NATIONAL QUALITY FORUM

Meeting Summary

MAP Rural Health Technical Expert Panel Conference Call #3

The National Quality Forum (NQF) convened a public conference call for the MAP Rural Health Technical Expert Panel on November 30, 2018.

Welcome, Roll Call, and Review of Meeting Objectives

Suzanne Theberge, NQF senior project manager, welcomed participants to the web meeting. Ms. Theberge provided opening remarks and conducted a Panel roll call. She then handed over the call to Karen Johnson, NQF senior director.

Finalize TEP Recommendations for Addressing the Low Case-Volume Challenge

Ms. Johnson recapped some of the discussion and recommendations from the previous two TEP calls. Specifically, she verified the TEP's decision to consider low case-volume primarily in reference to small denominators. She also characterized the key recommendation of the TEP to date to develop measures that "borrow strength" for low case-volume providers to the extent possible (including over time, across providers/peer groups, and across relevant related measures). Ms. Johnson then introduced several additional topics for panel discussion, as described below.

The Need for Statistical Expertise and Computational Power

TEP members agreed that in order to implement their recommendation to borrow strength for low case-volume providers to the extent possible, professional expertise (e.g., from PhD-level statisticians) will be required, not only to develop the statistical models needed to borrow strength, but also to write the necessary programming code to implement measures that include such models. Implementing such measures also will require robust computational resources (i.e., computers with sufficient power to assure convergence of the statistical models in very large datasets). While acknowledging these substantial resource requirements, TEP members agreed that these should not be a deterrent to pursuing these complex measures. They also recommended initial pursuit of the most robust measures (i.e., those that maximize the amount of borrowed strength), even if a lack of statistical or computational resources ultimately necessitate a less vigorous approach.

Implementing the Recommendations

With these recommendations in mind, the TEP also discussed the types of entities that might be able to implement their recommendations. Given the complexity of the recommended modeling approach, members agreed that a national development and implementation effort would likely be needed. They noted that CMS or other federal agencies (e.g., AHRQ, HRSA) would have the requisite capacity, contracting infrastructure, and data to spearhead such efforts. If, for example, CMS decides to take up these recommendations, it would then decide more specifically how to do so. This could include deciding whether funding a national research

group for this work would be logical, as well as making other contracting decisions including scope of measurement and required expertise.

Scope of TEP Recommendations

TEP members agreed that they cannot make specific measure development recommendations (e.g., providing the specifications for a single statistical model), given the number and types of measures that could be developed for use in rural settings, as well as the various goals of programs that would use such measures. Instead, they agreed that their recommendations should take the form of general guidelines to the field.

Exceedance Probabilities

TEP members continued the discussion of their recommendation to consider use of exceedance probabilities as a way to quantify uncertainty associated with point estimates. An example of an exceedance probability statement is the following: *we can be 84 percent sure that hospital A is performing above the mean on this particular measure*. Members had initially discussed this idea in their second TEP call as an alternative to the use of confidence intervals. They began by noting that the 2012 COPSS[a] white paper recommended using exceedance probabilities when reporting performance scores and pointing to more recent work by Shwartz, et al. (2014)[b] that demonstrates the utility of this approach for provider profiling.

TEP members noted three advantages of exceedance probabilities. First, exceedance probabilities reflect both the point estimate and its related uncertainty in one summary value. Second, they summarize the posterior distribution (i.e., a Bayesian point estimate that has been shrunken or otherwise incorporates external information). Third, they are easily interpretable, particularly for consumers using measurement results to inform choice of providers.

However, members also noted that the recommendation to use exceedance probabilities presupposes a view of performance that is continuous. Thus, if the goal of measurement is to differentiate extremely good performance from extremely poor performance, this statistic might be of less interest. In contrast, if the goal of measurement is to help consumers (or others) maximize their chances of choosing a provider that would be most likely to provide a good outcome, then the exceedance probability option might be a very helpful way to present that information. Ultimately, members suggested that the most effective choice for reporting provider performance hinges on the intended use of the use of the measure from a policy perspective, as well as from the perspective of an individual user. Yet they also indicated that use of exceedance probabilities could serve as a "North Star" reporting approach that could foster consistency across quality programs.

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[a] Ash AA, Feinberg SE, Louis TA, et al. *Statistical Issues in Assessing Hospital Performance*. White paper commissioned by the Committee of Presidents of Statistical Societies, 2012.

[b] Shwartz M, Pecoz E, Burgess JF, et al. A probability metric for identifying high-performing facilities: an application for pay-for-performance programs. *Medical Care*. 2014;52(12):1030-1036.

Moving Beyond the COPSS Report

While acknowledging the overlap of its recommendations with those included in COPSS report, the TEP also discussed ways in which its recommendations expand on those included in that report. These include:

- Using the rural lens as a way to focus on the low case-volume challenge
- Taking for granted that shrinkage (i.e., a Bayesian modeling approach) is a preferred methodology (whereas the COPSS report in large part defended that approach)
- A broader conceptualization of shrinkage beyond just shrinkage to a national mean (e.g., over time, across other measures, etc.)
- This broader conceptualization helps to solve the problem that resulted for low volume providers (i.e., being shrunk to the national average, which results in a lack of penalties or incentives for these providers and thus a lack of meaningful participation in quality programs by them).
- Hopefully, couching the recommendations in a more intuitive (rather than statistical) way.

Discussion of Additional Cautions and Considerations

TEP members also noted the potential for quality measures to drive policy decisions that ultimately lead to unintended negative consequences. They pointed to a Canadian example where quality measurement results drove regionalization of certain hospital procedures, which in turn led to decreased access to care for rural residents.

The TEP also discussed shrinkage targets. Members stated a preference for using indicators of structure that have a strong link to the outcomes being assessed as shrinkage targets. An example would be having a catheterization lab when assessing AMI outcomes. Members agreed that in some cases, using volume as a shrinkage target may be appropriate (e.g., if the theory is that "practice makes perfect") but that it may be overused simply because volume data are straightforward to obtain.

TEP members also agreed that both outcome and process measures could benefit from the recommended approach of borrowing strength to the extent possible, but that it wouldn't make sense for structure measures.

In addition, TEP members agreed that borrowing strength as a way of addressing the low case-volume problem is even more important for "lower" levels of analysis (e.g., an individual clinician level of analysis). This is simply because the sample sizes inherent in clinician-level measures typically are substantially smaller than those in measures that assess "higher" levels (e.g., hospitals or health plans). Again, similar considerations regarding shrinkage targets would have to be considered (e.g., shrinkage toward a national mean, toward some peer group mean based on structural characteristics or provider type, etc.).

Finally, TEP members reiterated that addressing the low case-volume problem is not simply a technical issue, but instead demands consideration of downstream effects on rural residents and providers, particularly when measurement is used to drive policy.

Ideas for Future Research and Consideration

TEP members also suggested several ideas for future work—potentially funded by CMS, either alone or in partnership with other entities—that could help inform the low case-volume problem for rural providers. These include:

- Exploring which structural measures might be appropriate in defining shrinkage targets for rural measurement
- Exploring the policy rationale for approaches to measurement in rural areas (e.g., with an eye to quality improvement and access rather than competition)
- Continually revisiting the core set of rural-relevant measures to ensure measures are meaningful to rural residents and providers. As part of this work, realize that selection of measures based on resistance to low case-volume may become less important as measures that borrow strength for rural providers are developed.
- Determining whether, and if so, how, to consider the small numerator problem, particularly from the rural perspective
- Exploring the implications of lack of service delivery in rural areas, vis-à-vis pay-for-performance program structure
- Bringing together experts from other disciplines such as education, who also must deal with the small denominator problem to share best practices for measurement and reporting
- Applying the recommended methods in a simulation study, which would foster model development and statistical coding
- Implementing a "challenge grant" by providing data with low case-volume and asking different researchers to apply various methods to address the problem

Discussion on Drafting the TEP Report

Finally, NQF staff and TEP members discussed the upcoming report of the TEP's discussion and recommendations. TEP member suggesting including the following in the report:

- A background that provides a sense of the magnitude of the low case-volume problem for rural providers (e.g., distance to care, lack of service delivery, etc.)
- A "case study" that applies TEP recommendations to an exemplar program
- A vignette to "tell the story" about why addressing the low case-volume challenge is needed

NQF Member and Public Comment

NQF staff opened the call to allow for public comment. No public comments were offered.

Next Steps

Over the next several weeks, NQF staff and TEP members will draft a report of the TEP's recommendations. This draft will be delivered to CMS and to NQF senior staff for review by January 7, 2018. Comments from CMS and HRSA colleagues will be due to NQF by January 11,

2018. NQF staff and TEP members will update the draft based on reviewer comments. This revised draft will be posted on NQF's website for a 30-day public and member comment period on January 18, 2018.