VIEWPOINT

Risk Adjustment for Quality Measures Is Neither Binary nor Mandatory

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Holding health care organizations and clinicians accountable for health care quality has been championed by the Joint Commission, the Centers for Medicare & Medicaid Services (CMS), and health care payers for more than 15 years.[1] More recently, quality assessment has increasingly emphasized outcome measures rather than process measures, as outcomes are of greater interest to patients and payers. However, because outcomes are less directly controlled by clinicians and health systems than processes, this emphasis has magnified the importance of using robust risk adjustment methods to control for factors beyond the reach of clinicians or health systems.

However, risk adjustment methods used in practice are often not robust and reflect the limits of available data.[2] Baker and Chassin[1] inventoried risk adjustment methods across a wide spectrum of clinical domains and public reporting, payment, and accreditation authorities and found that 5 of 10 risk adjustment methods excluded important risk factors for the outcome of interest, thereby magnifying the concern of unintended consequences such as unwarranted penalties, bonuses, or detriments to patient care. For example, safety net hospitals may be unfairly penalized by readmissions penalties because clinicians have little influence on social risk factors, such as homelessness and lack of social support, that contribute to readmission. A possible adverse consequence is that health systems may avoid enrolling persons with social risks that are omitted by the risk adjustment method.

Despite the importance of the rigor of risk adjustment, it is often discussed in a binary framework—meaning that either an outcome measure is risk adjusted or it is not. But omitting discussion of the rigor of the underlying risk adjustment method can undermine the greater goal of meaningful performance measurement. Employing a performance measure together with poor risk adjustment may be worse than employing no performance measure at all.[3] Analogous issues arise when risk adjustment is used for payment determinations[4] and affects reimbursement.

A Possible Approach for Quality Ranking of Risk Adjustment Methods

How might accountable care be pursued while moving beyond a binary notion of risk adjustment? One possible approach would be to substitute a rank-ordered schema for risk adjustment analogous to those used to rate the quality of a body of evidence,[5] for instance, with designations, such as *A* denoting a risk adjustment method that is unlikely to result in adverse consequences and accordingly is more likely to create more benefit than harm; *C* denoting a risk adjustment method that may result in adverse consequences, and accordingly may create more harm than benefit, and *B* denoting intermediate levels of robustness.

Objective criteria for the *A*, *B*, and *C* strata could be anchored in the root causes of adverse and unintended consequences that are beyond the control of clinicians yet influence outcomes. At first, this might seem like an idealistic pursuit because it is not possible to ensure that all factors contributing to an outcome have been identified, let alone measured, but on closer inspection this goal may be achievable. Any factor affecting an outcome can be classified into mutually exclusive categories: (1) unknown and unsuspected (the unknown unknowns), (2) unknown and suspected, (3) known and proven, and (4) known and disproven. Here, "disproven" means evaluated with sufficient statistical power to exclude a type II error, "proven" means evaluated with sufficient statistical power to exclude a type I error, and "suspected" means identified after systematic, typically qualitative, outreach with practicing clinicians who are queried about their perceptions and perspectives regarding factors beyond their control that influence outcomes. Of these 4 categories, only the first is impossible to identify and measure. However, it is not necessary to identify factors in this first category to create an *A*-level risk adjustment method. Unwarranted penalties or bonuses and other selection-related adverse consequences only can occur when factors are known or suspected, which does not apply to factors in the first category.

Accordingly, *A*-level risk adjustment might consider domains of social risks and psychological risks in addition to the more common domains of demographics, comorbidity, and severity of disease (**Table**). In contrast, *C*-level risk adjustment could consider domains based on readily available data. *B*-level risk adjustment could denote risk adjustment methods that are intermediate. For example, the National Quality Forum (NQF) uses a risk adjustment method that would be graded *C* based on the criteria above, although it is actively considering transitioning to a method that considers some social risks and may achieve a *B* grade.[6] The National Committee for Quality Assurance (NCQA) (sponsors of the Healthcare Effectiveness Data and Information Set) uses a risk adjustment method that would be graded *C* based on the criteria above.[7]

Which organization could evaluate the quality of a risk adjustment method? The candidate organization would need to represent viewpoints of groups invested in health care quality, in particular patients, payers, clinicians, and health systems, yet not be beholden to financial interests that would resist additional data collection when necessary. It would be specious to declare data needs infeasible because they are

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Table. Possible Criteria for Quality Ranking of Risk Adjustment Methods

Risk Adjustment Domains[a]	Examples of Items	Included in Hypothetical Rank-Ordered Schema for Risk Adjustment[b]		
		Grade *A*	Grade *B*	Grade *C*
Demographics	Age, sex[c]	Yes	Yes	Yes
Access to health care	Insurance status	Yes	Yes	Yes
Comorbidity burden	Individual (*ICD-9*-based) or composite (eg, Charlson, Elixhauser)	Yes	Yes	Yes
Severity of disease	Various	Yes	Yes	Yes
Frailty	Clinical frailty scale	Yes	Possibly	No
Social risks	Poverty, homelessness, incarceration, low literacy, low numeracy, language concordance, lack of social support	Yes	Possibly	No
Psychological risks	Self-efficacy, perceived control, resilience, impulsivity, risk aversion	Yes	Possibly	No
Behavioral context	Community behavioral norms[d]	Yes	Possibly	No
Domains informed by qualitative research	Unknown	Yes	No	No

Abbreviation: *ICD-9*, *International Classification of Diseases, Ninth Revision*.

[a] Unhealthful behaviors should be omitted (but not the social and psychological factors underlying them) because those behaviors are partially under health system control.

[b] A grade *A*-level risk adjustment method could seek to include known and suspected factors influencing patient outcomes that are beyond health system control and could indicate that the possibility of unintended consequences of risk adjustment is unlikely. A grade *C*-level ranking could involve factors that are readily available and could indicate that the possibility of adverse consequences is substantial. A grade *B*-level ranking would be intermediate. These criteria are not all-inclusive and would be expected to change over time based on clinician and stakeholder input and based on new scientific knowledge.

[c] Race/ethnicity may not be desirable if it merely proxies causal variables in other domains, such as social risks.

[d] Adherence with therapies, visits, or both should not be included because it is partially under health system control.

not routinely gathered when that same data would become feasible and routinely gathered if those data were required for reimbursement. Although NCQA or NQF may be suitable organizations because of their hegemony in the quality improvement space, they have generally sought risk adjustment methods consistent with available data rather than seeking data consistent with the best risk adjustment methods. Accordingly, the role of evaluating risk adjustment methods might require a different organization, ideally fusing the rigor of academic research with the outcomes most important to patients. Accordingly, the role may require a distinct entity such as Agency for Healthcare Research and Quality (AHRQ) or CMS, or a new AHRQ or Patient-Centered Outcomes Research Institute subsidiary.

In addition, risk adjustment is not always desirable in every quality improvement or performance measurement activity. For example, if the goal of the activity is to decrease health disparities, risk adjustment may hinder that goal because statistically adjusting for factors that are intertwined with health disparities could serve to perpetuate them by enabling quality goals to be reached without remediating those disparities. There should be distinct incentives for these 2 separate goals, 1 for offering the best quality care under the circumstances, and the second for diminishing health disparities. These goals may not always occur simultaneously, yet both are worthwhile and worthy of distinct incentives.

Data to support *A*-level risk adjustment will rarely be readily available at the current time because it requires additional research and modification of established processes for gathering data. However, it is arguably worse to erroneously suggest that all the necessary data exist than to perform the necessary steps to identify and obtain the necessary data. The increased effort involved in rigorous risk adjustment also might have the additional benefit of focusing attention on a more select list of outcomes that are of greatest importance to patients. Moreover, rigorous statistical criteria also will be necessary to evaluate and arbitrate the quality of risk adjustment methods.

In summary, viewing risk adjustment as a binary process may impede the important goal of holding clinicians and health systems accountable for health care outcomes by increasing the likelihood of adverse unintended consequences. Viewing risk adjustment as mandatory may impede the important goal of diminishing health disparities. However, a more systematic and transparent approach to risk adjustment methods and their rationale may better align performance measurement with the outcomes that matter most to patients and society.

ARTICLE INFORMATION

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