer type.</li> </ul>
<b>Cost and Resource Use: Utilization</b> (Example: Admits/1000, ED visits/1000)	Yes	Yes	<ul style="list-style-type: none"> <li>Utilization varies by health status of the population.</li> <li>Vastly different use patterns that are not fully accounted for by health status alone.</li> <li>Payment reforms require segmentation by payer type.</li> <li>Percent generic measures are typically not risk adjusted or segmented.</li> </ul>

### Presentation of Results: Adjusting to actual mix vs. Adjusting to a standard mix

Results that have been risk adjusted for health status are typically displayed in context of an expected or benchmark performance level so that the audience can make reasonable comparisons and easily interpret what the measure means. This is referred to as actual-to-expected benchmarking and can be displayed as the metric itself, as an index, or as some other summarized metric. Regardless of the form it takes, successful display makes one result simple to compare to another.

When displaying results, there is a critical decision to be made about the point of reference: do you want to display a provider's *performance on their actual population* or do you want to display how a provider *would perform on a standard population*.

While both methods create a relative performance measure, using a standardized mix creates a theoretical performance level, whereas using the provider's actual patient mix creates actual results for their population.

## Discussions

---

Each measurement type needs to be assessed independently for appropriate application of risk adjustment, case-mix and/or segmentation to ensure comparability and support improvement. Establishing a common set of terms will go a long way in setting a foundation for community discussions and will result in beneficial outcomes for all stakeholders.

Measure developers and those being measured require full transparency of methods, including risk adjustment and other comparative reporting techniques. However, this level of detail can overload consumers and may drive down use of important reports. Typical consumers trust that measure results are comparable when they are displayed as such. It is not imperative that these details be prominent or necessarily fully understood by all consumers to convey the meaningfulness of measure results.<sup>v, vi</sup>

## About HealthPartners

---

Founded in 1957, HealthPartners is the largest consumer-governed, non-profit health care organization in the nation. It is dedicated to improving the health of its members, patients and the community. HealthPartners provides a full-range of health plan services including insurance, administration and health and well-being programs. Since its combination with Park Nicollet in 2013, its care system includes more than 1,700 physicians; five hospitals; 52 primary care clinics; 22 urgent care locations; and numerous specialty practices in Minnesota and western Wisconsin.

## Contacts

Sue Knudson  
Senior Vice President, Health Informatics  
HealthPartners  
[Susan.M.Knudson@HealthPartners.com](mailto:Susan.M.Knudson@HealthPartners.com)  
952-883-6185

Chad Heim  
Vice President, Health Informatics  
HealthPartners  
[Chad.C.Heim@HealthPartners.com](mailto:Chad.C.Heim@HealthPartners.com)  
952-883-5103

---

<sup>i</sup> Berwick, Donald M., Nolan, Thomas W., Whittington, John, The Triple Aim: Care, Health and Cost. Health Affairs, May/June 2008. doi: 10.1377/hlthaff.27.3.759. <http://content.healthaffairs.org/content/27/3/759.full>.

<sup>ii</sup> Ellis, R. Risk Adjustment in Health Care Markets: Concepts and Applications. Paper Prepared for special edited volume on International Health Care Financing. Boston University. February 2007. [http://sws.bu.edu/ellisrp/EllisPapers/2007\\_Ellis\\_Riskadjustment25.pdf](http://sws.bu.edu/ellisrp/EllisPapers/2007_Ellis_Riskadjustment25.pdf).

<sup>iii</sup> Winkelman, R; Mehud, S. A Comparative Analysis of Claims-Based Tools for Health Risk Assessment. Society of Actuaries. April 20, 2007. <http://www.soa.org/research/research-projects/health/hlth-risk-assessment.aspx>.

<sup>iv</sup> Weissman, JS, et al. Commissioned Paper: Healthcare Disparities Measurement. Massachusetts General Hospital and Harvard Medical School. Sponsored by the National Quality Forum, grant funding from Robert Wood Johnson Foundation. August 2011.

<sup>v</sup> Hibbard, J and Sofaer, S. Best Practices in Public Reporting No. 1: How to Effectively Present Health Care Performance Data to Consumers. Agency for Healthcare Research and Quality. May 2010. <http://www.ahrq.gov/qual/pubrptguide1.htm>.

<sup>vi</sup> Hibbard, J and Sofaer, S. Best Practices in Public Reporting No. 2: Maximizing Consumer Understanding of Public Comparative Quality Reports. Effective Use of Explanatory Information. Agency for Healthcare Research and Quality. May 2010. <http://www.ahrq.gov/qual/pubrptguide2.htm#rec8>.