VIEWPOINT

Quality Measures and Sociodemographic Risk Factors

To Adjust or Not to Adjust

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In 2006, the National Quality Forum (NQF) established a policy against adjusting quality measures for sociodemographic risk factors, ie, socioeconomic status and other social risk factors.[1] This policy was based on concern that statistical adjustment could mask poor care provided to socially disadvantaged patients and create lower standards of care. However, given the potential influence of sociodemographic risk on health and health care, this policy of not including risk adjustment, adopted by the Centers for Medicare & Medicaid Services (CMS) and others, potentially results in unfair comparisons among clinicians, hospitals, and other health care organizations.[2]

Two health care trends have likely spurred reexamination of this policy. The first reflects a trend toward measuring patient outcomes (eg, hospital readmissions) rather than care processes (eg, smoking cessation counseling).[2,3] Process measures largely under hospital or clinician control, such as drug administration during hospitalization, are little influenced by social determinants of health (ie, patient life circumstances, constraints, and community resources). In contrast, outcomes such as patient hospital readmission or mortality are more strongly influenced by "social risk." Ignoring these effects can produce misleading conclusions about comparative performance.[4,5] Specifically, clinicians and hospitals serving disadvantaged patients may appear worse on quality measures than they really are, and those serving more affluent patients may appear better than they really are.

The second trend ties payment to performance for hospitals, clinicians, and other entities, eg, accountable care organizations (ACOs).[3,6] This trend creates the potential for greater financial penalties for hospitals, clinicians, and ACOs caring for socially disadvantaged patient populations. The 2006 policy could have the paradoxical effect of exacerbating health care disparities by depriving safety-net hospitals and clinicians of resources needed to provide quality care, creating the public appearance that hospitals and clinicians serving disadvantaged patients are low quality, and as a consequence, generating perverse incentives to avoid serving disadvantaged patients or communities.[7]

In response to these concerns about fairness, the NQF under contract from CMS convened an expert panel to reconsider its policy. The panel considered the questions of whether, when, and how to adjust measures used for "accountability applications" (public reporting of quality and pay-for-performance) for sociodemographic risk factors. The panel sought to balance possible unintended consequences of adjustment, including perceived masking of disparities and the potential for creation of lower standards of quality for socially disadvantaged patients, against the unintended consequences of not adjusting for socioeconomic status.

Change in NQF Policy Recommended

The panel concluded that the NQF blanket proscription against adjustment of performance measures for patient sociodemographic factors should be revised.[1] This conclusion was based on review of scientific evidence documenting that sociodemographic factors function as confounders (ie, a third factor that distorts the causal relationship between 2 other variables) for performance measures (particularly for outcome measures) and that appropriate statistical adjustment typically does not mask true poor performance between hospitals, clinicians, or other entities. The panel also recognized that the presence and degree of confounding by patient sociodemographic factors differ depending on the measure. The panel concluded that blanket adjustment of performance measures also would not be appropriate.

Measure-by-Measure Determination

The panel recommended a measure-by-measure determination of the appropriateness of sociodemographic adjustment based on 2 criteria. First, there should be a conceptual relationship between 1 or more sociodemographic factors and an outcome or process of care reflected in the measure. For example, adjusting rates of hospital central-line infections would not be appropriate because sociodemographic factors are presumed to have little relationship with these infections; the key processes leading to infection are largely under the control of the hospitals whose performance is being measured. On the other hand, glycemic control as a measure of physician performance should be considered for adjustment. Glycemic control is affected not only by medical care, but also by constraints on patient behavior and community resources, over which clinicians have relatively little direct influence.

Second, there should be empirical evidence that sociodemographic factors affect a measure. The panel did not specify a threshold or cutoff for degree of association, but recommended that the same criteria used for inclusion of clinical risk factors in adjustment models be used for sociodemographic factors. For example, the absence of either theory or empirical evidence about the relationship of sociodemographic factors with a given measure would indicate that adjustment is unnecessary or inappropriate.

The panel recommended basing decisions regarding adjustment on informed judgments by both measure developers and NQF measure review committees, using scientific evidence, plausible conceptual and theoretical models, and statistical relationships. The panel also recommended that measure developers, when submitting measures for NQF endorsement, provide a rationale and supporting evidence for their decision to adjust or not adjust.

The panel's recommendations apply to outcome measures and to process-of-care measures. Adjustment may be appropriate when patient, household, or community characteristics influence patient behavior essential to the care process (eg, colorectal cancer screening).

The panel acknowledged that the relative influences of quality of care vs social or demographic factors on outcomes would not always be clear. The panel did not make a specific recommendation about thresholds for relative influence of the 2 sets of factors, in part because careful statistical analysis of the effects of adjustment demonstrates that adjustment typically will not mask "between-unit" (high- or low-performing hospitals or physicians) differences in quality of care.[8]

Additional Considerations

The panel determined that the potential for confounding in the quality of care–outcome relationship was essentially the same for both sociodemographic and clinical factors. It recommended using the same guidelines currently applied to clinical factors for sociodemographic factors to determine when adjustment was appropriate. However, the panel recommended additional steps to minimize unintended consequences, particularly risk of lower standards for socially disadvantaged patients.

Ensuring Disparities Are Visible

The panel recommended that when measures are sociodemographically adjusted, the developer must "also include specifications for stratification of a clinically adjusted (ie, not sociodemographically adjusted) version of the measure based on the sociodemographic factors used in risk adjustment." Depending on data availability, these specifications would enable reporting of performance rates by poor vs nonpoor, English-speaking vs not, etc. Such stratified reporting provides the most direct view of health care disparities and also supports the planning of targeted initiatives designed to mitigate these disparities.

Mitigation of Potential Adverse Consequences

The panel recommended steps to ensure that the policy change has its intended effect while minimizing adverse unintended consequences, including creating lower standards for care based on sociodemographic disadvantage. First, the panel recommended that the NQF "should define a transition period for implementation of the recommendations related to sociodemographic adjustment." During this transition period, specifications for adjusted measures will include specifications for a clinically adjusted version of the measure (ie, without sociodemographic adjustment) for purposes of comparison with the fully adjusted measure. This recommendation could help maximize transparency and permit the public to see the effect of adjustment for sociodemographic factors.

Second, the panel recommended establishment of a new NQF standing committee on disparities. This committee would oversee the revised policy, including implementation decisions by developers and purchasers, monitoring unintended consequences, and making recommendations for changes.

Current Status

In July 2014, the NQF Board of Directors voted to amend the previous policy against sociodemographic risk adjustment for a "robust trial period" prior to making a permanent change in NQF policy. During this period, multiple measures including sociodemographic adjustment would undergo the review and endorsement process, be formally endorsed, and be available for use by sponsors of public reporting and pay-for-performance programs. For measures deemed appropriate for sociodemographic adjustment, specifications will enable creation of both the sociodemographic-adjusted and nonsociodemographic measures in addition to stratification of the nonsociodemographic-adjusted measure.

In the view of the expert panel, the current blanket prohibition of sociodemographic adjustment of performance measures should be eliminated. The panel recommended a nuanced approach involving measure-by-measure determination of the appropriateness of sociodemographic adjustment, a period during which both clinically and sociodemographically adjusted and stratified measures are produced, and creation of a standing disparities oversight committee to monitor the effects of sociodemographic adjustment. This approach helps balance concerns on both sides of the adjustment question.

ARTICLE INFORMATION

Conflict of Interest Disclosures: All authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Dr Burstin reported being Chief Scientific Officer for NQF, which was the recipient of the CMS contract that supported the panel. No other disclosures were reported.

Additional Information: Dr Fiscella and Dr Nerenz served as co-chairs of the NQF panel on risk adjustment for socioeconomic status or other sociodemographic factors.

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