NATIONAL QUALITY FORUM

FAQs for Developers

Risk-adjustment of Measures for Sociodemographic Status (SDS) Factors Trial Period

What are Sociodemographic Status (SDS) Factors?

Sociodemographic status refers to a variety of demographic (e.g., age, primary language, household income, zip code) and socioeconomic factors (e.g., income, education, occupation). (See Appendix for examples)

What is risk-adjustment?

Risk adjustment is a statistical approach that allows patient-related factors (e.g., comorbidity and illness severity) to be taken into account when computing performance measure scores for the purpose of comparing health care providers (e.g., hospitals and clinicians). Because patient-related factors can have an important influence on patient outcomes, risk adjustment can improve the ability to make accurate and fair conclusions about the quality of care patients receive.

What is a conceptual relationship? What factors are necessary for a committee to consider SDS adjustment?

A conceptual relationship refers to a logical theory or rationale that explains the association between an SDS factor(s) and the outcome of interest. The conceptual basis may be informed by prior research and/or healthcare experience related to the measure focus, but a direct causal relationship is not required (i.e., it could be a direct cause, an indirect cause, or serve as a surrogate for a cause for which data are lacking).

Assessment of the conceptual relationship between an SDS factor and a measure's focus includes a consideration of whether the effect of the SDS factor is primarily mediated by the quality of care delivered (i.e., does the SDS factor affect the outcome independent of the quality of care delivered? Or does the SDS factor lead to the delivery of inferior care processes, which in turn affects the outcome?) For example, while a patient's income level may impact his or her ability to utilize post-acute care services, and therefore might potentially be considered in the risk-adjustment approach for a readmissions measure, a patient's income level is unlikely to affect his or her likelihood of experiencing a complication during hospitalization, so would it be inappropriate to include income as a factor in the risk-adjustment approach for a hospital-acquired infection measure.

If a conceptual relationship exists between an SDS factor and the measure focus, empirical testing should be conducted to confirm that relationship. The empirical analyses should include the details of the final risk adjustment approach.

What is NQF's SDS trial period?

For two-years, NQF will conduct a trial of a temporary policy change that will allow inclusion of SDS factors in the risk-adjustment approach for performance measures. At the conclusion of the trial, NQF will determine whether to make this policy change permanent.

What prompted the SDS trial period?

Previous NQF policy prohibited the inclusion of SDS factors in risk-adjustment approaches out of concern that doing so might conceal inequalities in care and result in lower standards of provider performance for certain subpopulations. The Centers for Medicare and Medicaid Services (CMS) contracted with NQF to examine this policy and the broader issue of SDS risk adjustment. In 2014, NQF convened a multi-stakeholder panel of experts in healthcare performance measurement and disparities to consider if, when, and how performance measures should be adjusted for SDS. After its deliberations, the Expert Panel recommended that NQF should allow inclusion of SDS factors in the risk-adjustment approach for performance measures when conceptual reasons and empirical evidence demonstrate it is appropriate. The NQF Board of Directors reviewed the Expert Panel's recommendations and decided to temporarily change NQF's policy and evaluate its impact during the course of a two-year trial period.

Which measures are affected?

Starting April 2015, any new measure submitted for possible endorsement or any endorsed measure that is undergoing maintenance review will be included in the SDS trial. Each measure must be assessed individually to determine if SDS adjustment is appropriate. Along with an assessment of the conceptual relationship between an SDS factor and a measure focus of interest, measure developers should also provide information on patient-level SDS factors (either individual or contextual) that were available and analyzed during measure development. If a performance measure is SDS-adjusted, the measure developer must also include specifications for stratification of a non SDS-adjusted version of the measure.

Who will review the measures for the potential need for SDS adjustment?

As part of their measure evaluation for potential endorsement, NQF Standing Committees will examine each measure submitted to their project to determine if there is agreement with the risk-adjustment approach used by a measure developer.

How will measures be evaluated during the trial period?

With the restriction against SDS adjustment lifted, Standing Committees and other stakeholders will be able to raise questions about SDS risk factors in their evaluation of performance measures submitted to NQF for initial or continued endorsement. Where there is a potential conceptual basis for SDS adjustment, the Standing Committee will evaluate whether the developer assessed SDS factors according to the guidelines for selecting risk factors recognized by the NQF Expert Panel. In addition, the Standing Committee will consider the utility of the SDS factors that are available, the developer's analyses and interpretation regarding the importance of SDS factors in their risk adjustment model, and comparison of performance scores with and without SDS-adjustment.

What about previously-endorsed measures not undergoing maintenance review?

A potential need for risk-adjustment for SDS factors can serve as the basis for an ad hoc review. Ad hoc reviews can be requested by any party. Requester(s) should indicate which criterion the ad hoc review should address and include adequate written evidence to justify the review. Measures undergoing an ad hoc review will be evaluated by the relevant Standing Committee using NQF's ad hoc measure review process. If inclusion of SDS factors in the risk-adjustment approach is the basis for an ad hoc review, developers will be asked to submit a revised testing attachment in order to provide additional

information on the conceptual and empirical relationship of the risk-adjustment variables to the measure focus.

Can lack of SDS adjustment affect the decision regarding endorsement?

Yes. If a Standing Committee determines that risk-adjustment for SDS factors is both conceptually and empirically appropriate for a particular measure, lack of that adjustment can be grounds for not recommending the measure for endorsement. This applies to both new and previously-endorsed measures evaluated in regular projects as well as to measures considered through the ad hoc evaluation process.

How will the trial period affect the All-Cause Admissions/Readmissions project?

In 2014, NQF's Executive Committee ratified the recommendations of the NQF-board appointed Consensus Standards Approval Committee (CSAC) to endorse 17 admissions/readmissions measures that were under review at that time, but only if specific conditions are met. One of these conditions require that these endorsed measures be returned to the All-Cause Admissions and Readmissions Standing Committee to determine which of the 17 measures should be included in the trial period. In April 2015, the Committee agreed that 15 of the 17 measures should be included in the trial.

How will the trial period affect the Cost and Resource Use project?

Similar to the measures in the recent admissions/readmissions project, the NQF Executive Committee ratified the CSAC's recommendation to endorse three cost measures, with the condition that they be considered for inclusion in the trial period. This condition for endorsement of the cost measures will be addressed via an ad hoc review of the measures by the Cost and Resource Use Standing Committee in a timeframe agreed upon with the measure developer.

How will NQF evaluate the success of the trial period?

NQF is committed to making the process and outcomes transparent to all stakeholders throughout the duration of the trial period. The primary focus of evaluation during the trial period is to ensure that NQF structures and processes support committees and stakeholders in identifying performance measures that should and should not be adjusted for SDS. This will include descriptive information about the trial period, evaluation of relevant NQF structures and processes, and qualitative feedback from measure developers, Standing Committee members, NQF members, and members of the public.

What impact will inclusion of SDS factors in risk-adjustment approaches have on payment and provider behavior?

Questions that require the use of SDS-adjusted measures cannot be answered in a relatively short trial period. Information on the impact of SDS-adjusted measures on payment and provider behavior will be available only after the measures are implemented and the resulting data are collected and reported over time. As a result, we will not be able to address these longer-term questions during the 2-year trial period. The primary focus of evaluation during the trial period is to ensure that NQF structures and processes support committees and stakeholders to identify performance measures that should and should not be adjusted for SDS.

Appendix: Socioeconomic Status and Other Demographic Factors – PROs and CONs

Table 1: Sociodemographic Factors PROs and CONs (excerpted from the NQF Technical Report: Risk-Adjustment for Socioeconomic Status or Other Sociodemographic Factors)

Factors/Concepts (specific variables)	**PROs**	**CONs**	**Caveats**
Factors that should be considered, depending on: data availability and the specific outcome or process			
Income	• Allows for use of various ranges	• Hard to collect privately (e.g., in clinician office) • Not easily collected with a single question • May not be an acceptable question to all patients • Meaning is not geographically consistent due to difference in costs of living	• For national performance measures, need to consider standardization to account for area wage and cost of living differences
Income in relation to federal poverty level	• Definition is standard • Being used under ACA • Researchers are used to using it	• Doesn't include receipt of other benefits (e.g., food stamps) • Doesn't account for cost of living or community offsets	
Household income	• May be more meaningful than individual income	• Requires assessment of household size	
Medicaid status as proxy	• Relatively easy to collect in claims data	• Eligibility not consistent across states	• Potentially becomes more useful as more States expand Medicaid to 138% federal poverty level

Factors/Concepts (specific variables)	**PROs**	**CONs**	**Caveats**
Social Security Supplemental Income (SSI)		• Correlated with Medicaid status, but not consistently across states	• In many states, receipt of SSI automatically makes one eligible for Medicaid
Education	• Perceived to be valid (i.e., less misreporting than for income) • Definitions fairly consistent across various subgroups (e.g., answers from immigrants comparable to those from others) • Fairly stable across time, at least after a certain age	• Not widely collected by healthcare units • If collected (e.g., in EHR text fields) may not be easily retrievable	
Homelessness	• Strongly associated with health outcomes • Measures something "beyond" income • Current Housing and Urban Development (HUD) definition	• Multiple other definitions • Data often not collected • Status can change	• Prevalence tends to cluster among safety net healthcare units
Housing instability	• May be better indicator than homelessness which can change	• More difficult to define than homelessness	
English Proficiency	• Standard definition exists • Tied to need for translation services/other resource needs and therefore should be collected • Increasingly being collected (required by "Meaningful Use" and some states)		

Insurance Status	• Readily available • Some indication of access and resources • Benefit coverage strongly related to affordability	• Wide variability in insurance coverage • Data for underinsurance not widely collected	
Medicaid status	• Readily available • Some indication of limited income and resources	• Not consistent across states	
No insurance	• Readily available • Standard meaning		• Difficult to capture information about these patients (particularly if using claims data)

Community/ Neighborhood-level data used as proxy for individual data or as contextual variable	• Many variables available from Census data
	  • Income
	  • Education
	  • Immigration status
	  • Language
	  • Unemployment
	  • Home ownership
	  • Single parents
	  • Others
		• Census data do not include all potentially important variables
		• Residential heterogeneity will affect whether it is a good proxy for data about individuals.
		• Heterogeneity may differ based on levels of socioeconomic segregation and potentially population density.
		• Requires geocoding for Census Tract and smaller areas.	

Contextual - Proportion vacant housing	• Seen as indicator for other related issues such as poverty, crime, lack of resources		
Contextual- Crime rate	• May be an indicator for other related issues such as poverty, lack of resources		

Other factors that could be considered			
Factors/Concepts (specific variables)	**PROs**	**CONs**	**Caveats**
Social Support	• Some brief items have been used in previous research • Captures something that other variables do not	• Multidimensional construct that typically requires multiple questions • Lack of agreement about how to measure • Not consistently measured	
Living alone	• Available in OASIS data for home health	• Directionality may not be consistent. In some situations such as frailty or impairment, it could be a risk factor. In other situations, it might be an indicator of ability to live alone due to good health and function.	
Marital status	• Often collected		
Occupation	• May capture other concepts (e.g., environmental exposures)	• Multiple definitions • Potentially large data collection burden due to the complexity of the concept • Marginal value (i.e., over and above that contributed through use of other variables) may be limited • Unclear how to handle certain population subgroups (e.g., retirees, students, homemakers)	

Employment Status	• Often collected	• Employment status does not reflect income or availability of insurance • Simple yes/no does not reflect desire/happiness with situation (e.g., retirees may be happy to be unemployed) • Subject to change requiring continuous updating	
Literacy	• This concept may also be able to partially capture health literacy	• No standardized definitions • May be easy to game	If the correlation with education is high, then education could be used.
Health Literacy	• Potentially more relevant to healthcare • Three-item and single-item validated questions exist	• Not consistently collected/ available	
Local/state funding for safety net providers (e.g., tax base)	• Affect resources available to safety net providers beyond insurance	• Data not easily collected/ available	• Not a patient characteristic • Risk for unintended consequences (setting a lower standard for poorly supported institutions might send the wrong messages to tax payers)
Race/ Ethnicity	• Correlated with SES and may be more available than other variables	• May be more correlated with bias	• Should not generally be used as proxy for SES