NATIONAL QUALITY FORUM
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Meeting Summary

Best Practices for Developing and Testing Risk Adjustment Models, Technical Expert Panel – Web Meeting 3 Continuation

The National Quality Forum (NQF) convened a public web meeting for the Best Practices for Developing and Testing Risk Adjustment Models Technical Expert Panel (TEP) on July 25, 2022. NQF reconvened the TEP for this meeting to continue discussions that were held during the July 13, 2022 web meeting 3, as the TEP did not complete its discussions of the updates that have been made to the Technical Guidance.

Welcome, Roll Call, and Review of Web Meeting Objectives

Matt Pickering, NQF senior director, and the TEP co-chair, Karen Joynt Maddox, provided welcoming remarks to the participants. Dr. Pickering facilitated roll call and reviewed the meeting objective, which was to obtain further TEP-input on updates made to the base period Technical Guidance, with a focus on specific elements that need further clarification or consensus since the July 13, 2022, TEP web meeting 3.

Review and Discuss Technical Guidance Updates

During this portion of the web meeting, Dr. Pickering shared the main areas within the Technical Guidance that underwent a series of modifications, which required further discussion from the TEP. These included requirements (i.e., expectations for developers) for both stratification and risk model calibration, key areas of consensus, including how the consideration of race is presented within the guidance, and other updates derived from the review of stakeholder feedback during web meeting 2. The key sections of the updated Technical Guidance were displayed on the Webex platform to facilitate the discussion.

A summary of the TEP's deliberations for the topics noted above is provided below. For each topic discussed, the TEP provided feedback on the updates within the Technical Guidance, including adding clarification to some of the standards and recommendations listed with the guidance.

Key Areas of Consensus Outlined in the Executive Summary

For this topic, Dr. Pickering summarized the Executive Summary of the guidance, which draws attention to the key areas of consensus that the TEP has reached during the option period. He stated that at the conclusion of this work, this guidance will advance consensus and further delineate best practices for social and functional risk adjustment within quality measurement on several key fronts:

1. Developers should prepare a conceptual model that illustrates the pathways between the social and/or functional risk factors, patient clinical factors, healthcare processes, and the measured outcome. The rationale for risk adjustment variables must derive from the specific relationships illustrated in the conceptual model;
2. The measure's conceptual model should also be evaluated within the context of its expected use, given the centrality of the conceptual model to defining appropriate risk adjustment;

3. Statistical significance testing for social and functional risk factor variables should inform, but not uniquely determine, the inclusion or exclusion of risk factors within the final risk adjustment model;
4. A minimum set of social and functional risk factors must be considered for the conceptual model and are identified in the guidance;
5. Measures adjusted for one or more social or functional risk factors should assess a stratification approach, as well as being risk-adjusted; and
6. Race is qualitatively different as a risk factor from other social risk factors, and risk adjustment models should consider adjustment of race on a case-by-case basis.

With respect to race, Dr. Pickering stated that during the July 13 web meeting, the TEP came to an impasse with how race was to be considered within risk adjustment models. He explained that in situations in which the TEP cannot achieve consensus on a topic, then the guidance will reflect both sides of the issue, as part of the rationale for why consensus was not reached. Dr. Pickering proceeded to summarize the updates made to the guidance since the July 13 web meeting, with respect to race. He stated that this guidance affirms that decision making approaches with respect to variable selection of a risk factor identified in the conceptual model should be consistently applied, regardless of the type of variable (i.e., clinical, social, functional). However, race is qualitatively different as a risk factor from other social risk factors in that it is a social construct that reflects a range of underlying concepts, including barriers to accessing high quality care, a proxy for other social risk factors, like income, and the genetically mediated predispositions to certain diseases.

Given these underlying considerations with race, as well as the ongoing societal and scientific debates on this topic, it is not surprising that consensus regarding the role of race in risk models was not achieved by the TEP. Dr. Pickering summarized that some members of the TEP and focus groups oppose adjusting for race in risk models, due to the concern that using race as a risk adjuster based on statistical associations in historical data, which would generally set higher expected worse outcomes for Blacks, has the potential to inadvertently perpetuate longstanding disparities among at-risk racial minorities.

However, some TEP members emphasized the importance of adjusting for race due to its importance as a risk predictor, as adjusting for race may also be important to ensure that accountable entities who care for a high proportion of at-risk patients are not penalized by measures when used in value-based payment (VBP) programs that do not address the additional resources that may be required for achieving good quality outcomes for patients with higher expected risks.

Therefore, Dr. Pickering added, this guidance does not state whether adjustment for race is or is not appropriate, as the TEP preferred to articulate both sides of the issue and allow for the consideration of adjustment for race on a case-by-case basis. Considerations that developers should make include: the conceptual model, the features of the VBP program in which the measures may be used, if known, or other potential measure uses.

Dr. Pickering emphasized that the goal for the TEP today will be to review the proposed key areas of consensus, and come to consensus on how race is now described in the guidance, such that the NQF staff can move forward with posting the guidance for public comment. He then turned it to Dr. Joynt Maddox to facilitate the TEP discussion.

The TEP reviewed the changes made to the Technical Guidance Executive Summary, and it suggested some additional, specific changes. With respect to bullet #1, the TEP commented that any theoretical relationships described in the guidance should be specified as “hypothesized”, since there may be some underlying mechanisms associated with a certain risk factor that cannot be explained.

For bullet #4, one TEP member suggested adding "language" to the minimum set of factors, as language can have an influence on a patient's ability access the healthcare system, which can impact measured outcomes. Other members agreed that language contributes to access issues but highlighted many data sets do not contain that information.

For bullet #3, some TEP members discussed whether the purpose of risk adjustment models within quality measurement is to produce risk models with the strongest possible predictors of outcomes or if these models are instead intended to capture risk to best estimate the accountable entity's effect on a measured outcome. Some members stated that starting with the best predictor of patient risk should be the goal. However, TEP members agreed that restating the purpose of the statistical model is beneficial. Dr. Pickering noted that statements around this topic (i.e., the purpose of risk adjustment within quality measurement is not to produce perfect predictors) are included in the Technical Guidance.

A TEP member emphasized that issues of access are relevant to the Technical Guidance, but the guidance lacks discussion of these issues. The TEP member suggested adding some language within the guidance that informs developers that risk adjustment, alone, cannot be used to address access issues. The TEP member explained that the goal of an equity program, for example, is to reward the entities that can successfully provide needed care for high-risk populations that otherwise may be turned down due to risk factors. Other TEP members agreed that Technical Guidance needs to state that risk adjustment is not the solution to every problem, especially access.

The TEP recommended asking developers to note, within the narrative describing the conceptual model, whether there are patients not in the data used to produce the model due to access issues. Furthermore, the measure developer should note in their description that access is a prerequisite to be included in measures, data sources used to test measures, and cases examined to develop measures. This is a health equity issue that should be stated as a contributor of bias to the measure results.

The TEP did not raise any concerns with the other key areas of consensus (#2, #5, and #6) and agreed with how the consideration of race is presented within the guidance as well. Namely, the guidance describes that the TEP could not come to consensus on whether race should or should not be included. The developer should consider the underlying mechanisms associated with race, and disclose the rationale for including or excluding race, which should take into consideration the associated, underlying mechanisms.

Dr. Joynt Maddox summarized TEP members' suggested changes, as noted above, and turned it back to Dr. Pickering to proceed to the next topic.

Stratification

Dr. Pickering summarized the edits made to the stratification section in the Technical Guidance since the July 13 web meeting. He stated that stratification refers to the division of a population or resource service into distinct, mutually exclusive groups of similar sizes that enables analysis of the specific subgroups' measure scores. Stratification can show areas where disparities exist and expose differences in measure results between populations. Identifying these differences can inform efforts to promote health equity by drawing attention to unique barriers confronting specific subgroups. This would help to prioritize interventions to be implemented in equity and quality initiatives, for example.

Dr. Pickering reminded the TEP, that during the July 13 web meeting, the TEP identified a starter set of four variables that developers should consider for measure stratification. These include race, ethnicity, urbanicity/rurality, and disability status. Beyond this minimum set of variables for subgroup stratification analysis, developers should consider stratification to distinguish between groups of

patients who may have difficulties accessing care (e.g., transportation barriers, geographic distance to a provider, provider shortage areas, income). For example, as suggested in the literature, stratifying by patients, by experts or by other stakeholders, and as reflected in the conceptual model. Additionally, the TEP agreed that stratification of within-entity differences for subgroups (i.e., individuals of disadvantaged groups have worse outcomes than other patients within the same accountable entity) can facilitate the promotion of health equity by identifying opportunities for appropriate resource allocation for not only quality improvement, but also for reducing disparities in care delivery. Measure developers should also present details on the methods for stratification. This includes the distribution of the measure scores and sample sizes for each subgroup across accountable entities. Developers should also explain the method and rationale for calculating the expected rate for subgroups identified, which should include a rationale for method selection by the measure developer.

Lastly, Dr. Pickering stated that the guidance informs developers that stratification of measure results can be conducted regardless of whether a measure has been risk-adjusted for social and/or functional risk. Depending upon the specific application, stratified results may be presented using unadjusted data or data that have been adjusted for other risk factors (e.g., results stratified by social groups, but adjusted for clinical risk factors). Stratified results should not be adjusted, however, for the social risk group (e.g., race or disability status category) upon which the stratification is based, as this would defeat the purpose of stratification. Dr. Pickering then turned it to Dr. Joynt Maddox to facilitate the TEP's discussion of these updates.

The TEP discussed additions to the starter set of stratification factors. Specifically, the TEP discussed whether dual Medicaid and Medicare eligibility should be added. Although dual eligibility is valuable and easily available there are additional methods of measuring socioeconomic status (SES) data that may be more helpful to measures for non-Medicaid populations. One TEP member highlighted that dual eligibility status is often used as a proxy for poverty and disability status, both of which should be added to the set of variables for stratification. Dr. Pickering reminded the TEP that the reason for the smaller subset of variables for stratification was to minimize the likelihood of increasing developer burden due to requiring a large number of stratification variables. One TEP member agreed that if stratification is mandated by NQF, then there should be a limit on the requirements on the number of stratification factors. Another TEP member emphasized that stratification may not be publicly reported, so it will be important to capture the stratified results included in measure's submission for NQF endorsement. Dr. Pickering agreed, further highlighting that as NQF updates policies and criteria, it will be important to consider data availability when adding to developer requirements for stratification. The TEP agreed and came to consensus on the final stratification variable list, which includes race, ethnicity, an indicator of poverty (e.g., dual eligibility), an indicator of urbanicity/rurality, and an indicator of disability status.

Dr. Joynt Maddox turned it back to Dr. Pickering to summarize the next topic.

Risk Model Calibration

Dr. Pickering summarized edits made to the guidance prior to the July 25 web meeting. He stated that the Technical Guidance requires that developers conduct risk model calibration to adequately assess the impact of social and/or functional risk on the outcomes of interest within each subgroup. He stated that the guidance mentions that the Hosmer-Lemeshow statistic is a commonly used approach to test statistical risk model calibration. However, this test is very sensitive to sample size and developers should not use this test when working with small sample sizes, especially as a result of dividing the measure into subgroups for calibration. As a result, graphical approaches may be preferred (e.g., plots of observed-to-expected outcomes across a broad range of expected values).

Dr. Pickering reminded the TEP that during the July 13 web meeting, the TEP agreed that the variable list for subgroup calibration analyses should be the same as those used for stratification, at a minimum. Therefore, he posed the question to the TEP as to whether that would still be the case, given the new set of stratification subgroup variables that have been determined during today's meeting.

Lastly, Dr. Pickering noted that the guidance instructs developers to use caution in the application of measure score results for poorly calibrated subgroups or for accountable entities that disproportionately care for patients from those subgroups. Poorly calibrated models may produce measure results that would be misleading to accountable entities who rely on these measures to target the healthcare needs for specific patient subgroups. Lastly, he stated that risk models typically need to be recalibrated to reflect the specific intended use and the characteristics of the measured population.

Dr. Joynt Maddox asked the TEP if the calibration subgroup set (i.e., race, ethnicity, an indicator of poverty, an indicator of urbanicity/rurality, and an indicator of disability status) should be in alignment with stratification. The TEP agreed that the minimum set of variables for stratification should be the same for calibration and did not raise any further concerns with the updates summarized for risk model calibration. Dr. Joynt Maddox turned it back to Dr. Pickering to summarize the next series of Technical Guidance updates.

Review of Key Technical Guidance Updates

Dr. Pickering summarized other updates that were made within the Technical Guidance based on the TEP's feedback from web meeting 2. Changes were made in response to discussions by the TEP regarding evidence standards, the ability to meaningfully influence a measured outcome, determining bias with limited data, and increasing attention to health equity. For each update that Dr. Pickering summarized, the TEP discussed minor language changes, but the TEP had no major concerns with the remaining updates summarized below.

Dr. Pickering noted that one of the updates to the guidance was providing added clarity around the evidence standard for risk factor inclusion in the conceptual model. The guidance now states that, at a minimum, a literature review supplemented by expert opinion is the standard for determining factor inclusion within the conceptual model. A TEP member raised concern that although a literature review is reasonable, the addition of a required expert opinion may be less so. Others from the TEP agreed, and Dr. Pickering stated that the guidance will be updated to reflect that a literature review ***or*** expert opinion is the standard for determining factor inclusion within the conceptual model. Dr. Joynt Maddox noted that the evidence review for determining inclusion of a factor in the conceptual model should also consider the accountable entity's ability to meaningfully influence a risk factor, which will inform whether the risk factor should or should not be included in the final model. Dr. Pickering described the Technical Guidance has been updated to add more specificity and guidance with respect to locus of control and meaningfully influence.

Dr. Pickering summarized that the guidance refers to locus of control as the scope of actions the accountable entity can take to influence the measured outcome. Measure developers should examine how the locus of control can change in response to the risk factor, specifically noting the accountable entities' ability to influence the risk factor. The guidance states that developers can demonstrate an accountable entity's ability to meaningfully influence a factor by citing the primary literature, public reports, case studies, and/or by conducting empirical analyses to determine the variation and degree of impact of a social risk factor to a measured outcome. The TEP did not raise any concerns with these updates.

Dr. Pickering summarized that the guidance has been updated with added clarification for determining the bias that may exist for a risk factor that isn't accessible in a data source of sufficient quality. He noted that previously, the Technical Guidance stated measure developers should determine the "magnitude" of the bias. During web meeting 2, the TEP recommended removing the term "magnitude" from this aspect of the guidance, as it is too difficult to assess the magnitude of the bias if it does not exist in measure testing data source. Instead, at a minimum, the measure developer should examine published evidence and estimate the direction of the bias using those studies. Furthermore, if there is a high degree of unevenness in the distribution of the risk factor across accountable entities, two options can be considered. First, the developer may choose to exclude those accountable entities that have a large proportion of the risk factor which would remove these entities from the overall group being measured. Alternatively, the developer may consider including proxy variables of social and/or functional risk that are more evenly distributed in the risk adjustment model based on prior research. The TEP did not have any concerns with this updated content.

Dr. Pickering then proceeded to summarize the health equity updates made since web meeting 2, which include drawing increased attention to health equity and noting the role of this guidance with respect to health equity. Specifically, updates included acknowledging that fully addressing inequities associated with race, ethnicity, or other social risks, requires a holistic policy approach; that stratification of specific subgroups can facilitate the promotion of health equity; and that measurement organizations can advance health equity by identifying disparities-sensitive measures and through the development of measures that directly measure health equity. Dr. Pickering informed the TEP that the guidance recognizes the recent Accountable Care Organization Realizing Equity, Access, and Community Health (ACO REACH) model, which is an example of the holistic approach needed for health equity improvements. He stated that the ACO REACH model implements a new risk-adjusted payment approach that aims to incentivize accountable entities to better support care delivery and coordination for people in underserved communities. The TEP did not raise and concerns with these additions to the guidance.

Lastly, Dr. Pickering concluded that the remaining updates made included revisions to the executive summary, conclusion, and minimum standards, which reflect the updates that have been presented today. He also stated that the Stakeholder Feedback Memo, which was reviewed during web meeting 2 with the TEP, has been added as Appendix F. The NQF policy section within the guidance has also been updated to draw attention to the subsequent steps that NQF would conduct in order to incorporate the recommendations from this guidance into NQF policies and its measure evaluation criteria. Dr. Pickering noted that any changes to NQF's endorsement processes and/or criteria would need to communicate first with various stakeholders (e.g., developers, NQF-convened panels, CMS), along with a timeline for when measures would be held accountable to the updates.

Dr. Pickering asked the TEP if there were any further comments on the Technical Guidance updates before moving to public comment. The TEP did not have any additional comments.

Public Comment

Dr. Pickering opened the web meeting for public comment. John Shaw, from Next Wave, suggested to consider poverty in the set of factors within this work. Mr. Shaw further commented that there is no data warehouse for national average cost of living. Mr. Shaw explained that ACO REACH includes the area deprivation index (ADI), which is heavily weighted towards poverty differences. Lastly, Mr. Shaw agreed with adding "access" as discussed and suggested also including a list of the stakeholders involved in the focus groups in Appendix F on the Technical Guidance. Dr. Pickering shared that stakeholder

categories (e.g., patients, consumers, providers) are included in Appendix F, but the names of individuals and the organizations they represent were not included to protect their anonymity.

Next Steps

Simone Bernateau, NQF analyst, began by noting TEP feedback will be incorporated into the Technical Guidance. Ms. Bernateau stated the Technical Guidance will go out for public comment from August 31 to September 21, highlighting that the public commenting timeline has changed due to the need to have an additional TEP meeting today (July 25). Ms. Bernateau stated that web meeting 4 will be held on October 24, 2022, in which the TEP will review and adjudicate the comments received during the public comment period. Lastly, the TEP was informed that the Technical Guidance will be finalized following web meeting 4 and will be posted on the Risk Adjustment webpage on December 21, 2022.

Dr. Pickering then thanked the TEP, including the leadership of its co-chair, Dr. Joynt Maddox, the Federal Liaisons, and the members of the public for their time and participation. He then adjourned the call.