NATIONAL QUALITY FORUM

Memo

TO: Person & Family Centered Care Standing Committee

FR: NQF Staff

RE: Post-Comment Call to Discuss Public and Member Comments & Review Additional Testing Data Submitted by Developers

DA: October 15, 2014

Purpose of the Call

The Person and Family Centered Care Standing Committee will meet via conference call on Monday, October 20 from 2:00 – 4:00 p.m. ET. The call has two objectives:

- To review comments received during the public and member comment period and provide input on proposed responses to those comments
- To review the content of additional measure testing data received at the request of the Committee during its in-person meeting

Standing Committee Actions

1. Review this briefing memo
2. Review and consider the full text of all comments received and the proposed responses to the post-evaluation comments (see Excel comment table included with the call materials)
3. Be prepared to provide feedback and input on proposed comment responses
4. Review additional data submitted by the developers during the comment period and re-evaluate the measure against the pertinent criteria based on the updated data

Conference Call Information

Please use the following information to access the conference call line and webinar:

Speaker dial-in #: 1-(855)-366-2247 (*NO CONFERENCE CODE REQUIRED)*
Web Link: http://nqf.commpartners.com/se/Rd/Mt.aspx?833815
Registration Link: http://nqf.commpartners.com/se/Rd/Rg.aspx?833815

Comments Received

NQF solicits comments on measures undergoing review in various ways and at various times throughout the evaluation process. First, NQF solicits comments on endorsed measures on an ongoing basis through the Quality Positioning System (QPS). Second, NQF solicits member and public comments prior to the evaluation of the measures via an online tool located on the project webpage. Third, NQF opens a 30-day comment period to both members and the public after measures have been evaluated by the full committee and once a report of the proceedings has been drafted.

Pre-evaluation comments

For this evaluation cycle, the pre-evaluation comment period was open from June 13 - June 27, 2014 for the 12 measure submissions under review.

A total of two pre-evaluation comments were received from Press Ganey, a QMRI member organization. One of these comments noted the similarities between measure #0725 (Validated Family-Centered Questionnaire for Parents' and Patients' Experiences during Inpatient Pediatric Hospital Stay) and measure #2548 (CAHPS Hospital Survey – Child Version). The commenter was

supportive of measure #2548 as it uses the rigorous methodology used by CAHPS and suggested it replace measure #0725. The second comment received regarded the specifications for measure #0726 (Patient Experience of Psychiatric Care as Measured by the Inpatient Consumer Survey). The developer's response about these specifications is included in the excel spreadsheet.

Post-evaluation comments

The Draft Report went out for Public and Member comment September 5, 2014 to October 3, 2014. During this commenting period, NQF received seventeen comments from fourteen member organizations:

Consumers – 0	Professional – 1
Purchasers – 6	Health Plans – 6
Providers – 1	QMRI – 0
Supplier and Industry – 0	Public & Community Health – 0

In order to facilitate discussion, the majority of post-evaluation comments have been categorized into major topic areas or themes. Where possible, NQF staff has proposed draft responses for the Committee to consider. If a comment pertained specifically to a measure's specifications, that comment was forwarded to the developer for a response, which is also detailed in the Excel document. Although all comments and proposed responses are subject to discussion, we will not necessarily discuss each comment and response on the post-comment call. Instead, we will spend the majority of the time considering the major topics and/or those measures with the most significant issues that arose from the comments. Note that the organization of the comments into major topic areas is not an attempt to limit Committee discussion.

We have included all of the comments that we received (both pre- and post-evaluation) in the excel spreadsheet posted to the project's webpage. This comment table contains the commenter's name, comment, associated measure, topic (if applicable), and—for the post-evaluation comments—draft responses for the Committee's consideration. ***Please refer to this comment table to view and consider the individual comments received and the proposed responses to each.***

Comments and their Disposition

Two major themes were identified in the post-evaluation comments:

1. Support for committee recommendation
2. Discussion of related & competing measures

Two additional comments were more general in nature and addressed future NQF work. The remaining comments were measure-specific and focused on recommendations for improved measure specifications or sought clarifications around current specifications.

Theme 1 – Support for Committee recommendations

Six of the seventeen submitted comments expressed agreement with the Committee's recommendations for measure endorsement and the project's specific focus on person and family centered care.

Theme 2 – Discussion of related & competing measures

Three comments were submitted regarding two groups of potentially competing measures, detailed below:

Measure group 1: Family survey of end-of-life care

#1623 (Bereaved Family Survey) and #0208 (Family Evaluation of Hospice Care)

- One commenter stressed that measure #0208 applied to a broader population and should not be endorsed over measure #1623.

NQF Response: NQF staff identified measures measure #1623 (Bereaved Family Survey) and #0208 (Family Evaluation of Hospice Care) as competing with one another at the time of the project's onset. At the time of the in-person meeting, the developer did not provide sufficient evidence to evaluate reliability at the facility level nor for the single-survey items for measure #1623. The developer submitted this additional testing data during the commenting period and the Committee will review it on its October 20 post-comment call. If #1623 is deemed suitable for endorsement, the Committee will discuss which measure, if either, it believes to be superior, and any potential measure harmonization issues.

Measure group 2: Family survey for pediatric care

#0725 (Validated family-centered survey questionnaire for parents' and patients' experiences during inpatient pediatric hospital stay" and #2458 (CAHPS Hospital Survey - Child Version)

- One commenter supported #2458 over #0725, stating it was developed in accordance with CAHPS design principles and will be supported by the Agency for Healthcare Research and Quality.

NQF Response: At the time of the project's onset, NQF staff identified measures #0725 (Validated family-centered survey questionnaire for parents' and patients' experiences during inpatient pediatric hospital stay" and #2458 (CAHPS Hospital Survey - Child Version) as competing with one another. During its in-person meeting, measure #0725 did not pass the Reliability criterion. The measure developer provided additional testing data during the public comment period which will be evaluated by the Committee during its October 20 post-comment call. If the Committee recommend #0725 as suitable for endorsement, it will then discuss which measure, if either, it believes to be superior, and any potential measure harmonization issues

Additional Measure Information Received Post In-Person Meeting

During the in-person meeting, the Committee requested additional testing information for a number of measures it reviewed as the measures submissions lacked the necessary data to be recommended for NQF-endorsement. The developers were asked to provide this information during the Public Comment period in order to address the concerns raised by the Committee. The table below outlines the unresolved issues from the in-person meeting, provides links to the new information submitted by developers, and includes brief summaries of the additional

information provided. We encourage you to review the full documentation provided by the developers.

We will use a portion of our October 20th, Post- Comment call to discuss this additional information and evaluate it against the NQF criteria. The measure developers will be present for these discussions to respond to any questions you may have. After the call, you will be asked to vote on the remaining NQF Evaluation Criteria for each of the measures indicated below. These votes will result in the final measure recommendations of the Committee.

Measure Evaluation Summary: Unresolved Measures

Split recommendations on different measures within a single submission:

- 0006: CAHPS Health Plan Survey v 5.0 (Medicaid and Commercial)
    - 8 adult measures: recommended
    - 8 child measures: not recommended; will submit additional testing during commenting period
- 0258: CAHPS In-Center Hemodialysis Survey
    - 3 multi-item measures: gray zone/no consensus
    - 3 global measures: not recommended; will submit additional testing during commenting period

Not Recommended:

- 0725: Validated family-centered survey questionnaire for parents' and patients' experiences during inpatient pediatric hospital stay (13 measures)
- 1623: Bereaved Family Survey (1 measure)

NATIONAL QUALITY FORUM

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Additional Information Submitted by Developers:

Measure #	Measure Title	Unresolved Issue	Document Submitted	Summary of Information Submitted	Committee Action
0006	CAHPS Health Plan Survey v 5.0	Validity testing at the individual measure level for the three child measures was not provided for Committee consideration. The Committee opted to vote separately on the child and adult measures. The adult measures were recommended and the child measures will be evaluated based on the newly submitted data.	Child Measures Validity Testing	The developer provided the individual measure level validity testing results for child measures. They provided item to composite correlations, composite to composite correlations and individual level composite and single item correlations with the overall rating. The information provided is consistent with the materials the committee reviewed for the adult measure components.	**Vote on child measures: Scientific Acceptability (Validity), Usability, Endorsement**
0258	CAHPS In-Center Hemodialysis Survey	Reliability and validity data for the three global measures was not provided for Committee consideration. The Committee chose to vote separately on the multi-item measures and the global measures. Based on NQF policy, the vote on the multi-item measures resulted in a status of "consensus not reached" as the total for the high and moderate votes fell between 40 and 60%. The Committee will re-vote on the multi-item measures and evaluate the global measures based on the newly	Global Measures Reliability and Validity Testing	The measure developer provided additional results related to the reliability and validity of the three global rating items: Rating of the Nephrologist(s); Rating of the Dialysis Center Staff; and, Rating of the Dialysis Center at both the patient and facility levels. Reliability testing results were strong; and facility level validity shows higher correlations between the individual questions and the global ratings as compared to the patient level.	**Vote on multi-item and global measures: Scientific Acceptability, Feasibility, Usability, Suitability for Endorsement**

		submitted data.			
0725	Validated family-centered survey questionnaire for parents' and patients' experiences during inpatient pediatric hospital stay	The reliability of the computed hospital score was not originally provided, though the testing results for both the survey/took itself and the performance score are required for NQF-endorsement. The Committee will evaluate the global measures based on the newly submitted data.	Computed Hospital Scores - Reliability and Validity	Reliability testing estimates were .7 or above, thus deemed acceptable for all but one measurement domain: Discharge and Home Care Preparation. Validity testing presented variation in correlations, but consistency with hypothesized results.	**Vote: Scientific Acceptability, Feasibility, Usability, Suitability for Endorsement**
1623	Bereaved Family Survey	The testing methodology used for reliability testing was appropriate for multi-item scales but not for single-item instruments, which the Bereaved Family Survey is. The Committee will evaluate the measure based on the newly submitted data.	Single Items Facility Level Validity and Reliability	The developers provided extensive information on both reliability and validity testing of the single item measures at the facility level. The information provided establishes the reliability and validity of the measure.	**Vote: Scientific Acceptability, Feasibility, Usability, Suitability for Endorsement**
0166	Hospital CAHPS	The committee requested Crohnbach's Alpha Statistics	Cronbach's Alphas of HCAHPS	None Required – Supplemental Information	
0228	3-Item Care Transition Measure	The committee requested more information on the case mix adjustment of the CTM-3 based on the information provided in the HCAHPS and head-to-head comparison of the 3-item CTM and the 2 HCAHPS discharge planning items	Case Mix Adjustment 3-item CTM Comparison of CTM-3 v. HCAHPS-2	None Required – Supplemental Information	

Validity Supplemental Information for Child CAHPS Health Plan Survey in Response to NQF-Endorsed Measures for Person and Family Centered Care--Draft Report for Comment--September 5, 2014

Provided by AHRQ, CAHPS Health Plan Survey Measure Developer
October 2, 2014

Measure Number (*if previously endorsed*)**:** 0006
Measure Title: CAHPS Health Plan Survey, Version 5.0, Child

Note: Item Numbers Below Coincide with the Items in the NQF Submission Measure Testing form.

1.2. Dataset used for testing:

Existing data from the Consumer Assessment of Healthcare Providers and Systems (CAHPS) Health Plan 2014 Database were analyzed for this Child HP-CAHPS supplemental submission. Information about the CAHPS database can be found at: http://cahpsdatabase.ahrq.gov/. The analysis includes data from surveys administered from October 2013 to June 2014 by Medicaid health plans using the Child Medicaid CAHPS Health Plan Survey, Version 5.0.

1.3. Dates of the data used in testing: October 2013 – June 2014

1.5. Measured entities included in the testing:

All health plans submitting Child Medicaid Version 5.0 (100 plans) results to the CAHPS database were included in the analysis. Plans in this analysis come from 25 states, as shown in Table 1.5. Plans submitting fewer than 10 completed surveys were excluded. A total of 60,153 respondents to the Child survey (completed by the child's parent, relative, or legal guardian) are included in the analysis. The Child survey had an average of 602 respondents per plan.

Table 1.5 Geographic Distribution of CAHPS Health Plan Medicaid 5.0 Respondents, 2013-2014

Plan State	Child Medicaid 5.0 Sample	
	Total Complete Records Within State	Total Plans Within State
CALIFORNIA	4,408	4
COLORADO	963	3
DISTRICT OF COLUMBIA	1,671	2
GEORGIA	1,124	2
ILLINOIS	495	1
INDIANA	1,523	2
KANSAS	3,076	2
KENTUCKY	340	1
LOUISIANA	3,314	4
MARYLAND	6,589	7
MICHIGAN	5,407	13
NEW JERSEY	3,332	9
NEW MEXICO	741	1
OHIO	6,764	5

Plan State	Child Medicaid 5.0 Sample	
	Total Complete Records Within State	Total Plans Within State
OKLAHOMA	875	1
OREGON	5,958	17
PENNSYLVANIA	4,418	9
SOUTH CAROLINA	1,068	2
TEXAS	1,407	3
UTAH	382	1
VERMONT	308	1
VIRGINIA	3,295	6
WASHINGTON	1,266	2
WEST VIRGINIA	513	1
WISCONSIN	916	1
TOTAL	**60,153**	**100**

1.6. Patients included in the testing:

Table 1.6 shows descriptive characteristics of the individuals surveyed by the plans included in our analysis. Child Medicaid enrollees (not the adult proxy respondent) were majority nonwhite (57%) and somewhat evenly distributed between males and females. The most prevalent age group was 12-19 year olds.

Table 1.6a. Descriptive Characteristics for Child CAHPS Health Plan 5.0 Sample, 2013-2014

Child Medicaid 5.0 (100 Plans, 60,153 Respondents)	
	Percent of Total
GENDER	
Female	47.1%
Male	52.9%
Missing	0%
ETHNICITY	
Non-Hispanic White	36.9%
Non-White and/or Hispanic	57.1%
Missing	6.0%
AGE CATEGORY	
0-3 Years	19.8%
4-7 Years	22.4%
8-11 Years	23.8%
12-19 Years	33.9%
Missing	0.2%

Table 1.6b Descriptive Statistics of Child Medicaid HP CAHPS Items - 2014 Database (100 Plans)

	Individual Level				Plan / Site Level		
Measure/Item Question	**Number of Respondents**	**Percent Missing**	**Top Box Percent**	**Unadjusted Mean**	**Top Box Mean**	**Minimum Top Box**	**Maximum Top Box**
Need Composite	**45,033**	**25%**	**61%**	**3.4**	**60%**	**42%**	**73%**
Q15 need1	43,425	28%	66%	3.5	65%	45%	80%
Q46 need2	13,170	78%	56%	3.3	55%	39%	71%
Quick Composite	**45,913**	**24%**	**74%**	**3.6**	**72%**	**56%**	**84%**
Q4 quick1	20,432	66%	79%	3.7	78%	58%	90%
Q6 quick2	41,908	30%	68%	3.5	67%	50%	81%
Communication Composite	**40,174**	**33%**	**77%**	**3.7**	**77%**	**65%**	**85%**
Q32 comm1	39,967	34%	80%	3.7	79%	62%	88%
Q33 comm2	39,927	34%	81%	3.7	81%	68%	89%
Q34 comm3	39,828	34%	85%	3.8	84%	73%	93%
Q36 comm4	26,650	56%	74%	3.6	73%	63%	83%
Q37 comm5	39,549	34%	67%	3.5	67%	49%	78%
Customer Service Composite	**16,503**	**73%**	**67%**	**3.5**	**66%**	**52%**	**78%**
Q50 cs1	16,356	73%	58%	3.4	57%	38%	71%
Q51 cs2	16,321	73%	77%	3.7	75%	60%	86%
Q41 Rate Doctor	**50,309**	**16%**	**73%**	**9.0**	**73%**	**61%**	**85%**
Q48 Rate Specialist	**12,241**	**80%**	**70%**	**8.8**	**69%**	**47%**	**82%**
Q14 Rate Care	**43,608**	**28%**	**66%**	**8.8**	**65%**	**44%**	**83%**
Q54 Rate Plan	**56,132**	**7%**	**67%**	**8.8**	**66%**	**42%**	**91%**

2b2. VALIDITY TESTING

2b2.3. Statistical results from validity testing:

Table 2b2.3a. Plan-Level Correlation of Composite Top-Box and Global Rating Top-Box for CAHPS Health Plan Child Medicaid Version 5.0 Sample, 2013-2014

Child Medicaid 5.0 (100 Plans, 60,153 Respondents)	Getting Needed Care	Getting Care Quickly	Doctor Communication	Health Plan Service
Global: Rating of Doctor	0.34***	0.23*	0.59***	0.32**
Global: Rating of Specialist	0.32**	0.23*	0.21*	0.36***
Global: Rating of Healthcare	0.45***	0.46***	0.55***	0.54***
Global: Rating of Health Plan	0.29**	0.25*	0.25*	0.42***

***p<.001, **p<.01, *p<.05

Note: Values are Spearman rank-order correlations.

Table 2b2.3b. Plan-Level Composite Top-Box Intercorrelations for CAHPS Health Plan Child Medicaid Version 5.0 Sample, 2013-2014 (100 Plans)

Composites	Getting Needed Care	Getting Care Quickly	Doctor Communication	Health Plan Service
Getting Needed Care	1	0.79***	0.68***	0.60***
Getting Care Quickly		1	0.66***	0.68***
How Well Doctors Communicate			1	0.66***
Health Plan Info and Customer Service				1

***p<.0001

Note: Values are Spearman rank-order correlations.

Table 2b2.3c. NEW Individual-Level Correlation of Composite Top-Box and Global Rating Top-Box for CAHPS Health Plan Child Medicaid Version 5.0 Sample, 2013-2014 (60,153 respondents)

Child Medicaid 5.0 (100 Plans, 60,153 Respondents)	Getting Needed Care	Getting Care Quickly	Doctor Communication	Health Plan Service
Global: Rating of Doctor	0.30***	0.21***	0.49***	0.22***
Global: Rating of Specialist	0.35***	0.18***	0.25***	0.26***
Global: Rating of Healthcare	0.40***	0.28***	0.39***	0.28***
Global: Rating of Health Plan	0.29***	0.19***	0.23***	0.25***

***p<.001, **p<.01, *p<.05

Note: Values are Spearman rank-order correlations.

Table 2b2.3d. NEW Individual-Level Top-Box Composite Intercorrelations for CAHPS Health Plan Child Medicaid Version 5.0 Sample, 2013-2014 (60,153 respondents)

Composites	Getting Needed Care	Getting Care Quickly	Doctor Communication	Health Plan Service
Getting Needed Care	1	0.46***	0.44***	0.39***
Getting Care Quickly		1	0.34***	0.29***
How Well Doctors Communicate			1	0.37***
Health Plan Info and Customer Service				1

***p<.0001

Note: Values are Spearman rank-order correlations.

2b2.4. Interpretation of the results demonstrating validity:

As hypothesized, most composites are strongly related to all of the global rating scales. At the plan and individual level, the strongest predictor of personal doctor rating is how well that doctor communicated (Spearman's correlation of 0.59 at plan-level and 0.49 at individual-level). The strongest predictors of health plan rating are respondents' ability to get the care they need and experiences with health plan customer service. At the individual level, the strongest predictor of specialist doctor rating is getting needed care. At the plan level, the strongest predictor of specialist doctor rating is health plan service. All composites are substantially associated with overall healthcare rating.

Although the composites should be correlated with each other, as they all measure aspects of patient experience, inter-correlations > 0.80 indicate that the composites may not be unique enough to be considered separate measures (O'Brien, 2007). In general, relationships among the composites are within acceptable range and met our expectations. At the plan level, the highest correlation was observed between "Getting Needed Care" and "Getting Care Quickly." These are both measures of access, which explains their strong relationship.

Citation:
O'Brien RM. A caution regarding rules of thumb for variance inflation factors. Qual Quant. 2007;41:673–690.)

MEMO

To: Lauralei Dorian
Sarah Sampsel
National Quality Forum

From: Elizabeth Goldstein
Division Director
CM/MDBG/DCAPP
Centers for Medicare & Medicaid Services

Re: NQF# 0258
In-Center Hemodialysis CAHPS Survey

Date: August 25, 2014

We appreciate the opportunity to fill gaps identified during the meeting with the NQF panel at the July 28th Person & Family Centered Care Meeting. As discussed in our follow-up conference call on August 7, 2014, we are providing additional results related to the reliability and validity of the three global rating items: Rating of the Nephrologist(s); Rating of the Dialysis Center Staff; and, Rating of the Dialysis Center are provided below.

All results are from the pilot testing period. We understand that when data from the first submission of results in January 2015 are available, updates to our results will be submitted.

Center-level reliability estimates **ICH CAHPS RATING**	**Intra-class Correlation**	**Reliability**
Nephrologist Rating	0.07	0.76
Staff Rating	0.05	0.70
Center Rating	0.06	0.74

Patient-level	Global Ratings		
Measure	Nephrologist Rating	Staff Rating	Center Rating
Nephrologists' Communication and Caring	0.78	0.47	0.46
Quality of Dialysis Center Care & Operations	0.51	0.75	0.69
Providing Information to Patients	0.36	0.41	0.36

N=1,451 All correlations significant at p <0.001.

Facility-level	Global Ratings		
Measure	Nephrologist Rating	Staff Rating	Center Rating
Nephrologists; Communication and Caring	0.85	0.56	0.61
Quality of Dialysis Center Care & Operations	0.53	0.88	0.92
Providing Information to Patients	0.60	0.52	0.62

All correlations significant at p <0.001.

The scale scores were related strongly to patients' global ratings of nephrologists, dialysis center staff, and the center, providing evidence of construct validity, and the pattern of correlations of global ratings with composite scores further support their validity.

In addition, the frequency distribution for the item: "*In the last 3 months, how often did the dialysis center staff show respect for what you had to say?*" is found below.

Response	Count	Percent
Never	49	3.4%
Sometimes	214	14.8%
Usually	330	22.8%
Always	853	59.0%
Missing	8	NA

From: Bill Lehrman, Division of Consumer Assessment & Plan Performance, CMS

To: Lauralei Dorian, Project Manager, National Quality Forum

Re: Supplemental information for re-endorsement of HCAHPS, NQF #0166:

Cronbach's Alphas

August 7, 2014

Dear Lauralei,

Thank you for the opportunity to present the HCAHPS Survey to the NQF's Person and Family Centered Care Steering Committee for re-endorsement on July 28, 2014.

As promised, please see below the table of Cronbach's Alpha statistics for the seven HCAHPS measures made up of from two or three survey items; Liz wrote these out on the flip chart. I believe this is the only additional piece of information we were asked to provide, but please let me know if there is anything else you need.

Sincerely,

Bill Lehrman

Government Task Leader for the HCAHPS Survey

Division of Consumer Assessment & Plan Performance

Centers for Medicare & Medicaid Services (CMS)

Cronbach's Alphas of HCAHPS (NQF #0166)
Measures composed from 2 or 3 survey questions.

Communication with Nurses	0.86
Communication with Doctors	0.88
Responsiveness of Hospital Staff	0.72
Pain Management	0.83
Communication about Medicines	0.67
Discharge Information	0.51
Care Transition	0.80

National Quality Forum
1030 15th St. NW
Suite 800
Washington, DC 20005

Dear Steering Committee,

I am the developer of measure #0725: Validated Family Centered Questionnaire for Parents' and Patients' Experiences During Inpatient Pediatric Hospital Stay, which was initially endorsed on January 17, 2011 and granted full endorsement on September 20, 2012. Thank you for the opportunity to present additional information which was requested during the Patient and Family Centered Measures project in-person meeting on July 29, 2014.

Briefly, this parent-reported family-centered survey questionnaire consists of 68 questions that assess various aspects of care experiences during inpatient pediatric hospital stays. The survey includes 35 questions that are part of 8 measurement domains, as well as 5 individual overall experience questions. The survey was validated nationally using a sample of 22 hospitals across the United States.

This document contains further information about the following:

1. **Change in the title of the measure**

Based on the conversation of the committee it was recommended to change the title of the measure to more closely reflect the fact that it comprises 8 measurement domains and 5 individual item measures and that it is parent reported experience of pediatric care. We therefore propose to change the measure title to "Pediatric Inpatient Experience Survey (PIES) – Parent-Reported Experience Summarized in 8 Measurement Domains and 5 Individual Overall Experience Items".

2. **Background on reliability testing for site performance scores computed for this measure**

The reliability of site performance scores is defined as the fraction of composite or item variation between the sites compared to the total composite or item variation.

The reliability of site performance scores is calculated as follows:

Reliability = Between-hospital variance /
(Between-hospital variance + Within-hospital variance / average number of responses across hospitals)

A reliability score of at least 0.70 is considered acceptable.

Reliability of site performance scores is likely to be negatively influenced by small sample sizes of respondents within institutions. The Adult H-CAHPS survey recommends a minimum of 300 responses per institution for calculating site performance score reliability. In our sample, we only had one institution with over 300 responses, the majority of institutions with less than 100 responses, and 5

institutions with a number of responses between 100 and 300. In order to be able to calculate the reliability of site performance scores we therefore used the 6 institutions with more than 100 responses per site.

3. Results of reliability testing for site performance scores

Even though reliability was calculated using the hospitals with less than 300 responses reliability estimates are over 0.70 except for the domain "Discharge and Home Care Preparation". Reliability is especially high for the domain "Emotional Satisfaction", indicating that this domain can distinguish site performance very well. As described in the main submission documents, this domain is unique to this measure, PIES, and not included conceptually in any other measure of parent-reported inpatient experience.

Reliability Estimates for Site Performance Scores:

Measurement Domains or Individual Overall Experience Questions	Reliability
Partnership with Nurses	0.70
Partnership with Doctors	0.70
Identification of Attending Physician	0.88
Patient Comfort	0.81
Communication about Medications	0.88
Admission	0.73
Discharge and Home Care Preparation	0.63
Emotional Satisfaction	0.97
Overall Quality of Care	0.83
Best Hospital	0.94
Likelihood to recommend Hospital	0.85
Expectations Met	0.86
Safe Care	0.87

4. Background on validity testing for site performance scores

Validity of site performance scores can be determined by the strength of the relationship between the various domains and the overall experience items as well as the survey item indicating if the parent was ever upset. Higher scores in the domains should be correlated with higher scores in the overall experience items but lower scores for the ever-upset item. The strength of the relationship between site performance scores was assessed using Pearson's correlation coefficients. Following Cohen (1988) moderate and strong correlations are those above 0.30 and 0.50, respectively.

5. Results of validity testing for site performance scores

As for site performance reliability, statistical analyses included the 6 sites with more than 100 responses per site. Correlation coefficients based on 6 observations, a small sample size, can be expected to be unstable. We therefore also provided the 95% confidence interval for the correlation coefficients. All correlation coefficients show wide confidence intervals. Strong correlations can be observed for the domains assessing more emotional experiences such as patient comfort and emotional satisfaction. Weaker correlations can be observed for domains focused more on objective experiences, such as identification of attending physician, communication about medications and admission, show moderate or even less than moderate correlations. This difference was expected because the overall experience items also focus more on emotions than objective facts.

Because of the small sample size of sites unexpected correlations could also be observed. However, the majority of the correlation coefficients are in the direction that was hypothesized.

Correlation Coefficients with 95%-Confidence Intervals for Validity Testing of Site Performance Scores:

Domain	Safe Care	Recommend Hospital	Best Hospital	Met Expectations	Overall Quality of Care	Ever upset
Partnership with Nurses	0.07 (-0.78; 0.84)	0.12 (-0.77; 0.84)	0.24 (-0.71;0.88)	-0.21 (-0.87; 0.73)	0.17 (-0.74; 0.86)	0.78 (-0.07; 0.98)
Partnership with Doctors	0.04 (-0.80; 0.83)	-0.25 (-0.88; 0.70)	0.20 (-0.73; 0.87)	0.29 (-0.68; 0.89)	0.34 (-0.65; 0.90)	0.11 (-0.77; 0.85)
Identification of Attending Physician	-0.33 (-0.90; 0.66)	-0.56 (-0.94; 0.47)	-0.12 (-0.85; 0.77)	-0.02 (-0.82; 0.81)	-0.03 (-0.82; 0.80)	- 0.27 (-0.69; -0.89)
Patient Comfort	0.85 (0.13; 0.98)	0.76 (-0.13; 0.97)	0.87 (0.21;0.99)	0.74 (-0.19; 0.97)	0.82 (0.02; 0.98)	-0.14 (-0.85; 0.76)
Admission	0.88 (0.24; 0.99)	0.86 (0.15; 0.98)	0.74 (-0.17; 0.97)	0.61 (-0.40; 0.95)	0.88 (0.26; 0.99)	-0.18 (-0.86; 0.74)
Discharge and Home Care Preparation	0.50 (-0.52; 0.93)	0.33 (-0.66; 0.90)	0.76 (-0.13; 0.97)	0.36 (-0.64; 0.91)	0.46 (-0.56; 0.92)	0.43 (-0.59; 0.92)
Communication about Medications	-0.38 (-0.91; 0.62)	-0.42 (-0.92; 0.59)	-0.23 (-0.87; 0.71)	-0.45 (-0.92; 0.57)	-0.28 (-0.89; 0.69)	0.59 (-0.43; 0.95)
Emotional Satisfaction	0.86 (0.18; 0.98)	0.92 (0.47; 0.99)	0.56 (-0.46; 0.94)	0.42 (-0.60; 0.92)	0.81 (-0.01; 0.98)	-0.26 (-0.88; 0.70)

6. Response to the comment about usability and use of the measure

I have also met with Dr. Prerna Kahlon, BCH Director of Quality Improvement and the leader of the hospital's strategic Transparency Initiative. The Transparency Initiative will make our safety and quality data available internally and externally. We intend to submit hospital-level quality measure data derived from PIES as part of this project, and Dr. Kahlon has agreed to include these measures in the proposal for the next phase of the initiative.

Thank you for your ongoing consideration for this measure. I believe that the information in this letter will provide sufficient background for the reliability testing and will encourage further discussion about the measure.

Please do not hesitate to contact me if you have any questions or would like further information.

Sonja Ziniel, PhD
Measure Developer
Boston Children's Hospital
Program for Patient Safety and Quality

TO: **NQF Workgroup, Person and Family Centered Care Standing Committee**

***FROM*: Veterans Administration National PROMISE (*Performance Reporting and Outcomes Measurement to Improve the Standard of care at End-of-life)* Center; Mary Ersek, PhD, RN, Director, mary.ersek@va.gov**

RE: **Bereaved Family Survey (BFS), #1623; additional data and information**

***DATE*: September 7, 2014**

Clarification of the BFS performance measure

The performance measure (PM) that we are presenting to NQF for endorsement is the ***Bereaved Family Survey (BFS) Overall Rating of EOL Care***. This PM is item 18 from the 20-item BFS (English and Spanish versions). The total BFS includes 18-forced choice items plus 2 open-ended questions. The BFS Overall Rating of EOL Care item is as follows: *"Overall, how would you rate the care that [the Veteran decedent] received in the last month of life?"* Response options are: Excellent—Very Good—Good—Fair—Poor. The reported PM is calculated as the number of respondents who choose "Excellent" (v. all other responses) divided by the number of completed BFS [defined as surveys with a valid response for item 18 plus at least 11 more valid responses on the forced-choice items). Thus, the range of possible facility, VISN [VA's regional networks] or national scores is 0 to 100%. The national BFS Overall Rating of EOL Care is calculated on a quarterly and annual basis for benchmarking purposes. However, the facility-level scores (reported on a quarterly and annual basis) are commonly the target for quality improvement efforts.

Figure 1 below shows the relationships among structure, process and outcome variables that are examined, both on facility- and national-levels.

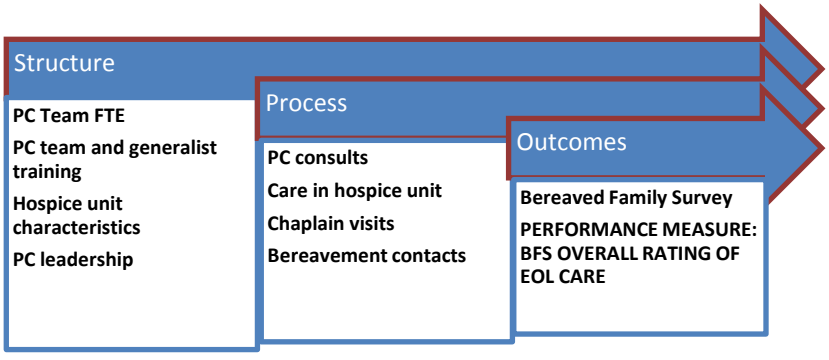

Figure 1. Relationships among Structural, Process, and Outcome Variables

Additional Validity Analyses for the BFS Overall Rating of EOL Care Performance Measure

The PROMISE Center was asked to provide additional analyses that demonstrate validity of the single item performance measure at the facility level. Table 1 (below) provides descriptive statistics to demonstrate the variability in facility-level BFS Overall Rating of EOL Care PM and

changes over time. Figure 2 depicts the range of mean Overall Rating of EOL Care facility scores for fiscal years 2010-2013, again demonstrating variability in scores (i.e., a performance gap).

Table 1. Facility-level BFS Overall Rating of EOL Care† scores, FY10 – FY13 (n = 146 facilities)

Fiscal Year	Mean Overall Item Score†	Standard Deviation	Min/Max	Interquartile Range	Deciles
FY10*	57%	11	31/100	49 and 62	44, 47, 50, 52, 56, 58, 61, 65, 70
FY11*	58%	10	33/100	51 and 65	45, 49, 52, 55, 57, 61, 64, 66, 70
FY12*	59%	11	31/100	51 and 66	45, 50, 54, 57, 58, 62, 65, 67, 74
FY13#	63%	10	33/100	56 and 70	50, 55, 57, 61, 63, 66, 68, 71, 76

†Family response to the question "Overall, how would you rate the care that [the Veteran] received in the last month of his life?" Dichotomized as Excellent v. all other responses [Very good, Good, Fair, Poor] (reported as %)

* During FY10-12 BFS was predominantly administered as a telephone survey

During FY13 to present BFS was predominantly administered as a mailed survey

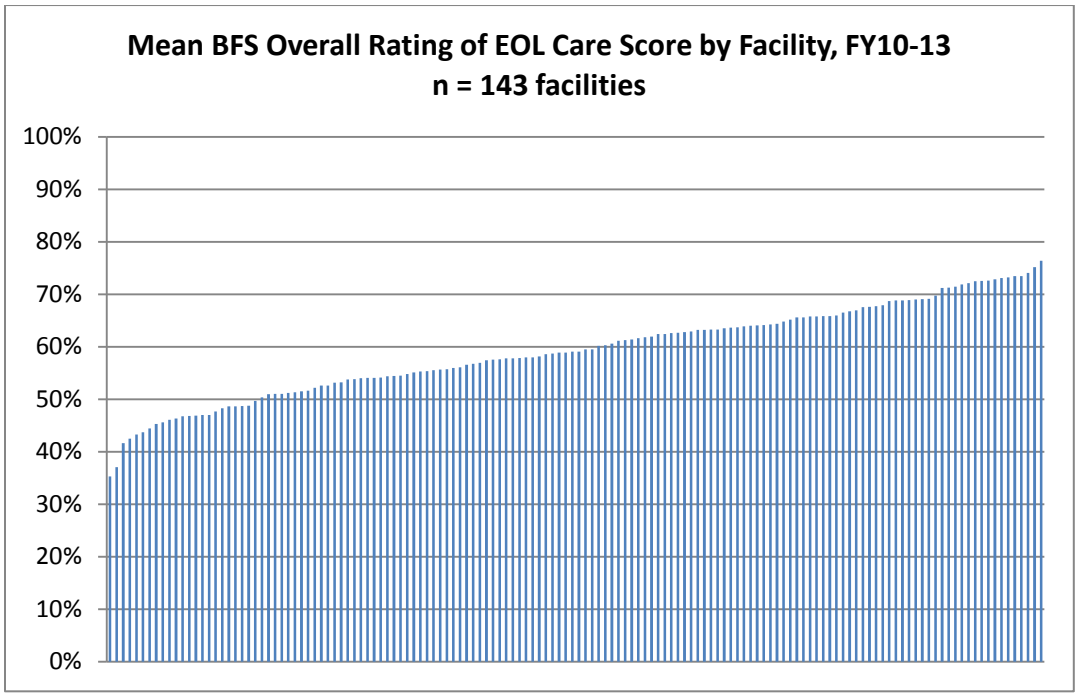

Figure 2. Facility-level variation in BFS Performance Measure Scores, FY 10-13

NOTE: In figure 2, we combined all fiscal years to increase the number of facilities with an adequate sample size for analysis (n = 30 observations), that is, for 143 out of 146 facilities. As can be seen, the range is broad (36—77%).

Table 2, below summarizes the extensive analyses that we conducted to examine the associations between various facility-level process measures (aka, quality of care indicators or interventions) and facility-level BFS Performance Measure scores. We developed several chart-derived process variables based on the empirical literature and "Best Practices" as outlined in the National Consensus Project for Quality Palliative Care Clinical Guideline. These variables included: 1) Receipt of a comprehensive palliative consult in the patient's last 90 days of life; 2) Patient contact with a chaplain in the last month of life; 3) Family contact with a chaplain in the last month of the patient's life; and 4) evidence of emotional support given to a family member up to two weeks post-Veteran death [bereavement contact]. All process variables were dichotomized to reflect the proportion of patients who received each indicator. Currently, all variables are extracted directly from the VA Corporate Data Warehouse (an integrated system of national databases including clinical, administrative and financial data) using standardized algorithms. Prior to 2013, the variables were collected by hand via extensive chart reviews. In the earlier years, all data abstracted from the electronic medical record were collected by trained staff using standardized protocols. Each staff member was required to meet a minimal level of agreement and accuracy prior to collecting data independently, and supervisors conducted regular data quality audits. Depending on the year, nine to twenty staff reviewed an average of 5,000 medical charts annually. Two quality assurance managers checked a 10% random sample of all chart extractions each quarter, and the error rate was < 3%.

As can be seen below, unadjusted facility-level PM scores are consistently higher for when patients receive these quality indicators. Weighted linear regression analyses demonstrate statistically significant, positive associations between receipt of a quality indicator and facility-level BFS Performance Measure scores.

Table 2. Associations Between Process Measures and Facility-level BFS Overall Rating of EOL Care Across Two Modes of Administration (Telephone and Mailed Surveys)*

Process Measure	**Facility-Level PM Score with (Yes) and without (No) Receipt of Process Measure**		***β* coefficient**	**95% Confidence Interval**	**P-value**
	YES	**NO**			
Telephone Survey					
Palliative Care Consult prior to death	60	57	0.04	0.01-0.04	<0.001
Death in a Hospice/Palliative Care Unit	61	57	0.04	0.038-0.043	<0.001
Chaplain Contact with Veteran	59	57	0.02	0.02-0.03	<0.001
Chaplain Contact with Family	60	58	0.02	0.01-0.02	<0.001
Mailed Survey					
Palliative Care Consult prior to death	64	61	0.03	0.02-0.03	<0.001
Death in a Hospice/Palliative Care Unit	64	62	0.02	0.02-0.03	<0.001
Chaplain Contact with Veteran	64	61	0.03	0.02-0.04	<0.001
Chaplain Contact with Family	64	62	0.02	0.01-0.02	<0.001

*Linear regression models [weighted by facility size]

We have also documented the association between these process measures/ interventions and BFS scores in the following peer-reviewed publications:

1. *Casarett D, Pickard A, Bailey FA, et al. Do palliative consultations improve patient outcomes? J Am Geriatr Soc. Apr 2008;56(4):593-599.* (From Abstract: Interviews were completed with 524 respondents. In a multivariable linear regression model, after adjusting for the likelihood of receiving a palliative consultation (propensity score), palliative care patients had higher overall scores: 65 (95% CI: 62–66) versus 54 (95% CI: 51–56; P < 0.001).
2. *Finlay E, Shreve S, Casarett D. Nationwide veterans affairs quality measure for cancer: the family assessment of treatment at end of life. Journal of clinical oncology. 2008;26(23):3838-3844*. (Receipt of palliative care consult and hospice referral were signficantly associated with higher overall scores).
3. *Smith D, Caragian N, Kazlo E, Bernstein J, Richardson D, Casarett D. Can we make reports of end-of-life care quality more consumer-focused? results of a nationwide quality measurement program. J Palliat Med. Mar 2011;14(3):301-307*. (Receipt of palliative care consult, care in a hospice unit, chaplain contact, emotional support given to a family member post-Veteran death all were signficantly associated with higher overall scores).

Additional Reliability Analyses for the BFS Overall Rating of EOL Care Performance Measure

Facility-level Reliability Testing I (Intraclass Correlation Coefficient): To further establish variability in facility-level BFS scores, we decomposed the within- and between-facility variance in overall BFS score using a mixed-effects logistic regression model. Our analysis demonstrated significant facility-level variation in the latent facility-level scores both for FY10-12 -- years during which the BFS was administered predominantly as a phone survey -- (facility-level variance estimate =.15; 95% CI .12-.20; p<0.001) and for FY13 – when the BFS transitioned to a predominantly mail survey (facility-level variance estimate =.13; 95% CI .09-.20; p<0.001). The Intraclass Correlation Coefficient (ICC1) is a signal-to-noise ratio of the between-facility variability relative to the total variability in BFS scores. The ICC1 estimates corresponding to these periods are .04 (95% CI: .03-.06) and .04 (95% CI: .03-.06) respectively. These analyses demonstrate significant facility-level variability in latent facility-level BFS scores.

Facility-level Reliability Testing II (Spearman-Brown Split-Half Reliability): The reliability of facility-averaged scores was assessed via split-half reliability at the facility-level using the Spearman-Brown prophecy formula. The estimated reliability of aggregated facility-level mean scores of 0.89 exceeds the minimum recommended reliability threshold of 0.70 (LeBreton JM; Senter JL. Answers to twenty questions about interrater reliability and interrater agreement. *Organizational Research Methods*, 2008;*11*, 815-852). Additionally, based on our estimated ICC1 of 0.4, the Spearman-Brown formula indicates a minimum facility-level sample size of 56 respondents is required to achieve the recommended reliability threshold of 0.70. Over 97% of facilities have sufficient sample size to achieve 70% reliability.

Plans to Ensure Public Reporting of the BFS Performance Measure

The Veteran's Health Administration (VHA) is committed to transparency and to public reporting of meaningful performance measures. The Bereaved Family Survey Performance Measure (BFS PM) has been presented the VHA's oversight committee for public reporting and

received strong support. According to Dr. Joe Francis, the VHA's Director for Clinical Analytics and Reporting, "we will be pursuing…" public reporting of the BFS PM however competing priorities and transitioning of senior leaders across VHA have hampered this pursuit (personal communication, August 20, 2014).

At present, facility and regional level BFS PM scores are widely available through the VHA staff and leaders through the VHA's Support Service Center, or VSSC. VSSC permits users with ready access to BFS PM reports for any facility or region from 2012 to the present. These BFS PM reports are often used for comparison/benchmarking purposes. The widespread availability of these data across all levels of the VHA demonstrates the VA's commitment to transparency and quality improvement, to include plans for public reporting in the near future. Additionally, the VSSC structure provides a template for public reporting.

*(VHA facilities and services are administratively grouped into 21 geographic Veterans' Integrated Services Networks, or VISNs)

Case-Mix Adjustment—3-Item CTM

Final 3-item CTM scores shall include a patient-mix adjustment and adjustment for mode effects to better ensure the comparability of scores across hospitals—that is, the purpose of adjusting for patient mix is to estimate how different hospitals would be rated if they all provided care to comparable groups of patients.

The following variables shall be used in the patient-mix adjustment model for the 3-item CTM:

- o Type of service (medical, surgical, obstetric)
- o Age (specified as a categorical variable)
- o Education (specified as a linear variable)
- o Self-reported general health status (specified as a linear variable)
- o Language other than English spoken at home
- o Interaction of age by service

The patient-mix adjustment shall be a regression methodology also referred to as covariance adjustment. As an example:

Let y_{ipj} represent the response to item *i* of respondent *j* from hospital *p* (after recoding, if any, has been performed). The model for adjustment of a single item *i* is of the form:

$$y_{ipj} = \beta_i' x_{ipj} + \mu_{ip} + \varepsilon_{ipj}$$

where β_i is a regression coefficient vector, x_{ipj} is a covariate vector consisting of six or more adjuster covariates (as described above), μ_{ip} is an intercept parameter for hospital *p*, and ε_{ipj} is the error term. The estimates are given by the following equation:

$$\left(\hat{\beta}_i' \; \hat{\mu}_i'\right)' = \left(\mathbf{X}'\mathbf{X}\right)^{-1}\mathbf{X}'\mathbf{y}_i$$

where $\mu_i = \left(\mu_{i1}, \mu_{i2}, \ldots \mu_{ip}\right)'$ is the vector of intercepts, $\mathbf{y}_i$ is the vector of responses, and the covariate matrix is:

$$\mathbf{X} = \left(\mathbf{X}_a \quad u_1 \; u_2 \; \ldots u_p\right)$$

where the columns of $\mathbf{X}_a$ are the vectors of values of each of the adjuster covariates, and u_p is a vector of indicators for being discharged from hospital *p*, *p* = 1, 2,…*P*, with entries equal to 1 for respondents in hospital *p* and 0 for others.

The estimated intercepts are shifted by a constant amount to force their mean to equal the mean of the unadjusted hospital means $\bar{y}_{ip}$ (to make it easier to compare adjusted and unadjusted means), giving adjusted hospital means:

$$\hat{a}_{ip} = \hat{\mu}_{ip} + \left(1/P\right)\sum_p \bar{y}_{ip} - \left(1/P\right)\sum_p \hat{\mu}_{ip}$$

For single-item responses, these adjusted means are reported. For composites, the several adjusted hospital means are combined using the weighted mean:

$$\hat{a}_p = \sum_i w_i \hat{a}_{ip}$$

Comparison Between the CTM-3 and HCAHPS Discharge Planning Items
March 14, 2006

With permission, the CTM-3 developers conducted a comparison between CTM-3 items and the two HCAHPS items that pertain to discharge planning. The primary reason for this comparison was to address the questions that arose during the CTM-3 review process. The exact wording of the items is provided within the context of the first question below. Remarks were made as to whether CTM items simply duplicated the HCAHPS items. Others were concerned about whether the CTM items were as psychometrically robust as the HCAHPS items. Testing was conducted in conjunction with a delivery system that volunteered to participate in the initial HCAHPS implementation. As required, CTM-3 items followed the HCAHPS items in the survey order.

1. How does the reading level compare between the two measures?

Analysis: Flesch-Kincaid Reading level in Microsoft word.
Results Summary: CTM questions have a lower reading level than the HCAHPS questions.

HCAHPS Items:

19. During this hospital stay, did doctors, nurses or other hospital staff talk with you about whether you would have the help you needed when you left the hospital?
Grade =12.0

20. During this hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital?
Grade =12.0

CTM Items:

1. The hospital staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be.
Grade = 11.9

2. When I left the hospital, I had a good understanding of the things I was responsible for in managing my health.
Grade = 10.0

3. When I left the hospital, I clearly understood the purpose for taking each of my medications.
Grade = 9.8

2. Were there any differences in non-response rate for the two measures?

Analysis: Percent of respondents not answering the question.
Results: The HCAHPS questions have much higher non-response rates.

Poor response rates erode data quality. Since the same people answered both the CTM and the HCAHPS questions, respondent attributes have been controlled. Interviewer skill can also be a factor but for each respondent both CTM and HCAHPS questions were asked by the same interviewer. Thus in this analysis it is likely that there is only one factor influencing the frequency of non-response rates and that is the question and response options. It is worth noting that the CTM questions were asked at the very end of the interview schedule, after all of the HCAHPS questions and the Patient-Centered Care questions. If respondent fatigue were a factor in non-response, one would anticipate that it would be more of a factor for the CTM items.

We have seen above that the reading level of the HCAHPS questions is higher than that of the CTM questions so we would expect more missing data for HCAHPS. It also well known that the response options presented influence the frequency of missing data. When the response options do not align well with how respondents think about the topic, the number of nonresponses will increase. Simple yes/no response options (as used by the two HCAHPS items) being used when respondents do not think about the subject dichotomously may result in more non-response (in contrast, CTM-3 items allow for strongly agree, agree, disagree, and strongly disagree). In such a situation, limited response choices actually increase respondent burden and contribute to higher response rates. As presented below, for CTM-3 items, patients used the strongly agree and agree options with almost equal frequency, suggesting that having more response options allowed respondents to more fully express their experiences.

HCAHPS 19: During this hospital stay, did doctors, nurses or other hospital staff talk with you about whether you would have the help you needed when you left the hospital?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	44	14.3	14.3	14.3
	Yes	212	68.8	68.8	83.1
	Non-response	52	**16.9**	16.9	100.0
	Total	308	100.0	100.0	

HCAHPS 20: During this hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	32	10.4	10.4	10.4
	Yes	241	78.2	78.2	88.6
	Non-response	35	**11.4**	11.4	100.0
	Total	308	100.0	100.0	

CTM1: The hospital staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	1.0	1.0	1.0
	Disagree	26	8.4	8.4	9.4
	Agree	124	40.3	40.3	49.7
	Strongly Agree	128	41.6	41.6	91.2
	Non-response	27	**8.8**	8.8	100.0
	Total	308	100.0	100.0	

CTM2: When I left the hospital, I had a good understanding of the things I was responsible for in managing my health.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	16	5.2	5.2	5.2
	Agree	119	38.6	38.6	43.8
	Strongly Agree	159	51.6	51.6	95.5
	Non-response	14	**4.5**	4.5	100.0
	Total	308	100.0	100.0	

CTM3: When I left the hospital, I clearly understood the purpose for taking each of my medications.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	.6	.6	.6
	Disagree	7	2.3	2.3	2.9
	Agree	120	39.0	39.0	41.9
	Strongly Agree	161	52.3	52.3	94.2
	Non-response	18	**5.8**	5.8	100.0
	Total	308	100.0	100.0	

3. Did non-response rates differ by education level?

Note that these findings for the CTM-3 provide further confirm the difference in reading level reported in question #1. At lower education levels, the non-response to CTM-3 questions is exceptionally low.

HCAHPS 19 During this hospital stay, did doctors, nurses or other hospital staff talk with you about whether you would have the help you needed when you left the hospital?

Education	Percent with Non Response
8th grade or less	11.1
Some high school, but did not graduate	14.3
High school graduate or GED	16.5
Some college or 2-year degree	20.2
4-year college graduate	7.1
More than 4-year college degree	17.9

HCAHPS 20 During this hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital?

Education	Percent with Non Response
8th grade or less	11.1
Some high school, but did not graduate	7.1
High school graduate or GED	12.6
Some college or 2-year degree	13.5
4-year college graduate	3.6
More than 4-year college degree	7.7

CTM1 The hospital staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be.

Education	Percent with Non Response
8th grade or less	0.0
Some high school, but did not graduate	0.0
High school graduate or GED	5.8
Some college or 2-year degree	7.9
4-year college graduate	3.6
More than 4-year college degree	10.3

CTM2 When I left the hospital, I had a good understanding of the things I was responsible for in managing my health.

Education	Percent with Non Response
8th grade or less	0.0
Some high school, but did not graduate	3.6
High school graduate or GED	1.9
Some college or 2-year degree	2.2
4-year college graduate	0.0
More than 4-year college degree	2.6

CTM3 When I left the hospital, I clearly understood the purpose for taking each of my medications.

Education	Percent with Non Response
8th grade or less	0.0
Some high school, but did not graduate	3.6
High school graduate or GED	1.9
Some college or 2-year degree	2.2
4-year college graduate	7.1
More than 4-year college degree	7.7

4. Did non-response rates differ by self-rated health?

Respondents with lower self-rated health had higher non-response rates on the two HCAHPS items versus the CTM-3. Arguably, those with poor self-rated health are likely more vulnerable to poor quality care coordination/discharge/transitions and need to be captured during performance measurement and public reporting.

HCAHPS 19 During this hospital stay, did doctors, nurses or other hospital staff talk with you about whether you would have the help you needed when you left the hospital?

Self-Rated Health	Percent with Non Response	Total N
Excellent	11.5	61
Very Good	14.1	85
Good	20.5	83
Fair or Poor	19.4	67

HCAHPS 20 During this hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital?

Self-Rated Health	Percent with Non Response	Total N
Excellent	8.2	61
Very Good	7.1	85
Good	15.7	83
Fair or Poor	13.4	67

CTM1 The hospital staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be.

Self-Rated Health	Percent with Non Response	Total N
Excellent	4.9	61
Very Good	7.1	85
Good	6.0	83
Fair or Poor	6.0	67

CTM2 When I left the hospital, I had a good understanding of the things I was responsible for in managing my health.

Self-Rated Health	Percent with Non Response	Total N
Excellent	0.0	61
Very Good	1.2	85
Good	1.2	83
Fair or Poor	6.0	67

CTM3 When I left the hospital, I clearly understood the purpose for taking each of my medications.

Self-Rated Health	Percent with Non Response	Total N
Excellent	4.9	61
Very Good	2.4	85
Good	3.6	83
Fair or Poor	1.5	67

5. Are the two HCAHPS items and the CTM-3 measuring the same elements of care?

During the initial review, a number of comments concerned whether the CTM-3 items are duplicative with the two HCAHPS discharge items. The developer set out to test this hypothesis.

In the *Quality Chasm* Report IOM clearly emphasized the importance of patient-centered care. One of the components of patient-centered care as it pertains to care coordination is taking patient preferences into account. Simply on the basis of content validity the HCAHPS questions do not address patient preferences but CTM1 is explicitly focused on this aspect of patient-centered care.

To evaluate if the CTM and HCAHPS questions are in alignment with IOM's patient-centered care recommendations the following analysis was conducted. In this data collection survey respondents were also ask the PeaceHealth 13 Patient-Centered Care questions (available upon request). These questions are well aligned with the IOM description of patient-centered care and have been substantively and psychometrically validated in research on more than 13,000 patients across all major hospital service lines as well as a large number of specialty care units.

All of the HCAHPS questions except for the two global evaluations (HCAHPS 21 and HCAHPS 22), the 13 items from the PeaceHealth Patient-Centered Care survey, and the CTM3 items were subjected to a factor analysis in Mplus. The ordered and unordered categorical variables (items) in HCAHPS and the ordered categorical items in the PeaceHealth Patient-Centered Care survey were treated as such rather than inappropriately treating these data as if they were continuous variables.

The PeaceHealth items are known to form a single unidimensional scale of patient-centered care. In the factor analysis framework we would expect that all 13 of the PeaceHealth items would load strongly on the same latent factor.

If the two HCAHPS discharge items and the CTM-3 reflect patient-centered care, they should therefore load on the same dimension as the PeaceHealth Patient-Centered care items. If, on the other hand, the two HCAHPS discharge items are about information transfer and not patient-centeredness these items should on a separate information transfer factor and not load on the patient-centered care dimension.

The eigenvalues suggested six meaningful factors (eigenvalues > 1.0). This six-factor solution has a root mean square residual of .036, indicating that the six factor solution adequately explains for data.

Results:

- All of the PeaceHealth Patient-Centered Care items load strongly on a single factor named patient-centered care. *(This is a varimax-rotated solution. The promax (correlated factors) produces the same result.)*
- The 3 CTM items load strongly on this patient centered care factor.
- 4 HCAHPS items form a factor labeled information. These items are:

- HCAHPS 16: Before giving you any new medicine, how often did hospital staff tell you what the medicine was for?
- HCAHPS 17: Before giving you any new medicine, how often did hospital staff describe possible side effects in a way you could understand?
- HCAHPS 19: During this hospital stay, did doctors, nurses or other hospital staff talk with you about whether you would have the help you needed when you left the hospital?
- HCAHPS 20: During this hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital?

- In terms of what dimension of care they are measuring, the HCAHPS discharge items cannot be distinguished from non-transition medication information transfer. Psychometrically, one cannot argue that the HCAHPS discharge items are measuring coordination or transition.
- The CTM items strongly load on patient-centered care and also moderately load on the information factor, suggesting that they address information obtained from hospital staff without having to include that additional language about information and understanding in the same question.
- It is also interesting to note that HCAHPS 20 loads about 0.4 on the doctors factor. This likely reflects patients thinking of written information as physician supplied rather than nurse supplied. When an factor analysis with only the PeaceHealth items and the CTM items is conducted this is not the case. This suggests that HCP20 is contaminated by the wording of the item that focuses patients on thinking about the doctor writing something rather than addressing whether they left with the information they needed.

VARIMAX ROTATED LOADINGS

	1	2	3	4	5
	Pt ctrd	**doctors**	**nurses**	**information**	**potty**
HCP1	0.363	0.087	0.752	0.272	-0.020
HCP2	0.232	0.218	0.751	0.162	0.060
HCP3	0.195	0.197	0.625	0.155	0.075
HCP4	0.175	0.216	0.362	-0.130	0.071
HCP5	0.173	0.892	0.322	0.094	-0.112
HCP6	0.193	0.886	0.012	0.195	0.116
HCP7	0.164	0.666	0.291	0.322	0.139
HCP8	0.232	-0.006	0.312	0.107	0.086
HCP9	0.270	0.081	0.220	0.325	0.098
HCP11	0.322	0.124	0.441	0.143	0.690
HCP13	0.173	0.209	0.252	0.299	0.118
HCP14	0.321	0.176	0.246	0.177	0.047
HCP16	0.297	0.275	0.036	0.485	0.360
HCP17	0.214	0.137	0.098	0.828	0.346
HCP19	0.189	0.050	0.155	0.689	-0.092
HCP20	0.087	0.435	0.196	0.635	-0.021
Q9	0.691	0.022	0.145	0.198	0.023
Q11	0.779	-0.015	0.205	0.242	0.020
Q13	0.760	0.128	0.174	0.152	0.186
Q14	0.828	0.104	0.166	0.104	0.155
Q15	0.861	-0.050	0.352	0.054	0.144
Q18	0.879	0.006	0.272	0.060	0.077
Q21	0.772	0.540	0.106	0.170	0.150

Q22	0.821	0.463	0.001	0.143	0.150
Q23	0.792	0.518	0.064	0.129	0.126
Q24	0.746	0.456	0.053	0.210	-0.074
Q26	0.803	0.206	0.231	0.129	0.025
Q27	0.848	0.120	0.218	0.166	0.061
Q28	0.861	0.191	0.211	0.168	0.067
CTM1	0.660	0.109	0.190	**0.391**	-0.241
CTM2	0.604	0.296	0.198	**0.526**	-0.291
CTM3	0.660	0.299	0.253	**0.412**	-0.240

VARIMAX ROTATED LOADINGS

	6
	pain
HCP1	0.256
HCP2	0.267
HCP3	0.055
HCP4	0.456
HCP5	0.142
HCP6	0.222
HCP7	0.233
HCP8	0.195
HCP9	0.128
HCP11	0.240
HCP13	0.736
HCP14	0.881
HCP16	0.176
HCP17	0.216
HCP19	0.123
HCP20	-0.098
Q9	0.244
Q11	0.268
Q13	0.096
Q14	0.210
Q15	-0.005
Q18	0.145
Q21	-0.008
Q22	0.037
Q23	0.043
Q24	0.146
Q26	0.263
Q27	0.146
Q28	0.168
CTM1	0.119
CTM2	-0.005
CTM3	0.027

Thus to summarize, the two HCAHPS discharge items and the CTM-3 items appear to be measuring different elements of care and are therefore not interchangeable. The two HCAHPS discharge items appear to address information whereas the CTM-3 items strongly address care coordination out of the hospital, which was the focus of the original call for measures.