THE NATIONAL QUALITY FORUM

TO: Consensus Standards Approval Committee

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SU: Appeals on Patient Outcomes, First Report

DA: October 27, 2010

This memo responds to two appeals submitted during the 30-day appeals period in October 2010, regarding two measures included in the draft report *National Voluntary Consensus Standards for Patient Outcomes, First Report for Phases I and II: A Consensus Report*. These measures were recommended by the Steering Committee, approved by voting of the NQF Membership, recommended by the CSAC for endorsement, and endorsed by the Board on September 20, 2010.

The NQF Consensus Development Process version 1.8 states that "*anyone may register a request for reconsideration of an endorsed voluntary consensus standard by notifying the NQF in writing within 30 days of public notification that the voluntary consensus standard had been approved by the CSAC. For an appeal to be considered, the notification letter to the NQF must include information clearly demonstrating that the appellant has interests that are directly and materially affected by the NQF-endorsed voluntary consensus standard(s), and that the NQF decision has had (or will have) an adverse effect on those interests. Appeals will be reviewed by NQF staff and management, who may consult with the project's technical advisors, Steering Committee, and/or other sources, as appropriate, before a recommendation is provided to the CSAC and BoD. Following consultation with the CSAC, the BoD shall act on an appeal within seven calendar days of the CSAC's recommendation to BoD regarding the appeal. The result of this BoD action shall be promulgated in the same manner as the original decision. NQF will maintain a record of all appeals, as well as post them on the web site*."

Measures Being Appealed

OT1-023-09 Intensive Care Unit (ICU) Length-of-Stay (LOS) - For all patients admitted to the ICU, total duration of time spent in the ICU until time of discharge; both observed and risk-adjusted LOS reported with the predicted LOS measured using a adjustment model based on the (Mortality Probability Model) MPM III.

OT2-024-09 Intensive Care: In-hospital mortality rate - For all adult patients admitted to the intensive care unit (ICU), the percentage of patients whose hospital outcome is death; both observed and risk-adjusted mortality rates are reported with predicted rates based on the Mortality Probability Admission (MPM III) model.

These measures were developed by the Philip R. Lee Institute for Health Policy Studies at the University of California, San Francisco. Measure ***OT2-024-09 Intensive Care: In-hospital mortality rate*** is currently being reported for California hospitals on the Cal Hospitals Compare web site.

Subject of the Appeal
One individual requested reconsideration of endorsement of both ICU measures due to concerns on:

- Care of terminally ill patients and palliative care in the ICU. ICU care is rarely discretionary and many deaths are not unexpected. Due to incomplete penetration of palliative medicine in the U.S., intensivists are often the first to discuss goals of care with patients and families who have reached the end of their lives. Instead of having difficult conversations with families and patients, clinicians may find it easier to simply transfer the dying patient to another facility. ICUs generally accept all transfers referred. This measure may cause clinicians to only accept patients unlikely to die.

- Lack of a validated risk-adjustment technique for ICU LOS.

- Without another measure looking at ICU readmission, there may also be pressure for clinicians to discharge ICU patients prematurely.

- Reducing ICU LOS may not reduce costs. Recent data suggests this may not be the case. (*Med Care*, 2008 Dec;46(12):1226-33.).

Three organizations, American College of Chest Physicians (ACCP), American Association of Critical Care Nurses, and American Thoracic Society (ATS), submitted a joint appeal due to concerns on:

- The potential for adverse consequences that may harm patients and increase healthcare costs. The measures reflect processes that are independent of quality and are easily manipulated, i.e., transferring patients early in their course to post-acute care facilities or premature discharge from the ICU, that may increase readmissions.

- The potential to unfairly reward hospitals that transfer a large number of patients and encourage overuse of post-acute care facilities. Safety net hospitals may be penalized if they are unable to transfer patients.

- The measures could discourage hospitals from providing time-consuming yet important end-of-life care for ICU patients.

- The lack of a well-validated risk adjustment for length of ICU stay.

- Consider a 30-day ICU mortality measure that is less susceptible to discharge bias.

Response
Evaluation of Measures during the Consensus Devlopment Process
These two measures were evaluated by the Pulmonary/ICU Technical Advisory Panel (TAP) prior to consideration by the Steering Committee. The TAP rated both measures highly against

all sub-criteria except electronic data because currently most hospitals still abstracted data manually. The TAP rated these measures high under scientific acceptability noting that both use a publicly available risk model that has been used and improved on for several years. The TAP also noted that a "do not resuscistate" order or palliative care factor for greater than four hours is not excluded, which discourages inappropriate ICU admissions.

The consultant biostatistician's evaluation of the published risk model noted that "the analytic methods and documentation were generally excellent. Possible issues include: a) comparison to SAP-III, b) handling of missing data."

The Steering Committee recommended that the ICU LOS measure be paired with the ICU mortality measure to address potential premature discharge from the ICU that might harm patients. The Steering Committee discussed issues around identifying the time of onset, particularly patients coming from the emergency department and post-operative care and how patients are moved through different levels of care. The Committee agreed with a comment from the TAP that this measure would not capture readmissions to the hospital and a readmission measure would be useful. Steering Committee members were extremely interested in how disparities might be handled as cultural aspects could affect LOS. The developer noted that data for socio-economic status, race, and ethnicity are generally not available. Steering Committee members suggested that insurance type might be one proxy. The Steering Committee encouraged the measure developers to think of ways to gather this information for future measures.

During the comment period, NQF received comments on the ICU measures from 24 organizations, including ACCP and ATS. In their comments both ACCP and ATS raised issues with "insufficient risk adjustment to validly measure quality" most significantly not accounting for "system factors" such as step down units, long-term ventilator facilities, nurse staffing, and bed availability. The measure developer agreed that system issues influence LOS and should be measured so that hospitals can improve those system factors affecting their performance. ACCP and ATS also voiced lack of approval for the ICU mortality measure because of "the lack of defined expected outcomes for the measure that opens itself to gaming and too many unaccounted for variables." The Steering Committee noted the use and public reporting of the ICU mortality measure by more than 250 hospitals in California has generated significant experience on the feasibility and use of the measures.

NQF Member Voting

The 30-day voting period for the Patient Outcomes: Phases I and II, first report measures closed on August 6, 2010.

MEASURE OT1-023-09: Intensive Care Unit (ICU) Length-of-Stay (LOS)

Measure Council	Yes	No	Abstain	Total Votes	% Approval Yes/ (Total - Abstain)	
Consumer	6	0	0	6	100%	**% of Councils**
Health Plan	3	0	0	3	100%	**Approving**
Health Professional	7	1	4	12	88%	**(>50%)**
Provider Organization	5	4	0	9	56%	100%
Public/Community Health Agency	0	0	0	0		
Purchaser	4	0	0	4	100%	**Average**
QMRI	3	0	2	5	100%	**Council**
Supplier/Industry	1	0	0	1	100%	**Approval Rate**
All Councils	**29**	**5**	**6**	**40**	**85%**	**92%**

MEASURE OT1-024-09: Intensive Care: In-Hospital Mortality Rate

Measure Council	Yes	No	Abstain	Total Votes	% Approval Yes/ (Total - Abstain)	
Consumer	6	0	0	6	100%	**% of Councils**
Health Plan	3	0	0	3	100%	**Approving**
Health Professional	7	1	4	12	88%	**(>50%)**
Provider Organization	6	3	0	9	66%	100%
Public/Community Health Agency	0	0	0	0		
Purchaser	4	0	0	4	100%	**Average**
QMRI	3	0	2	5	100%	**Council**
Supplier/Industry	1	0	0	1	100%	**Approval Rate**
All Councils	**30**	**4**	**6**	**40**	**88%**	**93%**

Discussion

The Steering Committee and TAP agreed with the measure developer that the ICU LOS measures should always be performed together with the ICU mortality measure and recommended them for endorsement as paired measures. The measures together balance the concerns about transferring patients "quicker and sicker" because while the LOS measure may improve, the mortality measure is unlikely to improve and quite possibly will get worse.

The noisy, active ICU is probably not the best environment for end-of-life care, and transfer to other units may be appropriate and desirable. The transfer will only affect the LOS measure since an in-hospital death is still included in the mortality measure.

One benefit of performance measurement is to encourage changes--particularly system changes--which improve patient outcomes. Public reporting of ICU outcomes can provide the stimulus for needed system change and appropriate use of resources.

The ICU mortality measure has been publicly reported in California since 2007. Developers and implementers of the measure have not received feedback from hospitals identifying unintended consequences. Since reporting of the measure began, the patient risk profiles are basically

unchanged and the ICU mortality has declined by 0.5 percent—a statistically significant difference. There has also been excellent engagement in benchmarking and quality improvement strategies across the ICUs in California as a result of the public reporting of the mortality measure.

The risk model used in these measures, the MPM III, is one of three well-known, published risk models for ICU care. A study comparing the three models identifies the MPM III to have good performance characteristics with less data collection burden compared to the APACHE model. The risk model uses patient factors present on the first day of ICU care and does not include factors that could be used to stratify for disparities. Since the goal of the measure is to improve performance of patients who enter the ICU, a model which does not change during the course of care is most appropriate.

The suggestion that a 30-day mortality measure would be an alternative to avoid discharge bias has been studied. The article cited by ACCP, AACCN, and ATS from Vasilevskis (attached) compared in-hospital and 30-day mortality and found little change in performance, particularly at the high and low performance levels. The data from the National Death Index required for 30-day morality measures is expensive and delayed in availability by at least two years. On balance the in-hospital measure provided good data in a timely manner.

Overall, the issues raised in the appeals have been considered during the Consensus Development Process and the theoretical concerns are outweighed by the benefits of the information generated from measurement and the potential benefits to improved quality for patients.