NATIONAL QUALITY FORUM

MEASURE WORKSHEET

This document summarizes the evaluation of the measure as it progresses through NQF's Consensus Development Process (CDP). The information submitted by measure developers/stewards is included after the Brief Measure Information, Preliminary Analysis, and Pre-meeting Public and Member Comments sections.

To navigate the links in the worksheet: Ctrl + click link to go to the link; ALT + LEFT ARROW to return

Purple text represents the responses from measure developers.

Red text denotes developer information that has changed since the last measure evaluation review.

Brief Measure Information

NQF #: 2616

Corresponding Measures:

De.2. Measure Title: CoreQ: Long-Stay Family Measure

Co.1.1. Measure Steward: AHCA/NCAL

De.3. Brief Description of Measure: The measure calculates the percentage of family or designated responsible party for long stay residents (i.e., residents living in the facility for 100 days or more), who are satisfied (see: S.5 for details of the timeframe). This consumer reported outcome measure is based on the CoreQ: Long-Stay Family questionnaire that has three items.

1b.1. Developer Rationale: Collecting satisfaction information from skilled nursing facility (SNF) patients is more important now than ever. We have seen a philosophical change in healthcare that now includes the patient and their preferences as an integral part of the system of care. The Institute of Medicine (IOM) endorses this change by putting the patient as central to the care system (IOM, 2001). For this philosophical change to person-centered care to succeed, we have to be able to measure patient satisfaction for these three reasons:

(1) Measuring satisfaction is necessary to understand patient preferences.

(2) Measuring and reporting satisfaction with care helps patients and their families choose and trust a health care facility.

(3) Satisfaction information can help facilities improve the quality of care they provide.

The implementation of person-centered care in SNFs has already begun, but there is still room for improvement. The Centers for Medicare and Medicaid Services (CMS) demonstrated interest in consumers' perspective on quality of care by supporting the development of the Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey for patients in nursing facilities (Sangl et al., 2007).

Further supporting person-centered care and resident satisfaction are ongoing organizational change initiatives. These include: the Advancing Excellence in America's Nursing Homes campaign (2006), which lists person-centered care as one of its goals; Action Pact, Inc., which provides workshops and consultations with nursing facilities on how to be more person-centered through their physical environment and organizational structure; and Eden Alternative, which uses education, consultation, and outreach to further person-centered care in nursing facilities. All of these initiatives have identified the measurement of resident satisfaction as an essential part in making, evaluating, and sustaining effective clinical and organizational changes that ultimately result in a person-centered philosophy of care.

The importance of measuring resident satisfaction as part of quality improvement cannot be stressed enough.

Quality improvement initiatives, such as total quality management (TQM) and continuous quality

improvement (CQI), emphasize meeting or exceeding "customer" expectations. William Deming, one of the first proponents of quality improvement, noted that "one of the five hallmarks of a quality organization is knowing your customer's needs and expectations and working to meet or exceed them" (Deming, 1986). Measuring resident satisfaction can help organizations identify deficiencies that other quality metrics may struggle to identify, such as communication between a patient and the provider.

As part of the Department of Commerce renowned Baldrige Criteria for organizational excellence, applicants are assessed on their ability to describe the links between their mission, key customers, and strategic position. Applicants are also required to show evidence of successful improvements resulting from their performance improvement system. An essential component of this process is the measurement of customer, or resident, satisfaction (Shook & Chenoweth, 2012).

The CoreQ: Long Stay Family questionnaire can strategically help nursing facilities achieve organizational excellence and provide high quality care by being a tool that targets a unique and growing patient population. Moreover, improving the care for long stay nursing home patients is tenable. A review of the literature on satisfaction surveys in nursing facilities (Castle, 2007) concluded that substantial improvements in resident satisfaction could be made in many nursing facilities by improving care (i.e., changing either structural or process aspects of care). This was based on satisfaction scores ranging from 60 to 80% on average.

It is worth noting, few other generalizations could be made because existing instruments used to collect satisfaction information are not standardized. Thus, benchmarking scores and comparison scores (i.e., best in class) were difficult to establish. The CoreQ: Long Stay Family measure has considerable relevance in establishing benchmarking scores and comparison scores.

This measure's relevance is furthered by recent federal legislative actions. The Affordable Care Act of 2010 requires the Secretary of Health and Human Services (HHS) to implement a Quality Assurance & Performance Improvement Program (QAPI) within nursing facilities. This means all nursing facilities have increased accountability for continuous quality improvement efforts. In CMS's "QAPI at a Glance" document there are references to customer-satisfaction surveys and organizations utilizing them to identify opportunities for improvement. Lastly, the new "Medicare and Medicaid Programs; Reform of Requirements for Long-Term Care Facilities" proposed rule includes language purporting the importance of satisfaction and measuring satisfaction. CMS states "CMS is committed to strengthening and modernizing the nation's health care system to provide access to high quality care and improved health at lower cost. This includes improving the patient experience of care, both quality and satisfaction, improving the health of populations, and reducing the per capita cost of health care." There are also other references in the proposed rule speaking to improving resident satisfaction and increasing person-centered care (Medicare and Medicaid Programs; Reform of Requirements for Long-Term Care Facilities, 2015). The CoreQ: Long Stay Family measure has considerable applicability to both of these initiatives.

Castle, N.G. (2007). A literature review of satisfaction instruments used in long-term care settings. Journal of Aging and Social Policy, 19(2), 9-42.

CMS (2009). Skilled Nursing Facilities Non Swing Bed - Medicare National Summary. http://www.cms.hhs.gov/MedicareFeeforSvcPartsAB/Downloads/NationalSum2007.pdf.

CMS, University of Minnesota, and Stratis Health. QAPI at a Glance: A step by step guide to implementing quality assurance and performance improvement (QAPI) in your nursing home. https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/QAPI/Downloads/QAPIAtaGlance.pdf.

Deming, W.E. (1986). Out of the crisis. Cambridge, MA. Massachusetts Institute of Technology, Center for Advanced Engineering Study.

Institute of Medicine (2001). Improving the Quality of Long-Term Care. National Academy Press, Washington, D.C., 2001.

Medicare and Medicaid Programs; Reform of Requirements for Long-Term Care Facilities; Department of Health and Human Services. 80 Fed. Reg. 136 (July 16, 2015) (to be codified at 42 CFR Parts 405, 431, 447, et al.).

MedPAC. (2015). Report to the Congress: Medicare Payment Policy. http://www.medpac.gov/documents/reports/mar2015_entirereport_revised.pdf?sfvrsn=0.

Sangl, J., Bernard, S., Buchanan, J., Keller, S., Mitchell, N., Castle, N.G., Cosenza, C., Brown, J., Sekscenski, E., and Larwood, D. (2007). The development of a CAHPS instrument for nursing home residents. Journal of Aging and Social Policy, 19(2), 63-82.

Shook, J., & Chenoweth, J. (2012, October). 100 Top Hospitals CEO Insights: Adoption Rates of Select Baldrige Award Practices and Processes. Truven Health Analytics. http://www.nist.gov/baldrige/upload/100-Top-Hosp-CEO-Insights-RB-final.pdf.

S.4. Numerator Statement: The numerator assesses the number of family or designated responsible party for long stay residents that are satisfied. Specifically, the numerator is the sum of the family or designated responsible party members for long stay residents that have an average satisfaction score of =>3 for the three questions on the CoreQ: Long-Stay Family questionnaire.

S.6. Denominator Statement: The target population is family or designated responsible party members of a resident residing in a SNF for at least 100 days. The denominator includes all of the individuals in the target population who respond to the CoreQ: Long-Stay Family questionnaire within the two month time window (see S.5) who do not meet the exclusion criteria (see S.10).

S.8. Denominator Exclusions: Please note, the resident representative for each current resident is initially eligible regardless of their being a family member or not. Only one primary contact per resident should be selected.

Exclusions made at the time of sample selection include: (1) family or designated responsible party for residents with hospice; (2) family or designated responsible party for residents with a legal court appointed guardian; (3) representatives of residents who have lived in the SNF for less than 100 days; and (4) representatives who reside in another country.

Additionally, once the survey is administered, the following exclusions are applied: a) surveys received outside of the time window (more than two months after the administration date) and b) surveys that have more than one questionnaire item missing.

De.1. Measure Type: Outcome: PRO-PM

S.17. Data Source: Instrument-Based Data

S.20. Level of Analysis: Facility

IF Endorsement Maintenance – Original Endorsement Date: Oct 25, 2016 **Most Recent Endorsement Date:** Oct 25, 2016

IF this measure is included in a composite, NQF Composite#/title:

IF this measure is paired/grouped, NQF#/title:

De.4. IF PAIRED/GROUPED, what is the reason this measure must be reported with other measures to appropriately interpret results? Not Applicable.

Preliminary Analysis: Maintenance of Endorsement

To maintain NQF endorsement endorsed measures are evaluated periodically to ensure that the measures still meets the NQF endorsement criteria (“maintenance”). The emphasis for maintaining endorsement is focused on how effective the measure is for promoting improvements in quality. Endorsed measures should have

some experience from the field to inform the evaluation. The emphasis for maintaining endorsement is noted for each criterion.

Criteria 1: Importance to Measure and Report

1a. Evidence

Maintenance measures – less emphasis on evidence unless there is new information or change in evidence since the prior evaluation.

1a. Evidence. The evidence requirements for a health outcome measure include providing empirical data that demonstrate a relationship between the outcome and at least one healthcare structure, process, intervention, or service; if these data not available, data demonstrating wide variation in performance, assuming the data are from a robust number of providers and results are not subject to systematic bias. For measures derived from patient report, evidence also should demonstrate that the target population values the measured outcome, process, or structure and finds it meaningful.

Summary of prior review in 2016

- This facility-level patient-reported outcome performance measure calculates the percentage of family or designated responsible party for long stay residents (i.e., residents living in the facility for 100 days or more), who are satisfied (see: S.5 for details of the timeframe).
- Similar to measures 2614 and 2615, during the 2016 original endorsement review, Committee members noted that this is an important measure for those who go into a nursing home or a SNF who will stay indefinitely or for a long period of time. Measuring family satisfaction is very important to measurement as including the family and their preferences is becoming an integral part of healthcare's changing landscape. Additionally, measuring and reporting satisfaction with care helps patients and their families choose and trust a healthcare facility and can help facilities improve the quality of the care they provide.
- Overall, committee members liked that there was a logic model at the beginning of the measure submission form that linked the measure with information on additional improvement programs, organizational change initiatives, and policies that are going on both at the federal level and the facility level. This remained the same for this submission.
- In the 2016 submission, the developer noted that "Drivers for high satisfaction rates include competency of staff, care/concern of staff, and responsiveness of management"
- The developer stated "We have seen a philosophical change in healthcare that now includes the patient and their preferences as an integral part of the system of care" and notes that measuring patient satisfaction is required for person-centered care for three reasons:
    - Measuring satisfaction is necessary to understand patient preferences.
    - Measuring and reporting satisfaction with care helps patients and their families choose and trust a health care facility.
    - Satisfaction information can help facilities improve the quality of care they provide
- During the discussion of this measure in 2016, the Committee elected to carry the vote for Evidence from the 2614 and 2615 because the submissions were so similar.

Changes to evidence from last review

☐ The developer attests that there have been no changes in the evidence since the measure was last evaluated.

☒ The developer provided updated evidence for this measure:

Updates:

- Developer included a new analysis assessing the meaningfulness of the measure to families
    - Family members (N=49) of residents (N=40) in a facility were asked about the meaningfulness of the three survey questions that inform the PRO-PM
    - Most respondents ranked the questions as "very important".

Question for the Committee:

- *Is there at least one healthcare action that the provider can do to achieve a change in the measure results?*
- *This measure is derived from patient report. Does the target population value the measured outcome and find it meaningful?*

Guidance from the Evidence Algorithm

PRO-based measure (Box 1) → Relationship between the outcome and at least one healthcare action is identified and supported by the rationale (Box 2) → PASS (From Algorithm 1, NQF Measure Evaluation Criteria Sept 2019, pg. 15)

Preliminary rating for evidence: ☒ **Pass** ☐ **No Pass**

1b. Gap in Care/Opportunity for Improvement and 1b. Disparities

Maintenance measures – increased emphasis on gap and variation

1b. Performance Gap. The performance gap requirements include demonstrating quality problems and opportunity for improvement.

- Developer provided updated statistics broken out by quarter with each quarter representing a rolling 12-month period of data.
- Long Term Care Trend Tracker
    - Data covers 2016Q1-2019Q4
    - Number of SNFs ranges from 78-1567
    - Mean Satisfaction Rate ranges from 81-90% between quarters
    - SD ranges from 12-24%
- Vendor data from MA, NJ, PA, IL, NY providers
    - Data covers 2019Q1
    - Number of SNFs = 566
    - Mean Satisfaction Rate was 82.8%
    - SD was 11%

Disparities

- Race – No statistically significant differences
    - By race, whites averaged a score of 83.5, Blacks or African-Americans averaged a score of 83.3, and Asians 83.5;
    - there were no observations for Native Hawaiians or other Pacific Islanders, American Indian or Alaskan Natives
- Education – No statistically significant differences
    - By highest education level those with those high school but who did not graduate averaged 83.4;
    - high school graduates averaged 83.3;
    - those with some college or a 2-year degree averaged 82.5;

- 4 year college graduates averaged 83.2;
- those with more than 4 year college degree averaged 83.6

- Age
  - By age group, those younger than 65 years old averaged 71.7;
  - those 65-74 averaged 83.7;
  - those 75-84 averaged 87.3;
  - those older than 85 averaged 74.9
- Gender
  - Males averaged a score of 80.1
  - Females averaged a score of 86.1
- Developer states that differences in satisfaction by SDS were not statistically significant. This appears likely for race and education, but there are clear differences in performance by age and gender. Moreover, research over the last 20 years has consistently found poorer care in facilities with high minority populations and that nursing homes remain segregated, with black patients concentrated in poorer-quality homes (as measured by staffing ratios, performance, and financial vulnerability).

Questions for the Committee:

- Is there a gap in care that warrants a national performance measure?
- If no disparities information is provided, are you aware of evidence that disparities exist in this area of healthcare?

Preliminary rating for opportunity for improvement: ☒ **High** ☐ **Moderate** ☐ **Low** ☐ **Insufficient**

Committee Pre-evaluation Comments:
Criteria 1: Importance to Measure and Report (including 1a, 1b, 1c)

1a. Evidence to Support Measure Focus: For all measures (structure, process, outcome, patient-reported structure/process), empirical data are required. How does the evidence relate to the specific structure, process, or outcome being measured? Does it apply directly or is it tangential? How does the structure, process, or outcome relate to desired outcomes? For maintenance measures –are you aware of any new studies/information that changes the evidence base for this measure that has not been cited in the submission? For measures derived from a patient report: Measures derived from a patient report must demonstrate that the target population values the measured outcome, process, or structure.

- No new studies, target population values outcome.
- Responses seem low - any other data?
- Maintenance measure which included new data showing the meaningfulness of the measure to family members and residents.
- Pass.
- Appropriate evidence.
- Appropriate evidence.
- Only change since 2016 is feedback from 49 family members who ranked questions as very important.
- Same evidence as provided with 2614 and 2615, same rationale; would be helpful to have any new evidence linking family satisfaction to outcomes.
- The evidence exists to support the measure. There are two areas with literature studies that can enhance the evidence base for this measure and help create subgroups for data evaluation. The two groups are place and price. By focusing on these two inputs, there is at least one healthcare action

that the provider can do to achieve a change in the measure results. Customer satisfaction is other industries is defined by 4 P's The Marketing Mix: The 4-P Recipe for Customer Satisfaction. http://www.infotoday.com/mls/jan04/koontz.shtml One of the P's is for place. In healthcare long-term care settings new models are being built for care settings. These homes typically are divided into care homes of about 14 residents with a full time nurse, CNA, cook and aide dedicated to the group. https://www.fgiguidelines.org/wp-content/uploads/2018/03/MMP_DesignGuideLongTermCareHomes_2018.01.pdf The correlation between satisfaction and "place" in this case referring to design of location may help uncover best practices. While infrastructure is costly, some of the principals of a home setting with small groups can raise satisfaction levels. Therefore, the provider needs to understand the impact of "place" on overall satisfaction. As stated in the measure worksheet structure is a key attribute of satisfaction, " A review of the literature on satisfaction surveys in nursing facilities (Castle, 2007) concluded that substantial improvements in resident satisfaction could be made in many nursing facilities by improving care (i.e., changing either structural or process aspects of care). This was based on satisfaction scores ranging from 60 to 80% on average. Therefore, data collection should include segmentation on "place," in this case layout, to determine correlation between satisfaction on structure. The second category that the target population values in the measured is price. The cost of nursing home care many times requires families to spend down their assets. The Long-Stay Family Questionnaire Item Response there are 19 questions and none of them are about the perceived value of care. One of the P's in customer satisfaction is price. It is common practice in service industries to evaluate price as a satisfaction metric. Even if not asked, price is a value that unconsciously is used for satisfaction scores. Family members may feel swindled by the high cost of care. Gerald Zaltman, from Harvard University finds that "Ninety-five percent of thought, emotion, and learning occur in the unconscious mind – that is, without our awareness. Emotions play a bigger role than logic in people's decisions (*How Customers Think: Essential Insights into the Mind of the Market)"*. The impact of price is a key piece of evidence for this measurement.

1b. Performance Gap: Was current performance data on the measure provided? How does it demonstrate a gap in care (variability or overall less than optimal performance) to warrant a national performance measure? Disparities: Was data on the measure by population subgroups provided? How does it demonstrate disparities in the care?

- Gap provided.
- No concerns.
- Performance gaps by age and gender were indicated based on provided data.
- High.
- Evidence supports some gap.
- Solid performance gap demonstrated; disparities analyses limited to age/sex as social risk factors.
- average performance is around 80.
- 2019 data - still around 83% showing room for improvement.
- There is a gap in care that merits a national performance measure. The distribution of the summary score (MEASURE) is depicted in Figure 1b.2.1. The developer acknowledges "research over the last 20 years has consistently found poorer care in facilities with high minority populations and that nursing homes remain segregated, with black patients concentrated in poorer-quality homes (as measured by staffing ratios, performance, and financial vulnerability)." Population is not placed in subgroups by payment categories. It is unclear if there is a difference in satisfaction results based on private pay, Medicaid or Medicare. Without this information it is unclear how performance gap may be reflected by payee type and if there are disparities in care based on this subgroup. Another subgroup that may be valuable is palliative care patients. It is noted that hospice patients are eliminated and there does not seem to be a segmentation on palliative care patients. " Inaging

societies, the last phase of people's lives changes profoundly, challenging traditional care provision in geriatric medicine and palliative care. Both specialties have to collaborate closely and geriatric palliative care (GPC) should be conceptualized as an interdisciplinary field of care and research based on the synergies of the two and an ethics of care. ´ https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6148954/ Questions 5 and 11 in Table 2b2.3.d: CoreQ: Long-Stay Family Questionnaire Item Response Distribution are care choices with family input. It may provide useful information to nursing homes to segment the data to determine disparities in care based on the stage of care of the patient. Yes, there are disparities in care in healthcare based on finances and care choices and ageism. The opportunity for overtreatment and overtesting can lead to patients suffering in their last stage of life. Guarding Against Overtesting, Overdiagnosis, and Overtreatment of Older Adults: Thinking Beyond Imaging and Injuries to Weigh Harms and Benefits https://onlinelibrary.wiley.com/doi/full/10.1111/jgs.14737 Therefore, it is important to have a subgroups based on elderly stage, not just age, and determine if there are disparities in care.

Criteria 2: Scientific Acceptability of Measure Properties

2a. Reliability: Specifications and Testing

2b. Validity: Testing; Exclusions; Risk-Adjustment; Meaningful Differences; Comparability; Missing Data

2c. For composite measures: empirical analysis support composite approach

Reliability

2a1. Specifications requires the measure, as specified, to produce consistent (reliable) and credible (valid) results about the quality of care when implemented. For maintenance measures – no change in emphasis – specifications should be evaluated the same as with new measures.

2a2. Reliability testing demonstrates if the measure data elements are repeatable, producing the same results a high proportion of the time when assessed in the same population in the same time period and/or that the measure score is precise enough to distinguish differences in performance across providers. For maintenance measures – less emphasis if no new testing data provided.

Validity

2b2. Validity testing should demonstrate the measure data elements are correct and/or the measure score correctly reflects the quality of care provided, adequately identifying differences in quality. For maintenance measures – less emphasis if no new testing data provided.

2b2-2b6. Potential threats to validity should be assessed/addressed.

Complex measure evaluated by Scientific Methods Panel? ☐ **Yes** ☒ **No**

Evaluators: NQF Patient Experience and Function Staff

Full NQF Staff Evaluation

Evaluation Summary:

Reliability

- Developer used the same testing from the 2016 submission
- Measure developer performed both data element level and score level reliability testing

- Data element reliability testing included test-retest analysis on a convenience sample of 100 patients
  - Developer calculated the distribution of responses by question in the original round of surveys, and then again in the follow-up surveys (they should be distributed similarly);
  - Developer subsequently calculated the correlations between the original and follow-up responses by question (they should be highly correlated).
- Data element testing showed very high levels of agreement and no statistically significant difference in the responses to each question between the original and re-test results. Average Percent Agreement between 1st and 2nd Administered Surveys:

Questionnaire Item	Percent Agreement
1. In recommending this facility to your friends and family, how would you rate it overall?	97.1%
2. Overall, how would you rate the staff?	98.8%
3. How would you rate the care your family member received?	97.5%

- Person/questionnaire level agreement showed very high levels of agreement and no statistically significant difference in the responses to each question

		Re- administered Response	
		Poor (1) or Average (2)	Good (3), Very Good (4), or Excellent (5)
Pilot Response	Poor (1) or Average (2)	98.5%	98.8%
	Good (3), Very Good (4), or Excellent (5)	98.5%	98.7%

- The stability of the facility-level score was tested using bootstrapping with 10,000 repetitions of the facility score calculation.
  - Developer presented the percent of facility resamples where the facility score is within 1 percentage point, 3 percentage points, 5 percentage points, and 10 percentage points of the original score.
- Measure level testing also demonstrated fairly good agreement:
  - 11.5% of bootstrap repetition scores were within 1 percentage point of the score under the original pilot sample
  - 20.9% were within 3 percentage points
  - 30.4% were within 5 percentage points
  - 42.2% were within 10 percentage points

Validity

- Developer resubmitted validity testing from the previous submission in 2016.
- Validity testing of the CoreQ: Long-Stay Family questionnaire included both data element level and score level testing.
- Data element level:

- Exploratory factor analysis (EFA) were used to further refine the pilot instrument. This was an iterative process that included using Eigenvalues from the principal factors (unrotated) and correlation analysis of the individual items. Correlation analysis and a factor analysis conducted
- Testing the Items for the CoreQ: Long-Stay Family Questionnaire
  - The percent of missing responses for the items is very low. The distribution of the summary score is wide. This is important for quality improvement purposes, as nursing facilities can use benchmarks.
  - EFA shows that one factor explains the common variance of the items. A single factor can be interpreted as the only "concept" being measured by those variables. This means that the instrument measures the global concept of satisfaction and not multiple areas of satisfaction. This supports the validity of the CoreQ instrument as measuring a single concept of "customer satisfaction". This testing indicates a high degree of criterion validity.
- Determine if a Sub-Set of Items Could Reliably be Used to Produce an Overall Indicator of Satisfaction (The Core Q: Long-Stay Family Measure).
  - Using the correlation information of the Core Q: Long-Stay Family questionnaire (18 items) and the 3 items representing the CoreQ: Long-Stay Family questionnaire a high degree of correlation was identified. This testing indicates a high degree of criterion validity.
- Face validity evaluated via literature review and review of 12 commonly used satisfaction surveys; also examined face validity of domains and the response scale, using 40 family members in 5 nursing homes. The Flesch-Kinkaid scale was used to determine if the questions were understood. Developer states that the face validity testing shows the following:
  - The literature review shows that domains used in the Pilot CoreQ: Long-Stay Family questionnaire items have a high degree of both face validity and content validity.
  - Patients overall rankings show the general "domain" areas used indicates a high degree of both face validity and content validity. The results show that 100% of residents are able to complete the response format used.
  - The Flesch-Kinkaid scale score achieved for all questions indicates that respondents have a high degree of understanding of the items.

- Score level
  - Convergent validity testing was performed. Developers examined correlation between the three items in the measure and all of the items on the pilot instrument. Also examined correlations between the CoreQ: Long-Stay Family measure scores and i) measures of regulatory compliance and other quality metrics from the Certification and Survey Provider Enhanced Reporting (CASPER) data, ii) several other quality metrics from Nursing Home Compare, iii) risk adjusted discharge to community measure and iv) risk adjusted PointRight® Pro 30™ Rehospitalizations
  - Convergent Validity
    - The correlation of the 3 item CoreQ: Long-Stay Family measure summary score with the overall satisfaction score gave a value of 0.90.
    - The 8 CASPER quality indicators had a low to moderate level correlation with the CoreQ: Long-Stay Family measure.
    - The Nursing Home Compare (NHC) Quality Indicators, Five Star ratings, and staffing levels all had a moderately high levels of correlation and in the direction predicted with the CoreQ: Long-Stay Family measure. These correlations range from ± 0.11 to 0.45.

- The risk-adjusted Discharge to community measure was negatively correlated to the CoreQ: Long-Stay Family measure. The correlations were small ranging from -0.03 to-0.06. This was not as hypothesized which may be related to some SNFs that specialize in long stay, have very low discharge to community rates as admissions do not have a plan to go home.
- The risk-adjusted PointRight® Pro 30™ Rehospitalizations was negatively correlated to the CoreQ: Long-Stay Family measure. The correlations were modest ranging from-0.18 to -0.21, and all of them were statistically significant at the p-value of 0.05. This is expected because lower rehospitalization rates (an indicator of high quality) are associated with higher satisfaction. This was as hypothesized. This testing indicates a reasonable degree of construct validity and convergent validity.

Questions for the Committee regarding reliability:

- Do you have any concerns that the measure can be consistently implemented (i.e., are measure specifications adequate)?
- Do you agree with the NQF staff assessment of the reliability testing provided by the developer?

Questions for the Committee regarding validity:

- Do you have any concerns regarding the validity of the measure (e.g., exclusions, risk-adjustment approach, etc.)?
- Do you agree with the NQF staff assessment of the validity testing provided by thedeveloper?

Preliminary rating for reliability: ☐ **High** ☒ **Moderate** ☐ **Low** ☐ **Insufficient**

Preliminary rating for validity: ☒ **High** ☐ **Moderate** ☐ **Low** ☐ **Insufficient**

Committee Pre-evaluation Comments:
Criteria 2: Scientific Acceptability of Measure Properties (including all 2a, 2b, and 2c)

2a1. Reliability-Specifications: Which data elements, if any, are not clearly defined? Which codes with descriptors, if any, are not provided? Which steps, if any, in the logic or calculation algorithm or other specifications (e.g., risk/case- mix adjustment, survey/sampling instructions) are not clear? What concerns do you have about the likelihood that this measure can be consistently implemented?

- Concern re: implementation in non-English speakers, not clear tool has been translated/validated in any other languages.
- No concerns.
- No concerns.
- Moderate.
- No concerns.
- Agree with moderate rating.
- No change from prior approved measure.
- The measure can be consistently implemented. Do you agree with the NQF staff assessment of the reliability testing provided by the developer? Yes, I agree with theassessment.
- Same data provided – moderate.

2a2. Reliability - Testing: Do you have any concerns about the reliability of the measure?

- No.

- It is unclear if family members placed in subgroups based on the type of care their loved one receives. Considering dementia patients are not asked for their feedback, it may be useful to see if the data is different when family members and the patient answers the same questions or just a family member. This may be another way to substantiate the reliability of family members assessing satisfaction levels in nursing homes.
- No.
- No concerns.
- No concerns.
- No.
- No.
- No.
- No change from endorsed measure.

2b1. Validity -Testing: Do you have any concerns with the testing results?

- No.
- No concerns.
- No concerns.
- High.
- No.
- Same as 2614/2615 but with even more limited disparities data (and still no response bias accounting).
- No change from prior endorsed.
- No.
- No concerns with results but missing data is a concern.

2b2-3. Other Threats to Validity (Exclusions, Risk Adjustment)2b2. Exclusions: Are the exclusions consistent with the evidence? Are any patients or patient groups inappropriately excluded from the measure?2b3. Risk Adjustment: If outcome (intermediate, health, or PRO-based) or resource use performance measure: Is there a conceptual relationship between potential social risk factor variables and the measure focus? How well do social risk factor variables that were available and analyzed align with the conceptual description provided? Are all of the risk- adjustment variables present at the start of care (if not, do you agree with the rationale provided)? Was the risk adjustment (case-mix adjustment) appropriately developed and tested? Do analyses indicate acceptable results? Is an appropriate risk-adjustment strategy included in the measure?

- Non-English speakers likely excluded.
- Appreciate more discussion on this to understand that there was no risk adjustment on the three measures - just a summary to understand the reasoning would be helpful.
- No concerns.
- No threats.
- Acceptable.
- See above re exclusions; measure not risk adjusted for social risk (and disparities analyses do not really address social risk - just age/sex) and does not account for response bias.
- Limited exclusions.
- Exclusions appropriate; no risk adjustment.
- The case-mix lacks evaluation at the care stage and type of payment. This risk-adjustment strategy should be included in the measure or a justification to exclude is needed.

2b4-7. Threats to Validity (Statistically Significant Differences, Multiple Data Sources, Missing Data)2b4. Meaningful Differences: How do analyses indicate this measure identifies meaningful differences about quality? 2b5.

Comparability of performance scores: If multiple sets of specifications: Do analyses indicate they produce comparable results? 2b6. Missing data/no response: Does missing data constitute a threat to the validity of this measure?

- Would appreciate understanding the missed data (identifying who received the surveys and response rates).
- Not significant.
- No concerns.
- No threats.
- No.
- I think non-response bias is a huge potential threat to validity, not missing data among those who respond.
- Limited exclusions.
- No.
- Missing data on care stage constitutes a threat to the validity. Face validity evaluated via literature review and review of 12 commonly used satisfaction surveys and face validity of domains and the response scale, using 40 family members in 5 nursing homes combined with the Flesch-Kinkaid scale lacks data from loved-ones based on the care stage. Care plans are modified in nursing home settings periodically and not knowing the care plan stage may distort the validity of results. It is unclear how the literature reviews evaluated care stage as a component for validity.

Criterion 3. Feasibility

Maintenance measures – no change in emphasis – implementation issues may be more prominent

3. **Feasibility** is the extent to which the specifications including measure logic, require data that are readily available or could be captured without undue burden and can be implemented for performance measurement.

- The collection instrument is the CoreQ: Long Stay Family questionnaire and Resident Assessment Instrument Minimum Data Set (MDS) version 3.0.
- This is a patient satisfaction survey conducted via mailed survey.
- No fees required to use the measure; the developer did not indicate if there are fees associated with the use of the survey.

Questions for the Committee:

- How burdensome is the implementation of the measure to providers? To patients?
- Is the data collection strategy ready to be put into operational use?

Preliminary rating for feasibility: ☐ **High** ☒ **Moderate** ☐ **Low** ☐ **Insufficient**

Committee Pre-evaluation Comments:
Criteria 3: Feasibility

3. Feasibility: Which of the required data elements are not routinely generated and used during care delivery? Which of the required data elements are not available in electronic form (e.g., EHR or other electronic sources)? What are your concerns about how the data collection strategy can be put into operational use?

- In use.
- Estimated costs for the mailings? Other fees? Paper mailing?
- Data is collected vie a mailed survey which is minimal burden to families. No concerns.
- Moderate.
- Agree with measure worksheet.
- Agree with rating of moderate - only 4 questions which is pretty short for PRO.
- Requires a survey, but efforts to obtain resident input is justified.

- 3 items, mailed, feasibility reasonable.
- It is not a burden for patients to complete the survey. However, limiting to mail may not be as efficient or provide options for the loved- one to respond. Loved-ones are typically children of the nursing home patient and may be geared to on-line survey responses.

Criterion 4: Usability and Use

Maintenance measures – increased emphasis – much greater focus on measure use and usefulness, including both impact/improvement and unintended consequences

4a. Use (4a1. Accountability and Transparency; 4a2. Feedback on measure)

4a. Use evaluate the extent to which audiences (e.g., consumers, purchasers, providers, policymakers) use or could use performance results for both accountability and performance improvement activities.

4a.1. Accountability and Transparency. Performance results are used in at least one accountability application within three years after initial endorsement and are publicly reported within six years after initial endorsement (or the data on performance results are available). If not in use at the time of initial endorsement, then a credible plan for implementation within the specified timeframes is provided.

Current uses of the measure

Publicly reported? ☒ **Yes** ☐ **No**

Current use in an accountability program? ☒ **Yes** ☐ **No** ☐ **UNCLEAR**

OR

Planned use in an accountability program? ☒ **Yes** ☐ **No**

- Professional Certification or Recognition Program
  - AHCA Quality Initiative
  - AHCA Quality Awards
- Quality Improvement (external benchmarking to organizations)
  - AHCA NCAL Long Term Care Trend Tracker
- Developer notes that a number of states are implementing the CoreQ survey inside of state incentive programs, including NJ, MA, TN, GA and others.

4a.2. Feedback on the measure by those being measured or others. Three criteria demonstrate feedback: 1) those being measured have been given performance results or data, as well as assistance with interpreting the measure results and data; 2) those being measured and other users have been given an opportunity to provide feedback on the measure performance or implementation; 3) this feedback has been considered when changes are incorporated into the measure

Feedback on the measure by those being measured or others

- Assistance with data and generally understanding the measure is provided through the open-source measure website where the public can find the manual (containing the measure algorithm) as well as the participating vendors (with their direct contacts).
- Feedback on the performance results and data is provided via a quarterly push report, called Top-Line, sent to all members who have access to the Long Term Care Trend Tracker (LTCTT).

- CoreQ report which is updated quarterly directly being fed data from the API that vendors use to upload CoreQ measure scores. Therefore, those that are choosing to participate in this, will automatically see their results on the benchmarking tool.
- All those that enter data or have vendors enter their data, obtain this feedback and resources.

Additional Feedback: None

Questions for the Committee:

- How have the performance results be used to further the goal of high-quality, efficient healthcare?
- How has the measure been vetted in real-world settings by those being measured or others?

4b. Usability (4a1. Improvement; 4a2. Benefits of measure)

4b. Usability evaluate the extent to which audiences (e.g., consumers, purchasers, providers, policymakers) use or could use performance results for both accountability and performance improvement activities.

4b.1 Improvement. Progress toward achieving the goal of high-quality, efficient healthcare for individuals or populations is demonstrated.

Improvement results

- Developer does not provide year over year data but provides some analysis of improvement over time.
- Developer states that they have been actively monitoring improvement of AHCA membership as part of the Quality Initiative

4b2. Benefits vs. harms. Benefits of the performance measure in facilitating progress toward achieving high-quality, efficient healthcare for individuals or populations outweigh evidence of unintended negative consequences to individuals or populations (if such evidence exists).

Unexpected findings (positive or negative) during implementation N/A

Potential harms N/A

Additional Feedback: None

Questions for the Committee:

- How can the performance results be used to further the goal of high-quality, efficient healthcare?
- Do the benefits of the measure outweigh any potential unintended consequences?

Preliminary rating for Usability and use: ☐ **High** ☒ **Moderate** ☐ **Low** ☐ **Insufficient**

Committee Pre-evaluation Comments:
Criteria 4: Usability and Use

4a1. Use - Accountability and Transparency: How is the measure being publicly reported? Are the performance results disclosed and available outside of the organizations or practices whose performance is measured? For maintenance measures - which accountability applications is the measure being used for? For new measures - if not in use at the time of initial endorsement, is a credible plan for implementation provided?4a2. Use - Feedback on the measure: Have those being measured been given performance results or data, as well as assistance with interpreting the measure results and data? Have those being measured or other users been given an opportunity to provide feedback on the measure performance or implementation? Has this feedback has been considered when changes are incorporated into the measure?

- In appropriate use.
- More information on the actual feedback received would be helpful.

- Measure is publicly reported and used in accountability programs. Performance results have been shared with facilities.
- Pass.
- Nothing to add.
- Agree with moderate rating.
- Feedback is available.
- Moderate.
- The data is in use with transparency. The developer states it has been part of the Quality Initiative (https://www.ahcancal.org/quality_improvement/qualityinitiative/Pages/default.aspx).

4b1. Usability – Improvement: How can the performance results be used to further the goal of high-quality, efficient healthcare? If not in use for performance improvement at the time of initial endorsement, is a credible rationale provided that describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations?4b2. Usability – Benefits vs. harms: Describe any actual unintended consequences and note how you think the benefits of the measure outweigh them.

- In use, patient and family perceptions help health systems improve.
- The feedback is critical; would like to understand how the anecdotal comments were addressed/themed.
- Data can be used to make improvements through facility benchmarking by year and national benchmarking. No harms noted.
- Moderate.
- Same as other related measures: I am concerned about costs - direct and indirect - of implementing a new survey.
- I am concerned about low non-white response rate and the fact that measure does not account for response bias.
- Unclear whether has led to improved care.
- Minimal.
- The results of the survey can improve high-quality and efficient healthcare by evaluating the subgroups on three additional levels. One is by payee mix, i.e. private, Medicare, Medicaid , the second is by care stage and the third is by location layout, “place.” By asking about satisfaction of care received, indirectly this is a price and value question. Elderly are targets of overtreatment. Performance results for both accountability and performance improvement activities can benefit the target population. Also, by evaluating care stage and including palliative care, the results may show the changes in satisfaction with life-stage. If there are differences, nursing homes will be able to pinpoint where to focus to increase satisfaction levels. Finally, with new designed nursing home, place, is a data metric that can help identify performance results that become best practices.

Criterion 5: Related and Competing Measures

Related or competing measures

- Developer did not identify any related or competing measures
- Staff did not identify any either
- Developer notes that the “measure does not conceptually address either the same measure focus or the same target population as any other NQF-endorsed measures.”

Harmonization

N/A

Committee Pre-evaluation Comments: Criterion 5: Related and Competing Measures

5. Related and Competing: Are there any related and competing measures? If so, are any specifications that are not harmonized? Are there any additional steps needed for the measures to be harmonized?

- Some competing measures exist.
- Curious whether the three measure (SS, LS, and this measure) could have been harmonized?
- No related or competing measures noted.
- No.
- No.
- N/a
- None.
- Developer notes that the "measure does not conceptually address either the same measure focus or the same target population as any other NQF-endorsed measures."

Public and Member Comments

Comments and Member Support/Non-Support Submitted as of: Month/Day/Year

- **Of the XXX NQF members who have submitted a support/non-support choice:**
  - XX support the measure
  - YY do not support the measure

NQF Staff Scientific Acceptability Evaluation

Scientific Acceptability: Preliminary Analysis Form

Measure Number: 2616

Measure Title: CoreQ: Long-Stay Family Measure

Type of measure:

☐ **Process** ☐ **Process: Appropriate Use** ☐ **Structure** ☐ **Efficiency** ☐ **Cost/Resource Use**
☐ **Outcome** ☒ **Outcome: PRO-PM** ☐ **Outcome: Intermediate Clinical Outcome** ☐ **Composite**

Data Source:

☐ **Claims** ☐ **Electronic Health Data** ☐ **Electronic Health Records** ☐ **Management Data**
☐ **Assessment Data** ☐ **Paper Medical Records** ☒ **Instrument-Based Data** ☐ **Registry Data**
☐ **Enrollment Data** ☐ **Other**

Level of Analysis:

☐ **Clinician: Group/Practice** ☐ **Clinician: Individual** ☒ **Facility** ☐ **Health Plan**
☐ **Population: Community, County or City** ☐ **Population: Regional and State**

☐ **Integrated Delivery System** ☐ **Other**

Measure is:

☐ **New** ☒ **Previously endorsed (**NOTE: Empirical validity testing is expected at time of maintenance review; if not possible, justification is required.)

RELIABILITY: SPECIFICATIONS

1. **Are submitted specifications precise, unambiguous, and complete so that they can be consistently implemented?** ☒ **Yes** ☐ **No**

   Submission document: Developer submission, items S.1-S.22

   NOTE*: NQF staff will conduct a separate, more technical, check of eCQM specifications, value sets, logic, and feasibility, so no need to consider these in your evaluation.*

2. **Briefly summarize any concerns about the measure specifications.**
   - None identified

RELIABILITY: TESTING

Submission document: Specifications, testing attachment questions 1.1-1.4 and section 2a2

3. **Reliability testing level** ☒ **Measure score** ☒ **Data element** ☐ **Neither**
4. **Reliability testing was conducted with the data source and level of analysis indicated for this measure** ☒ **Yes** ☐ **No**
5. If score-level and/or data element reliability testing was NOT conducted or if the methods used were NOT appropriate, was **empirical VALIDITY testing** of patient-level data conducted?

   ☐ **Yes** ☐ **No**

6. **Assess the method(s) used for reliability testing**

   Submission document: Testing attachment, section 2a2.2
   - Developer used the same testing from the 2016 submission
   - Measure developer performed both data element level and score level reliability testing
   - Data element reliability testing included test-retest analysis on a convenience sample of 100 patients
     - Developer calculated the distribution of responses by question in the original round of surveys, and then again in the follow-up surveys (they should be distributed similarly);
     - Developer subsequently calculated the correlations between the original and follow-up responses by question (they should be highly correlated).
   - The stability of the facility-level score was tested using bootstrapping with 10,000 repetitions of the facility score calculation.
     - Developer presented the percent of facility resamples where the facility score is within 1 percentage point, 3 percentage points, 5 percentage points, and 10 percentage points of the original score.

7. **Assess the results of reliability testing**

   Submission document: Testing attachment, section 2a2.3
   - Data element testing showed very high levels of agreement and no statistically significant difference in the responses to each question between the original and re-test results. Average Percent Agreement between 1st and 2nd Administered Surveys:

Questionnaire Item	Percent Agreement

4. In recommending this facility to your friends and family, how would you rate it overall?	97.1%
5. Overall, how would you rate the staff?	98.8%
6. How would you rate the care your family member received?	97.5%

- Person/questionnaire level agreement showed very high levels of agreement and no statistically significant difference in the responses to each question

		Re- administered Response	
		Poor (1) or Average (2)	Good (3), Very Good (4), or Excellent (5)
Pilot Response	Poor (1) or Average (2)	98.5%	98.8%
	Good (3), Very Good (4), or Excellent (5)	98.5%	98.7%

- Measure level testing also demonstrated fairly good agreement:
  - 11.5% of bootstrap repetition scores were within 1 percentage point of the score under the original pilot sample
  - 20.9% were within 3 percentage points
  - 30.4% were within 5 percentage points
  - 42.2% were within 10 percentage points

8. Was the method described and appropriate for assessing the proportion of variability due to real differences among measured entities? NOTE: If multiple methods used, at least one must be appropriate.

   Submission document: Testing attachment, section 2a2.2

   ☒ **Yes**

   ☐ **No**

   ☐ **Not applicable** (score-level testing was not performed)

9. Was the method described and appropriate for assessing the reliability of ALL critical data elements?

   Submission document: Testing attachment, section 2a2.2

   ☒ **Yes**

   ☐ **No**

   ☐ **Not applicable** (data element testing was not performed)

10. **OVERALL RATING OF RELIABILITY** (taking into account precision of specifications and all testing results):

    ☐ **High** (NOTE: Can be HIGH only if score-level testing has been conducted)

    ☒ **Moderate** (NOTE: Moderate is the highest eligible rating if score-level testing has not been conducted)

    ☐ **Low** (NOTE: Should rate LOW if you believe specifications are NOT precise, unambiguous, and complete or if testing methods/results are not adequate)

    ☐ **Insufficient** (NOTE: Should rate INSUFFICIENT if you believe you do not have the information you need to make a rating decision)

11. **Briefly explain rationale for the rating of OVERALL RATING OF RELIABILITY and any concerns you may have with the approach to demonstrating reliability.**
    - Clear specifications; appropriately tested with good results.

VALIDITY: ASSESSMENT OF THREATS TO VALIDITY

12. **Please describe any concerns you have with measure exclusions.**

    Submission document: Testing attachment, section 2b2.

    - No concerns identified by staff; exclusions appear appropriate
    - Developer was advised by an expert panel to exclude patients who
        - Died
        - Discharged to a hospital
        - Durable power of attorney for all decisions
        - Hospice
        - Low BIMS scores
        - Left against medical advice
    - Developer noted that these exclusions are often used with satisfaction surveys. Developer was not able to calculate the mean CoreQ: Long-Stay Family scores with and without the exclusions.
    - The first exclusion analysis included responses from 10,319 patients (described elsewhere).
        - The exclusions were tracked and included 1,970 patients (19.1%) discharged to the hospital; 5 (0.05%) discharged to hospice; and, 10 (0.09%) expired.
        - The exclusions of the patients that had left against medical advice or had a durable power of attorney were not tracked in this sample.
    - The second exclusion analysis included 100 nursing homes and data from the first 1000 patients that were included in this initiative:
        - 791 patients (7.9%) were discharged to the hospital; 48 (0.48%) were discharged to hospice; 41 (0.41%) expired; 23 (0.23%) left against medical advice; and 46 (0.46%) had a durable power of attorney.

13. **Please describe any concerns you have regarding the ability to identify meaningful differences in performance.**

    Submission document: Testing attachment, section 2b4.

    - Developer provided a histogram of performance by providers, demonstrating a normal distribution of performance and a moderate IQR:

	min	p25	p50	p75	max
Summary Score	25.0	75.0	82.5	88.6	100.0

    - The distribution of summary scores is quite wide, indicating the scores can be used to differentiate facilities of varying levels of customer satisfaction quality.
    - No concerns from staff.

14. **Please describe any concerns you have regarding comparability of results if multiple data sources or methods are specified.**
    Submission document: Testing attachment, section 2b5.
    - N/A

15. **Please describe any concerns you have regarding missing data.**

Submission document: Testing attachment, section 2b6.

- Developer describes the following approach to assessing missing data:
    - In calculating the CoreQ: Long-Stay Family measure if 1 item of 3 is missing then imputation is used, and if 2 (or more) of the 3 items is missing, the respondent is excluded. The imputation method consists of using the average score from the items answered. The testing to identify the extent and distribution of missing data included examining the frequency of missing responses for each of the 3 CoreQ: Long-Stay Family questionnaire items and the extent and distribution of missing data for more than one missing response for the items.
- The developer states missing data was uncommon (4.25-4.31% each for the three questions, and 3.8% for two or more missing responses). For patients with one missing data point (from the 3 items included in the CoreQ: Long Stay Family questionnaire) imputation is utilized (representing the average value from the other available data points); imputation was used in 3.5% of cases.
- No concerns from NQF staff.

16. Risk Adjustment

16a. **Risk-adjustment method** ☒ **None** ☐ **Statistical model** ☐ **Stratification**

16b. **If not risk-adjusted, is this supported by either a conceptual rationale or empirical analyses?**

☒ Yes ☐ No ☐ Not applicable

16c. **Social risk adjustment:**

16c.1 Are social risk factors included in risk model? ☒ Yes ☐ No ☐ Not applicable

16c.2 Conceptual rationale for social risk factors included? ☒ Yes ☐ No

16c.3 Is there a conceptual relationship between potential social risk factor variables and the measure focus? ☐ Yes ☒ No

16d. **Risk adjustment summary:**

16d.1 All of the risk-adjustment variables present at the start of care? ☐ Yes ☐ No

16d.2 If factors not present at the start of care, do you agree with the rationale provided for inclusion? ☐ Yes ☐ No

16d.3 Is the risk adjustment approach appropriately developed and assessed? ☐ Yes ☐ No

16d.4 Do analyses indicate acceptable results (e.g., acceptable discrimination and calibration) ☐ Yes ☐ No

16d.5. Appropriate risk-adjustment strategy included in the measure? ☐ Yes ☐ No

16e. **Assess the risk-adjustment approach**

- Developer performed analyses that demonstrated that the educational makeup of the respondents or the racial makeup of the respondents does not influence the measure.

VALIDITY: TESTING

17. Validity testing level: ☐ **Measure score** ☐ **Data element** ☒ **Both**

18. Method of establishing validity of the measure score:

☒ **Face validity**

☒ **Empirical validity testing of the measure score**

☐ **N/A (score-level testing not conducted)**

19. Assess the method(s) for establishing validity

Submission document: Testing attachment, section 2b2.2

- Developer resubmitted validity testing from the previous submission in 2016.

- Validity testing of the CoreQ: Long-Stay Family questionnaire included both data element level and score level testing.
- Data element level:
    - Exploratory factor analysis (EFA) were used to further refine the pilot instrument. This was an iterative process that included using Eigenvalues from the principal factors (unrotated) and correlation analysis of the individual items.
    - Correlation analysis and a factor analysis conducted
    - Face validity evaluated via literature review and review of 12 commonly used satisfaction surveys; also examined face validity of domains and the response scale, using 40 family members in 5 nursing homes. The Flesch-Kinkaid scale was used to determine if the questions were understood.
- Measure score level
    - Convergent validity testing was performed. Developers examined correlation between the three items in the measure and all of the items on the pilot instrument. Also examined correlations between the CoreQ: Long-Stay Family measure scores and i) measures of regulatory compliance and other quality metrics from the Certification and Survey Provider Enhanced Reporting (CASPER) data, ii) several other quality metrics from Nursing Home Compare, iii) risk adjusted discharge to community measure and iv) risk adjusted PointRight® Pro 30™ Rehospitalizations

20. Assess the results(s) for establishing validity

Submission document: Testing attachment, section 2b2.3

- Data element level
    - Testing the Items for the CoreQ: Long-Stay Family Questionnaire
        - The percent of missing responses for the items is very low. The distribution of the summary score is wide. This is important for quality improvement purposes, as nursing facilities can use benchmarks.
        - EFA shows that one factor explains the common variance of the items. A single factor can be interpreted as the only "concept" being measured by those variables. This means that the instrument measures the global concept of satisfaction and not multiple areas of satisfaction. This supports the validity of the CoreQ instrument as measuring a single concept of "customer satisfaction". This testing indicates a high degree of criterion validity.
    - Determine if a Sub-Set of Items Could Reliably be Used to Produce an Overall Indicator of Satisfaction (The Core Q: Long-Stay Family Measure).
        - Using the correlation information of the Core Q: Long-Stay Family questionnaire (18 items) and the 3 items representing the CoreQ: Long-Stay Family questionnaire a high degree of correlation was identified. This testing indicates a high degree of criterion validity.
    - Developer states that the face validity testing shows the following:
        - The literature review shows that domains used in the Pilot CoreQ: Long-Stay Family items have a high degree of both face validity and content validity.
        - Patients overall rankings show the general "domain" areas used indicates a high degree of both face validity and content validity. The results show that 100% of residents are able to complete the response format used.
        - The Flesch-Kinkaid scale score achieved for all questions indicates that respondents have a high degree of understanding of the items.

- Score level
    - Convergent Validity
        - The correlation of the 3 item CoreQ: Long-Stay Family measure summary score with the overall satisfaction score gave a value of 0.90.
        - The 8 CASPER quality indicators had a low to moderate level correlation with the CoreQ: Long-Stay Family measure.
        - The Nursing Home Compare (NHC) Quality Indicators, Five Star ratings, and staffing levels all had a moderately high levels of correlation and in the direction predicted with the CoreQ: Long-Stay Family measure. These correlations range from ± 0.11 to 0.45.
        - The risk-adjusted Discharge to community measure was negatively correlated to the CoreQ: Long-Stay Family measure. The correlations were small ranging from -0.03 to -0.06. This was not as hypothesized which may be related to some SNFs that specialize in long stay, have very low discharge to community rates as admissions do not have a plan to go home.
        - The risk-adjusted PointRight® Pro 30™ Rehospitalizations was negatively correlated to the CoreQ: Long-Stay Family measure. The correlations were modest ranging from -0.18 to -0.21, and all of them were statistically significant at the p-value of 0.05. This is expected because lower rehospitalization rates (an indicator of high quality) are associated with higher satisfaction. This was as hypothesized. This testing indicates a reasonable degree of construct validity and convergent validity.

21. Was the method described and appropriate for assessing conceptually and theoretically sound hypothesized relationships?

Submission document: Testing attachment, section 2b1.

☒ **Yes**

☐ **No**

☐ **Not applicable** (score-level testing was not performed)

22. Was the method described and appropriate for assessing the accuracy of ALL critical data elements?

NOTE that data element validation from the literature is acceptable.

Submission document*: Testing attachment, section 2b1.*

☒ **Yes**

☐ **No**

☐ **Not applicable** (data element testing was not performed)

23. OVERALL RATING OF VALIDITY taking into account the results and scope of all testing and analysis of potential threats.

☒ **High** (NOTE: Can be HIGH only if score-level testing has been conducted)

☐ **Moderate** (NOTE: Moderate is the highest eligible rating if score-level testing has NOT been conducted)

☐ **Low** (NOTE: Should rate LOW if you believe that there are threats to validity and/or relevant threats to validity were not assessed OR if testing methods/results are not adequate)

☐ **Insufficient** (NOTE: For instrument-based measures and some composite measures, testing at both the score level and the data element level is required; if not conducted, should rate as INSUFFICIENT.)

24. Briefly explain rationale for rating of OVERALL RATING OF VALIDITY and any concerns you may have with the developers' approach to demonstrating validity.

- Developer used appropriate tests for data element and score level testing. Results were moderate to strong.
- No concerns from staff

ADDITIONAL RECOMMENDATIONS

25. If you have listed any concerns in this form, do you believe these concerns warrant further discussion by the multi-stakeholder Standing Committee? If so, please list those concerns below.

- No concerns from staff

Developer Submission

Additional evaluations and submission materials attachments…

1. Evidence and Performance Gap – Importance to Measure and Report

Extent to which the specific measure focus is evidence-based, important to making significant gains in healthcare quality, and improving health outcomes for a specific high-priority (high-impact) aspect of healthcare where there is variation in or overall less-than-optimal performance. ***Measures must be judged to meet all sub criteria to pass this criterion and be evaluated against the remaining criteria.***

1a. Evidence to Support the Measure Focus – See attached Evidence Submission Form

CoreQ_Family_Evidence_Final-635950343462644989.docx

1a.1 For Maintenance of Endorsement: Is there new evidence about the measure since the last update/submission?

Do not remove any existing information. If there have been any changes to evidence, the Committee will consider the new evidence. Please use the most current version of the evidence attachment (v7.1). Please use red font to indicate updated evidence.

No

1a. Evidence (subcriterion 1a)

Measure Number (*if previously endorsed*)**:** 2616

Measure Title: CoreQ: Long-Stay Family Measure

Date of Submission: 4/9/2020

1a.1.This is a measure of: (*should be consistent with type of measure entered in De.1*)

Outcome

☐ Outcome: Click here to name the health outcome

☒ Patient-reported outcome (PRO): Customer Satisfaction

PROs include HRQoL/functional status, symptom/symptom burden, experience with care, health-related behaviors. (A PRO-based performance measure is not a survey instrument. Data may be collected using a survey instrument to construct a PRO measure.)

☐ Intermediate clinical outcome (*e.g., lab value*): Click here to name the intermediate outcome

☐ Process: Click here to name what is being measured

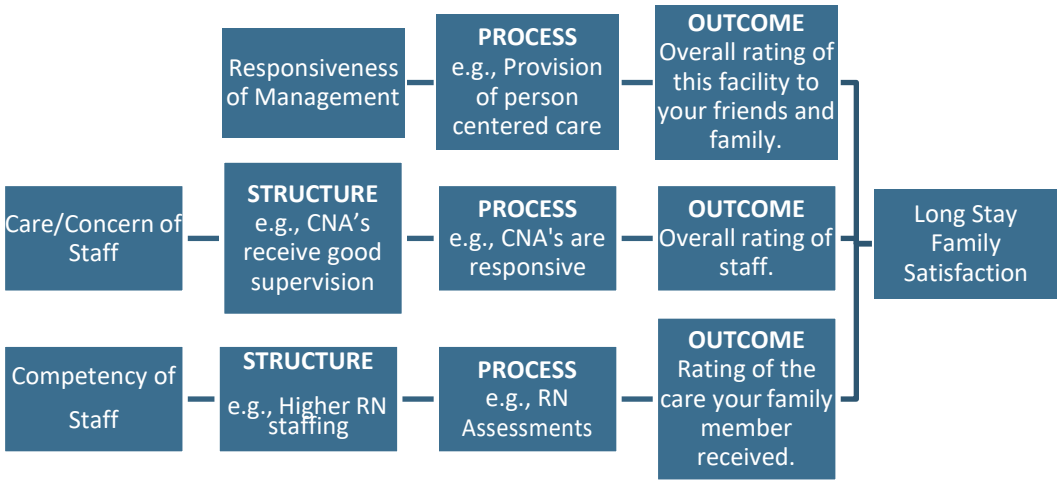
☐ Appropriate use measure: Click here to name what is being measured

☐ Structure: Click here to name the structure

☐ Composite: Click here to name what is being measured

1a.2 LOGIC MODEL Diagram or briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient's health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.

Family satisfaction can be looked at as the outcome for a number of structures and processes within skilled nursing care centers. Drivers for satisfaction include competency of staff, care/concern of staff, and responsiveness of management (National Research Corporation, 2014).



Castle, N.G. (2007). A literature review of satisfaction instruments used in long-term care settings. Journal of Aging and Social Policy, 19(2), 9-42.

Donabedian, A. (1985). Twenty years of research on the quality of medical care: 1964-1984. Evaluation and the Health Professions, 8, 243-65.

Donabedian, A. (1988). The quality of care. Journal of the American Medical Association, 260, 1743-1748.

Donabedian, A. (1996). Evaluating the quality of medical care. Milbank Memorial Fund Quarterly, 44(1), 166-203.

Glass, A. (1991). Nursing home quality: A framework for analysis. Journal of Applied Gerontology, 10(1), 5-18.

National Research Corporation. (2014). 2014 National Research Report Empowering Customer-Centric Healthcare Across the Continuum.

1a.3 Value and Meaningfulness: IF this measure is derived from patient report, provide evidence that the target population values the measured ***outcome, process, or structure*** and finds it meaningful. (Describe how and from whom their input was obtained.)

The meaningfulness of the measure was determined using family members of residents (n=40) in five nursing facilities in the Pittsburgh region. All family members were cognitively intact. Permission to approach family members of residents was given by facility management. Most family members (40 of 49) agreed to be interviewed and were all part of the resident council (the initiative was presented to each resident council). An informed consent was signed by each family member. Apart from the informed consent, the interviews were anonymous. The interviews were not recorded, but notes were taken by the interviewer, Dr. Nicholas Castle. The interviews were conducted at sites that ensured confidentiality (e.g., private areas) and no staff were in the vicinity. Interviews were

conducted in a standardized format with the same script for each family member. The interviews were used to assess the importance of domains used in the satisfaction measure. The items assessing overall satisfaction were shown to be extremely important using a scale from 1 as most important to 22 as least important. Respondents could pick a maximum of 5 questions as most important. The CoreQ questions were ranked as follows:

1. In recommending this facility to your friends and family, how would you rate it overall? Of the 40 respondents, 36 ranked this question as most important.
2. Overall, how would you rate the staff? Of the 40 respondents, 37 ranked this question as most important.
3. How would you rate the care your family member? Of the 40 respondents, 36 ranked this question as most important.

****RESPOND TO ONLY ONE SECTION BELOW -EITHER 1a.2, 1a.3 or 1a.4) ****

1a.2 FOR OUTCOME MEASURES including PATIENT REPORTED OUTCOMES - Provide empirical data demonstrating the relationship between the outcome (or PRO) to at least one healthcare structure, process, intervention, or service.

The table below provides the structure and process drivers that influence long stay family satisfaction.

Authors	***Structure or Process and Driver of Family Satisfaction***	***Summary Statement showing structures, processes, interventions and services and influence short-stay discharge satisfaction.***	***Citation***
Reinhardt, et al., 2014	Process Care/concern of staff and competency of staff	Conversations regarding end-of-life care options with family members show higher overall satisfaction with care and more use of advance directives.	Reinhardt, J.P., Chichin, E., Posner, L., & Kassabian, S. (2014). Vital conversations with family in the nursing home: preparation for end-stage dementia care. *Journal Of Social Work In End-Of-Life & Palliative Care*. 10(2):112-26.
Lin et al., 2014.	Process Competency of staff	Significant difference for overall resident satisfaction with higher perceived service quality.	Lin, J., Hsiao, C.T., Glen, R., Pai, J.Y., & Zeng, S.H. (2014). Perceived service quality, perceived value, overall satisfaction and happiness of outlook for long-term care institution residents. *Health Expectations*. 17(3):311-20.
Van Uden et al. (2013).	Process	For nursing home residents with dementia improved symptom	van Uden, N., Van den Block, L., van der Steen, J.T., Onwuteaka-Philipsen, B.D., Vandervoort, A., Vander Stichele, R., & Deliens, L. (2013). Quality of dying of

	Responsiveness of management	management is associated with higher satisfaction with care.	nursing home residents with dementia as judged by relatives. *International Psychogeriatrics.* 25(10):1697-707.
Li et al. (2013).	Structure Responsiveness of management	Higher overall nursing home satisfaction scores were associated with higher nursing staffing levels and fewer deficiency citations.	Li, Y., Cai, X., Ye, Z., Glance, L.G., Harrington, C., & Mukamel, D.B. (2013). Satisfaction with Massachusetts nursing home care was generally high during 2005-09, with some variability across facilities. *Health Affairs*. 32(8):1416-25.
Crogan et al. (2013).	Process Responsiveness of management	Improvements in a nursing home food delivery system were associated with higher overall satisfaction and improved resident health.	Crogan, N.L., Dupler, A.E., Short, R., & Heaton, G. (2013). Food choice can improve nursing home resident meal service satisfaction and nutritional status. *Journal of Gerontological Nursing*. 39(5):38-45.
Authors	***Structure or Process and Driver of Family Satisfaction***	***Summary Statement showing structures, processes, interventions and services and influence short-stay discharge satisfaction.***	***Citation***
Brownie & Nancarrow (2013).	Structure & Process Responsiveness of management and care/concern of staff	Implementation of person-centered care is associated with higher levels of satisfaction.	Brownie, S. & Nancarrow, S. (2013). Effects of person-centered care on residents and staff in aged-care facilities: a systematic review. *Clinical Interventions In Aging*. 8:1-10.
Kleijer et al., 2014	Process Competency of staff	Residents perceive a low level of quality of care in centers where there is a high level of antipsychotic use.	Kleijer, B., Van Marum, R., Frijeters, D., Jansen, P., Ribbe, M., Egberts, A., & Heerdink, E. (2014). Variability between nursing homes in prevalence of antipsychotic use in patients with dementia. *International Psychogeriatrics,* 26(3), 363-371.
Bishop et al., 2008	Structure Care/concern of staff	CNA's that receive a good supervision are more committed to staying in their jobs. This commitment in turn leads to positive	Bishop, C., Weinberg, D., Leutz, W., Dossa, A., Pfefferle, S., & Zincavage, R. (2008). Nursing assistants' job commitment: Effect of nursing home organizational factors and

		relationships with resident and higher resident satisfaction.	impact on resident well-being. *The Gerontologist*, 48(1), 36-45.
Kayser-Jones et al., 1999	Structure Responsiveness of management and care/concern of staff	Higher levels of RN and LPN staffing have been associated with better quality outcomes such as ADL maintenance and hydration. Centers that have a family council in addition to the required resident council have higher resident satisfaction.	Kayser-Jones, J., Schell, E.S., Poter, C., Barbaccia, J.C., & Shaw, H. (1999). Factors contributing to dehydration in nursing homes: Inadequate staffing and lack of professional supervision. *Journal of the American Geriatrics Society*, 47(10), 1187-1194.

Castle, N.G. (2007). A literature review of satisfaction instruments used in long-term care settings. *Journal of Aging and Social Policy*, 19(2), 9-42.

Donabedian, A. (1985). Twenty years of research on the quality of medical care: 1964-1984. *Evaluation and the Health Professions,* 8, 243-65.

Donabedian, A. (1988). The quality of care. *Journal of the American Medical Association,* 260, 1743-1748.

Donabedian, A. (1996). Evaluating the quality of medical care. *Milbank Memorial Fund Quarterly*, 44(1), 166-203.

Glass, A. (1991). Nursing home quality: A framework for analysis. *Journal of Applied Gerontology*, 10(1), 5-18.

Kleijer, B., Van Marum, R., Frijeters, D., Jansen, P., Ribbe, M., Egberts, A., & Heerdink, E. (2014). Variability between nursing homes in prevalence of antipsychotic use in patients with dementia. *International Psychogeriatrics,* 26(3), 363-371.

Bishop, C., Weinberg, D., Leutz, W., Dossa, A., Pfefferle, S., & Zincavage, R. (2008). Nursing assistants' job commitment: Effect of nursing home organizational factors and impact on resident well-being. *The Gerontologist*, 48(1), 36-45.

Lucas, J.A., Lowe, T.J., Robertson, B., Akincigil, A., Sambamoorthi, Q., Bilder, S., Paek, E.K., & Crystal, S. (2007). The relationship between organizational factors and resident satisfaction with nursing home care and life. *Journal of Aging & Social Policy,* 19(2), 125-151.

Kayser-Jones, J., Schell, E.S., Poter, C., Barbaccia, J.C., & Shaw, H. (1999). Factors contributing to dehydration in nursing homes: Inadequate staffing and lack of professional supervision. *Journal of the American Geriatrics Society*, 47(10), 1187-1194.

Kane, R.L., & Kane, R.A. (2001). What older people want from long-term care, and how can they get it. *Health Affairs*, 20(6), 114-127.

Westat. Resident experience with nursing home care: A literature review.

1a.3. SYSTEMATIC REVIEW(SR) OF THE EVIDENCE (for INTERMEDIATE OUTCOME, PROCESS, OR STRUCTURE PERFORMANCE MEASURES, INCLUDING THOSE THAT ARE INSTRUMENT-BASED) If the evidence is not based on a systematic review go to section 1a.4) If you wish to include more than one systematic review, add additional tables.

What is the source of the systematic review of the body of evidence that supports the performance measure? A systematic review is a scientific investigation that focuses on a specific question and uses explicit, prespecified scientific methods to identify, select, assess, and summarize the findings of similar but separate studies. It may include a quantitative synthesis (meta-analysis), depending on the available data. (IOM)

☐ Clinical Practice Guideline recommendation (with evidence review)

☐ US Preventive Services Task Force Recommendation

☐ Other systematic review and grading of the body of evidence (*e.g., Cochrane Collaboration, AHRQ Evidence Practice Center*)

☐ Other

Source of Systematic Review: • **Title** • **Author** • **Date** • **Citation, including page number** • **URL**	
Quote the guideline or recommendation verbatim about the process, structure or intermediate outcome being measured. If not a guideline, summarize the conclusions from the SR.	
Grade assigned to the **evidence** associated with the recommendation with the definition of the grade	
Provide all other grades and definitions from the evidence grading system	
Grade assigned to the **recommendation** with definition of the grade	
Provide all other grades and definitions from the recommendation grading system	

Body of evidence: • Quantity – how many studies? • Quality – what type of studies?	
Estimates of benefit and consistency across studies	
What harms were identified?	
Identify any new studies conducted since the SR. Do the new studies change the conclusions from the SR?	

1a.4 OTHER SOURCE OF EVIDENCE

If source of evidence is NOT from a clinical practice guideline, USPSTF, or systematic review, please describe the evidence on which you are basing the performance measure.

1a.4.1 Briefly SYNTHESIZE the evidence that supports the measure. A list of references without a summary is not acceptable.

1a.4.2 What process was used to identify the evidence?

1a.4.3. Provide the citation(s) for the evidence.

1b. Performance Gap

Demonstration of quality problems and opportunity for improvement, i.e., data demonstrating:

- considerable variation, or overall less-than-optimal performance, in the quality of care across providers; and/or
- Disparities in care across population groups.

1b.1. Briefly explain the rationale for this measure *(e.g., how the measure will improve the quality of care, the benefits or improvements in quality envisioned by use of this measure)*

If a COMPOSITE (e.g., combination of component measure scores, all-or-none, any-or-none), SKIP this question and answer the composite questions.

Collecting satisfaction information from skilled nursing facility (SNF) patients is more important now than ever. We have seen a philosophical change in healthcare that now includes the patient and their preferences as an integral part of the system of care. The Institute of Medicine (IOM) endorses this change by putting the patient as central to the care system (IOM, 2001). For this philosophical change to person-centered care to succeed, we have to be able to measure patient satisfaction for these three reasons:

(1) Measuring satisfaction is necessary to understand patient preferences.

(2) Measuring and reporting satisfaction with care helps patients and their families choose and trust a health care facility.

(3) Satisfaction information can help facilities improve the quality of care they provide.

The implementation of person-centered care in SNFs has already begun, but there is still room for improvement. The Centers for Medicare and Medicaid Services (CMS) demonstrated interest in consumers' perspective on quality of care by supporting the development of the Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey for patients in nursing facilities (Sangl et al., 2007).

Further supporting person-centered care and resident satisfaction are ongoing organizational change initiatives. These include: the Advancing Excellence in America's Nursing Homes campaign (2006), which lists person-centered care as one of its goals; Action Pact, Inc., which provides workshops and consultations with nursing facilities on how to be more person-centered through their physical environment and organizational structure; and Eden Alternative, which uses education, consultation, and outreach to further person-centered care in nursing facilities. All of these initiatives have identified the measurement of resident satisfaction as an essential part in making, evaluating, and sustaining effective clinical and organizational changes that ultimately result in a person-centered philosophy of care.

The importance of measuring resident satisfaction as part of quality improvement cannot be stressed enough. Quality improvement initiatives, such as total quality management (TQM) and continuous quality improvement (CQI), emphasize meeting or exceeding "customer" expectations. William Deming, one of the first proponents of quality improvement, noted that "one of the five hallmarks of a quality organization is knowing your customer's needs and expectations and working to meet or exceed them" (Deming, 1986). Measuring resident satisfaction can help organizations identify deficiencies that other quality metrics may struggle to identify, such as communication between a patient and the provider.

As part of the Department of Commerce renowned Baldrige Criteria for organizational excellence, applicants are assessed on their ability to describe the links between their mission, key customers, and strategic position. Applicants are also required to show evidence of successful improvements resulting from their performance improvement system. An essential component of this process is the measurement of customer, or resident, satisfaction (Shook & Chenoweth, 2012).

The CoreQ: Long Stay Family questionnaire can strategically help nursing facilities achieve organizational excellence and provide high quality care by being a tool that targets a unique and growing patient population. Moreover, improving the care for long stay nursing home patients is tenable. A review of the literature on satisfaction surveys in nursing facilities (Castle, 2007) concluded that substantial improvements in resident satisfaction could be made in many nursing facilities by improving care (i.e., changing either structural or process aspects of care). This was based on satisfaction scores ranging from 60 to 80% on average.

It is worth noting, few other generalizations could be made because existing instruments used to collect satisfaction information are not standardized. Thus, benchmarking scores and comparison scores (i.e., best in class) were difficult to establish. The CoreQ: Long Stay Family measure has considerable relevance in establishing benchmarking scores and comparison scores.

This measure's relevance is furthered by recent federal legislative actions. The Affordable Care Act of 2010 requires the Secretary of Health and Human Services (HHS) to implement a Quality Assurance & Performance Improvement Program (QAPI) within nursing facilities. This means all nursing facilities have increased accountability for continuous quality improvement efforts. In CMS's "QAPI at a Glance" document there are references to customer-satisfaction surveys and organizations utilizing them to identify opportunities for improvement. Lastly, the new "Medicare and Medicaid Programs; Reform of Requirements for Long-Term Care Facilities" proposed rule includes language purporting the importance of satisfaction and measuring satisfaction. CMS states "CMS is committed to strengthening and modernizing the nation's health care system to provide access to high quality care and improved health at lower cost. This includes improving the patient experience of care, both quality and satisfaction, improving the health of populations, and reducing the per capita cost of health care." There are also other references in the proposed rule speaking to improving resident satisfaction and increasing person-centered care (Medicare and Medicaid Programs; Reform of Requirements for Long-Term Care Facilities, 2015). The CoreQ: Long Stay Family measure has considerable applicability to both of these initiatives.

Castle, N.G. (2007). A literature review of satisfaction instruments used in long-term care settings. Journal of Aging and Social Policy, 19(2), 9-42.

CMS (2009). Skilled Nursing Facilities Non Swing Bed - Medicare National Summary. http://www.cms.hhs.gov/MedicareFeeforSvcPartsAB/Downloads/NationalSum2007.pdf.

CMS, University of Minnesota, and Stratis Health. QAPI at a Glance: A step by step guide to implementing quality assurance and performance improvement (QAPI) in your nursing home. https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/QAPI/Downloads/QAPIAtaGlance.pdf.

Deming, W.E. (1986). Out of the crisis. Cambridge, MA. Massachusetts Institute of Technology, Center for Advanced Engineering Study.

Institute of Medicine (2001). Improving the Quality of Long-Term Care. National Academy Press, Washington, D.C., 2001.

Medicare and Medicaid Programs; Reform of Requirements for Long-Term Care Facilities; Department of Health and Human Services. 80 Fed. Reg. 136 (July 16, 2015) (to be codified at 42 CFR Parts 405, 431, 447, et al.).

MedPAC. (2015). Report to the Congress: Medicare Payment Policy. http://www.medpac.gov/documents/reports/mar2015_entirereport_revised.pdf?sfvrsn=0.

Sangl, J., Bernard, S., Buchanan, J., Keller, S., Mitchell, N., Castle, N.G., Cosenza, C., Brown, J., Sekscenski, E., and Larwood, D. (2007). The development of a CAHPS instrument for nursing home residents. Journal of Aging and Social Policy, 19(2), 63-82.

Shook, J., & Chenoweth, J. (2012, October). 100 Top Hospitals CEO Insights: Adoption Rates of Select Baldrige Award Practices and Processes. Truven Health Analytics. http://www.nist.gov/baldrige/upload/100-Top-Hosp-CEO-Insights-RB-final.pdf.

1b.2. Provide performance scores on the measure as specified (current and over time) at the specified level of analysis. *(This is required for maintenance of endorsement. Include mean, std dev, min, max, interquartile range, scores by decile. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities include.) This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.*

(Updated for Maintenance of Endorsement)

Below are the statistics requested in this question broken out but quarter, each quarter representing a rolling 12-month of data, akin to measures in the public domain. Section 1 contains data from Long Term Care Trend Tracker, whereas Section 2 contains data from a vendor on facilities in MA, NJ, PA, IL, NY (not included in Section 1).

For a more user-friendly view of these stats, please see appendix Table 1b.2.e and 1.b.2f (section 1 and 2, respectively).

Section 1: Data from Long Term Care Trend Tracker where all vendors upload CoreQ data

Survey dates in this dataset containing 16 quarters of data ranged from August 2016 to December 2019. The data is from Long Term Care Trend Tracker (https://www.ahcancal.org/research_data/trendtracker/Pages/default.aspx) where vendors and member user can upload data, and vendors can also upload non-member data.

2016Q1:

Nr of SNFs: 78 Mean Satisfaction Rate: 87.53% Standard Deviation: 13.94% Min:29.40% Max: 100.00% Q1: 78.60% Q3: 100.00% IQR: 21.40% Total Nr. Of Respondents: 1460 Decile 1: 66.70% Decile 2: 76.50% Decile 3: 83.30% Decile 4: 87.50% Decile 5: 91.40% Decile 6: 94.70% Decile 7: 100.00% Decile 8: 100.00% Decile 9: 100.00% Decile 10: 100.00%

2016Q2

Nr of SNFs:113 Mean Satisfaction Rate: 90.77% Standard Deviation: 12.68% Min:29.40% Max:100.00% Q1:86.70% Q3:100.00% IQR:13.30% Total Nr. Of Respondents:1995 Decile 1:72.70% Decile 2:85.70%Decile 3:87.50% Decile 4:91.90% Decile 5: 94.10% Decile 6:100.00% Decile 7:100.00% Decile 8:100.00% Decile 9:100.00% Decile 10:100.00%

2016Q3

Nr of SNFs:344 Mean Satisfaction Rate: 84.34% Standard Deviation:16.14% Min:0.00% Max: 100.00% Q1:77.80% Q3:97.00% IQR:19.20% Total Nr. Of Respondents: 7750 Decile 1:63.60% Decile 2:74.10% Decile 3:80.80% Decile 4:84.00% Decile 5:88.90% Decile 6:91.70% Decile 7:94.10% Decile 8:100.00% Decile 9: 100.00% Decile 10:100.00%

2016Q4

Nr of SNFs:909 Mean Satisfaction Rate: 82.01% Standard Deviation:16.50% Min:0.00% Max: 100.00% Q1:75.00% Q3:93.30% IQR:18.30% Total Nr. Of Respondents: 16877 Decile 1:62.50% Decile 2:70.00% Decile 3:76.90% Decile 4: 81.60% Decile 5:85.70% Decile 6:88.90% Decile 7:92.00% Decile 8:96.20% Decile 9:100.00% Decile 10:100.00%

2017Q1

Nr of SNFs: 1133 Mean Satisfaction Rate: 82.03% Standard Deviation: 16.01% Min: 0.00% Max: 100.00% Q1: 75.00% Q3: 93.30% IQR: 18.30% Total Nr. Of Respondents: 24003 Decile 1: 62.50% Decile 2: 70.70% Decile 3: 76.90% Decile 4: 81.30% Decile 5: 85.20% Decile 6: 88.90% Decile 7: 91.70% Decile 8: 95.20% Decile 9: 100.00% Decile 10: 100.00%

2017Q2

Nr of SNFs: 1230 Mean Satisfaction Rate: 81.97% Standard Deviation:16.20% Min: 0.00% Max:100.00% Q1:74.10% Q3:93.30% IQR:19.20% Total Nr. Of Respondents: 25529 Decile 1:62.50% Decile 2:70.25% Decile 3:76.70% Decile 4:81.30%Decile 5:85.20% Decile 6:88.90% Decile 7:91.70% Decile 8:95.80% Decile9:100.00% Decile 10:100.00%

2017Q3

Nr of SNFs:1260 Mean Satisfaction Rate: 81.73%Standard Deviation:15.85% Min:0.00% Max:100.00% Q1:73.70% Q3:93.30% IQR:19.60% Total Nr. Of Respondents:24990Decile 1:60.00% Decile 2:70.00% Decile 3:76.20% Decile 4:80.00%Decile 5:84.60% Decile 6:87.50% Decile 7:91.30% Decile 8:96.00% Decile 9:100.00% Decile 10:100.00%

2017Q4

Nr of SNFs: 1366 Mean Satisfaction Rate: 81.37% Standard Deviation: 17.21% Min: 0.00% Max: 100.00% Q1: 73.10% Q3: 94.40% IQR: 21.30% Total Nr. Of Respondents: 27629 Decile 1: 60.00% Decile 2: 70.00% Decile 3: 75.00% Decile 4: 80.00% Decile 5: 83.40% Decile 6: 88.00% Decile 7: 91.70% Decile 8: 100.00% Decile 9: 100.00% Decile 10: 100.00%

2018Q1

Nr of SNFs: 1303 Mean Satisfaction Rate: 81.21% Standard Deviation:17.43% Min:0.00% Max:100.00% Q1:72.70% Q3:94.40% IQR:21.70% Total Nr. Of Respondents:24769Decile 1:60.00% Decile 2:69.20% Decile 3:75.00% Decile 4:80.00%Decile 5:83.30% Decile 6:88.00% Decile 7:92.30% Decile 8:100.00% Decile 9:100.00% Decile 10100.00%

2018Q2

Nr of SNFs:1369 Mean Satisfaction Rate: 81.38% Standard Deviation:16.84% Min:0.00% Max:100.00% Q1:73.00% Q3:94.10% IQR:21.10% Total Nr. Of Respondents: 24861 Decile 1:60.00% Decile 2: 70.00 Decile 3: 75.00% Decile 4:80.00% Decile 5:83.90% Decile 6:87.70% Decile 7:91.70% Decile 8:100.00% Decile 9:100.00% Decile 10:100.00%

2018Q3

Nr of SNFs:1397 Mean Satisfaction Rate:81.51% Standard Deviation:17.09% Min:0.00% Max:100.00% Q1:72.70% Q3: 95.00% IQR: 22.30% Total Nr. Of Respondents: 24821 Decile 1:60.00% Decile 2:69.60% Decile 3:75.00% Decile 4:80.00% Decile 5:83.80% Decile 6:88.60% Decile 7:92.30% Decile 8:100.00% Decile 9:100.00% Decile 10:100.00%

2018Q4

Nr of SNFs:1212 Mean Satisfaction Rate:83.15% Standard Deviation:15.78% Min:0.00% Max:100.00% Q1:75.00% Q3:95.90% IQR:20.90% Total Nr. Of Respondents: 23420 Decile 1:63.20% Decile 2:71.40% Decile 3:76.90% Decile 4:81.00% Decile 5:85.70% Decile 6:90.00% Decile 7:94.00% Decile 8: 100.00% Decile 9: 100.00% Decile 10:100.00%

2019Q1

Nr of SNFs:1354 Mean Satisfaction Rate:83.25% Standard Deviation:15.88% Min:0.00% Max:100.00% Q1:75.00% Q3:96.00% IQR:21.00% Total Nr. Of Respondents: 26487 Decile 1:62.50% Decile 2:70.60% Decile 3:77.50% Decile 4: 81.80% Decile 5:86.45% Decile 6:90.30% Decile 7:93.90% Decile 8: 100.00% Decile 9:100.00% Decile 10:100.00%

2019Q2

Nr of SNFs:1443 Mean Satisfaction Rate:83.23% Standard Deviation:15.91% Min: 0.00% Max: 100.00% Q1: 75.00% Q3: 96.00% IQR: 21.00% Total Nr. Of Respondents: 27511 Decile 1: 62.50% Decile 2: 70.40% Decile 3: 77.30% Decile4:81.80% Decile 5: 86.40% Decile 6: 90.50% Decile 7: 94.00% Decile 8: 100.00% Decile 9: 100.00% Decile 10: 100.00%

2019Q3

Nr of SNFs:1567 Mean Satisfaction Rate:82.65% Standard Deviation:16.91% Min:0.00% Max: 100.00% Q1:75.00% Q3:95.70% IQR:20.70% Total Nr. Of Respondents: 29780 Decile 1:61.10% Decile 2:70.60% Decile 3:76.90% Decile 4:81.50% Decile 5:85.70% Decile 6:90.00% Decile 7:93.80% Decile 8: 100.00% Decile 9:100.00% Decile 10:100.00%

2019Q4

Nr of SNFs:112 Mean Satisfaction Rate: 82.38% Standard Deviation:24.75% Min:0.00% Max: 100.00% Q1:75.00% Q3:100.00% IQR:25.00% Total Nr. Of Respondents: 1058 Decile 1:50.00% Decile 2:66.70% Decile 3:80.00% Decile 4:85.70% Decile5:91.70% Decile 6:100.00% Decile 7:100.00% Decile 8:100.00% Decile 9: 100.00% Decile 10:100.00%

Section 2: Data from one of the vendors (non-Long Term Trend Tracker data) representing facilities in MA, NJ, PA, IL, NY

A. CY 2019 Score (%):

a.

mean	82.79
min	39.00
max	100.00
Sdv	10.99
Q1	81.00
Q3	91.00
IQR	10.00
p10	65.00
p20	73.00
p30	82.00
p40	84.00
p50	85.00
p60	87.00
p70	89.00
p80	93.00
p90	94.00
p100	100.00
N of SNFs	566

B. CY 2019 Response Rate (%)

a.

mean	73.56%
min	16.16%
max	100.00%
Sdv	16.66%
Q1	65.12%
Q3	85.71%
IQR	20.60%
p10	50.00%
p20	61.76%
p30	68.66%
p40	73.42%
p50	77.60%
p60	81.82%
p70	84.85%
p80	87.50%
p90	89.95%
p100	100.00%
N of SNFs	566

1b.3. If no or limited performance data on the measure as specified is reported in 1b2, then provide a summary of data from the literature that indicates opportunity for improvement or overall less than optimal performance on the specific focus of measurement.

Not Applicable.

1b.4. Provide disparities data from the measure as specified (current and over time) by population group, e.g., by race/ethnicity, gender, age, insurance status, socioeconomic status, and/or disability. *(This is required for maintenance of endorsement. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included.) For measures that show high levels of performance, i.e., "topped out", disparities data may demonstrate an opportunity for improvement/gap in care for certain sub-populations. This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.*

We did not risk adjust the measure by sociodemographic status due to no statistically significant differences (at the 5% level) in the scores between the SDS categories. See Table 2b4.4b.b in the Testing section. By race, whites averaged a score of 83.47, Blacks or African-Americans averaged 83.3, and Asians 83.5; there were no observations for Native Hawaiians or other Pacific Islanders, American Indian or Alaskan Natives (Table 2b4.4b.c in the Testing section). By highest level of education, those with some high school but who did not graduate averaged 83.4, high school graduates averaged 83.3, those with some college or a 2 year degree averaged 82.5, 4 year college graduates averaged 83.2, and those with more than 4 year college degree averaged 83.6 (Table 2b4.4b.c in the Testing section). By age group, those younger than 65 years old averaged 71.7, those 65-74 averaged 83.7, those 75-84 averaged 87.3, and those older than 85 averaged 74.9 (Table 1b.4.a in the Appendix). Furthermore, by gender, males averaged a score of 80.1 and females averaged a score of 86.1 (Table 1b.4.a in the Appendix).

1b.5. If no or limited data on disparities from the measure as specified is reported in 1b.4, then provide a summary of data from the literature that addresses disparities in care on the specific focus of measurement. Include citations. Not necessary if performance data provided in 1b.4

Multiple studies in the past twenty years have examined racial disparities in the care of nursing facility residents and have consistently found poorer care in facilities with high minority populations (Fennell et al., 2000; Mor et al., 2004; Smith et al., 2007). Work on disparities in quality of care between elderly white and black residents within nursing facility has shown clearly that nursing homes remain relatively segregated, and that nursing home care can be described as a tiered system in which blacks are concentrated in marginal-quality homes (Li, Ye, Glance & Temkin-Greener, 2014; Fennell, Feng, Clark & Mor, 2010; Li, Yin, Cai, Temkin-Greener, Mukamel, 2011; Chisholm, Weech-Maldonado, Laberge, Lin, & Hyer, 2013; Mor et al., 2004; Smith et al., 2007). Such homes tend to have serious deficiencies in staffing ratios, performance, and are more financially vulnerable (Smith et al, 2007; Chisholm et al., 2013). Based on a review of the nursing facility disparities literature, Konetzka and Werner (2009) concluded that disparities in care are likely related to racial and socioeconomic segregation as opposed to within-provider discrimination. This conclusion is supported, for example, by Grunier and colleagues who found that as the proportion of black residents in the nursing home increased the risk of hospitalization among all residents, regardless of race, also increased (Grunier et al., 2008). Thus, adjusting for racial status, has the unintended effect of adjusting for poor quality providers not to differences due to racial status.

We hypothesize that the blacks who tend to receive care in poor facilities would have lower satisfaction scores related to the overall quality in the SNF rather than differences in care blacks received compared to other ethnicities in the SNF, indicating that the best measure of racial disparities in satisfaction rates is one that measures scores at the facility level. That is, ethnic and social economic status differences are related to inter-facility differences not to intra-facility differences in care. Therefore, we believe the literature suggests that racial status should not be risk adjusted otherwise, one is adjusting for the poor quality of the SNFs rather than differences due to racial status.

In addition, even with the concentration of certain ethnicities in SNFs, the sample size for African Americans divided across all the nursing facilities also would make most nursing facilities unable to report a rate stratified by race (see below for state sample size).

Grabowski, D.C. (2004). The admission of Blacks to high-deficiency nursing homes. Medical Care 42(5): 456-464.

Gruneir, A., Miller, S. C., Feng, Z., Intrator, O., & Mor, V. (2008). Relationship between state Medicaid policies, nursing home racial composition, and the risk of hospitalization for black and white residents. Health Services Research, 43(3), 869-881.

Konetzka, R. T., & Werner, R. M. (2009). Review: Disparities in long-term care building equity into market-based reforms. Medical Care Research and Review, 66(5), 491-521.

Mor, V., Zinn, J., Angelelli, J., Teno, J. M., & Miller, S. C. (2004). Driven to tiers: socioeconomic and racial disparities in the quality of nursing home care. Milbank Quarterly, 82(2), 227-256.

Smith, D. B., Feng, Z., Fennell, M. L., Zinn, J. S., & Mor, V. (2007). Separate and unequal: racial segregation and disparities in quality across US nursing homes. Health Affairs, 26(5): 1448-1458.

2. Reliability and Validity—Scientific Acceptability of Measure Properties

Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. ***Measures must be judged to meet the sub criteria for both reliability and validity to pass this criterion and be evaluated against the remaining criteria.***

2a.1. Specifications The measure is well defined and precisely specified so it can be implemented consistently within and across organizations and allows for comparability. eMeasures should be specified in the Health Quality Measures Format (HQMF) and the Quality Data Model (QDM).

De.5. Subject/Topic Area *(check all the areas that apply):*

De.6. Non-Condition Specific*(check all the areas that apply):*

Person-and Family-Centered Care

De.7. Target Population Category *(Check all the populations for which the measure is specified and tested if any):*

Elderly

S.1. Measure-specific Web Page *(Provide a URL link to a web page specific for this measure that contains current detailed specifications including code lists, risk model details, and supplemental materials. Do not enter a URL linking to a home page or to general information.)*

http://www.coreq.org/

S.2a. If this is an eMeasure, HQMF specifications must be attached. Attach the zipped output from the eMeasure authoring tool (MAT) - if the MAT was not used, contact staff. (Use the specification fields in this online form for the plain-language description of the specifications)

This is not an eMeasure **Attachment:**

S.2b. Data Dictionary, Code Table, or Value Sets *(and risk model codes and coefficients when applicable) must be attached. (Excel or csv file in the suggested format preferred - if not, contact staff)*

No data dictionary **Attachment:**

S.2c. Is this an instrument-based measure (i.e., data collected via instruments, surveys, tools, questionnaires, scales, etc.)? Attach copy of instrument if available.

Attachment: CoreQ_Data_Source_or_Collection_Instrument.docx

S.2d. Is this an instrument-based measure (i.e., data collected via instruments, surveys, tools, questionnaires, scales, etc.)? Attach copy of instrument if available.

Family or other caregiver

S.3.1. For maintenance of endorsement: Are there changes to the specifications since the last updates/submission. If yes, update the specifications for S1-2 and S4-22 and explain reasons for the changes in S3.2.

No

S.3.2. For maintenance of endorsement, please briefly describe any important changes to the measure specifications since last measure update and explain the reasons.

No changes to the measure specifications since the last measure update. Since the last update, we have created a website (as specified in section S.1.) with information on all CoreQ measures.

S.4. **Numerator Statement** *(Brief, narrative description of the measure focus or what is being measured about the target population, i.e., cases from the target population with the target process, condition, event, or outcome) DO NOT include the rationale for the measure.*

IF an OUTCOME MEASURE, state the outcome being measured. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

The numerator assesses the number of family or designated responsible party for long stay residents that are satisfied. Specifically, the numerator is the sum of the family or designated responsible party members for long stay residents that have an average satisfaction score of =>3 for the three questions on the CoreQ: Long-Stay Family questionnaire.

S.5. **Numerator Details** *(All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)*

IF an OUTCOME MEASURE, describe how the observed outcome is identified/counted. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

The numerator includes all of the family or designated responsible party members for long stay residents that had an average response =>3 on the CoreQ: Long-Stay Family questionnaire.

We calculate the average satisfaction score for the individual family or designated responsible party member for long stay residents in the following manner:

- Respondents within the appropriate time window (see S.5) and who do not meet the exclusions (see S.11) are identified.

- A numeric score is associated with each response scale option on the CoreQ: Long-Stay Family questionnaire (that is, Poor=1, Average=2, Good=3, Very Good=4, and Excellent=5).

- The following formula is utilized to calculate the individual's average satisfaction score: [Numeric Score Question 1 + Numeric Score Question 2 + Numeric Score Question 3]/3

- The number of respondents whose average satisfaction score >=3 are summed together and function as the numerator.

For respondents with one missing data point (from the 3 items included in the questionnaire) imputation will be used (representing the average value from the other two available questions). For respondents with more than one missing data point, they will be excluded from the analyses (i.e., no imputation will be used for these family members). Imputation details are described further below (S.18).

No risk-adjustment is used (see S.13).

S.6. **Denominator Statement** *(Brief, narrative description of the target population being measured)*

The target population is family or designated responsible party members of a resident residing in a SNF for at least 100 days. The denominator includes all of the individuals in the target population who respond to the CoreQ: Long-Stay Family questionnaire within the two month time window (see S.5) who do not meet the exclusion criteria (see S.10).

S.7. **Denominator Details** *(All information required to identify and calculate the target population/denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)*

IF an OUTCOME MEASURE, describe how the target population is identified. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

The denominator includes all of the family or the designated responsible party members for residents that have been in the SNF for 100 days or more regardless of payer status; who received the CoreQ: Long-Stay Family questionnaire (e.g. people meeting exclusions do not receive the questionnaire), and who responded to the questionnaire within the two month time window.

The length-of-stay (of the resident of the family member or designated responsible party) will be identified from MDS nursing facility records (MDS item A1600 "Entry Date").

S.8. **Denominator Exclusions** *(Brief narrative description of exclusions from the target population)*

Please note, the resident representative for each current resident is initially eligible regardless of their being a family member or not. Only one primary contact per resident should be selected.

Exclusions made at the time of sample selection include: (1) family or designated responsible party for residents with hospice; (2) family or designated responsible party for residents with a legal court appointed guardian; (3) representatives of residents who have lived in the SNF for less than 100 days; and (4) representatives who reside in another country.

Additionally, once the survey is administered, the following exclusions are applied: a) surveys received outside of the time window (more than two months after the administration date) and b) surveys that have more than one questionnaire item missing.

S.9. **Denominator Exclusion Details** *(All information required to identify and calculate exclusions from the denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)*

Exclusions will be based on information from the Minimum Data Set (MDS) 3.0 assessment. Representatives of residents with the following criteria will be excluded:

(1) Residents on hospice. This is recorded in the MDS as Hospice O0100K1 = 1 ("the patient was on hospice in the last 14 days while not a resident"), O0100K2 = 1 ("the patient was on hospice in the last 14 days while a resident"), A1800=07 ("entered from hospice"), or A2100=07 ("discharged to hospice").

(2) Residents with court appointed legal guardian for all decisions will be identified from nursing facility health information system.

(3) Residents who have lived in the SNF for less than 100 days will be identified from the MDS. This is recorded in the MDS (item A1600 "Entry Date").

(4) Respondents who reside in another country, to be identified from nursing facility health information system.

(5) Respondents who have two or more missing data point are excluded from the analysis.

(6) Respondents that respond after the two month response period will be excluded.

S.10. **Stratification Information** *(Provide all information required to stratify the measure results, if necessary, including the stratification variables, definitions, specific data collection items/responses, code/value sets, and*

the risk-model covariates and coefficients for the clinically-adjusted version of the measure when appropriate – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format with at S.2b.)

No stratification is used.

S.11. Risk Adjustment Type (Select type. Provide specifications for risk stratification in measure testing attachment)

No risk adjustment or risk stratification

If other:

S.12. Type of score:

Other (specify):

If other: Non-weighted score. Score is a percent.

S.13. **Interpretation of Score** *(Classifies interpretation of score according to whether better quality is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score)*

Better quality = Higher score

S.14. **Calculation Algorithm/Measure Logic** (*Diagram or describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; time period for data, aggregating data; risk adjustment; etc.)*

1. Identify the representatives of residents that have been residing in the SNF for 100 days or more. Length of stay so far is the MDS target date (TRGT_DT) - MDS admission date (A1900).

2. Take the representatives of residents that have been residing in the SNF for >=100 days and exclude the following:

a. Representatives of residents on hospice. This is recorded in the MDS as Hospice O0100K1 = 1 (“the patient was on hospice in the last 14 days while not a resident”), O0100K2 = 1 (“the patient was on hospice in the last 14 days while a resident”), A1800=07 (“entered from hospice”), or A2100=07 (“discharged to hospice”).

b. Residents with Court appointed legal guardian for all decisions as identified from nursing facility health information system.

3. Exclude representatives of residents who reside in another country.

4. Administer the CoreQ: Long-Stay Family questionnaire (See S.25) to the representatives that do not meet these exclusion criteria. Provide the family or designated responsible party member for the resident two months to respond to the survey.

a. Create a tracking sheet with the following columns:

i. Date Administered

ii. Date Response Received

iii. Time to Receive Response: ([Date Response Received – Date Administered])

b. Exclude any surveys where Time to Receive Response >60 days (2 months)

5.Combine the CoreQ: Long-Stay Family questionnaire items to calculate a resident’ representative satisfaction score. Responses for each item should be given the following scores:

a.Poor = 1,

b.Average = 2,

c.Good = 3,

d.Very good =4 and

e.Excellent = 5.

6.Impute missing data if only one of the three questions are missing data. Drop all survey response if 2 or more survey questions have missing data.

7.Calculate resident's representative score from usable surveys.

a.Representative average score = (Score for Item 1 + Score for Item 2 + Score for Item 3) / 3.

b.Flag those representatives with a score equal to or greater than 3.0

i.For example, a representative of a resident rates their satisfaction on the three CoreQ questions as excellent = 5, very good = 4, and good = 3. The family member's total score will be 5 + 4 + 3 for a total of 12. The representative of the long-stay resident total score (12) will then be divided by the number of questions (3), which equals 4.0. Thus the representative's average satisfaction rating is 4.0. Since this person's average response is >3.0 they would be counted in the numerator. If it was <3.0 they would not be counted.

8.Calculate the facility's CoreQ: Long-Stay Family Measure which represents the percent of respondents with average scores of 3.0 or above.

a.CoreQ: Long-Stay Family Measure = ([number of respondents with an average score of =3.0] / [total number of valid responses])*100

9.No risk-adjustment is used.

S.15. **Sampling** *(If measure is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.)*

IF an instrument-based performance measure (e.g., PRO-PM), identify whether (and how) proxy responses are allowed.

No sampling is used. No proxy responses are allowed.

S.16. **Survey/Patient-reported data** *(If measure is based on a survey or instrument, provide instructions for data collection and guidance on minimum response rate.)*

Specify calculation of response rates to be reported with performance measure results.

1. Identify the representatives of residents that have been residing in the SNF for 100 days or more. This will be identified from MDS target date (TRGT_DT) - MDS admission date (A1900).

2.Take the representatives of residents that have been residing in the SNF for >=100 days and exclude the following:

a. Representatives of residents on hospice. This is recorded in the MDS as Hospice O0100K1 = 1 ("the patient was on hospice in the last 14 days while not a resident"), O0100K2 = 1 ("the patient was on hospice in the last 14 days while a resident"), A1800=07 ("entered from hospice"), or A2100=07 ("discharged to hospice").

b. Residents with Court appointed legal guardian for all decisions as identified from nursing facility health information system.

3. Exclude representatives of residents who reside in another country.

4. Administer the CoreQ: Long-Stay Family questionnaire to family or designated responsible party members for long-stay residents.

5. Instruct representatives that they must respond to the survey within 2 months.

6. The response rate for a center is calculated by counting the number of usable surveys returned divided by the number of surveys administered.

a. Surveys returned as undeliverable are not counted as usable.

b. Surveys with missing responses for two or more questions are also not counted as usable.

c. A minimum response rate of 30% needs to be achieved for results to be reported for a SNF.

7. Regardless of response rate, SNFs must also achieve a minimum number of 20 usable questionnaires (e.g. denominator). If after 2 months, less than 20 usable questionnaires are received than a facility level satisfaction measure cannot be reported.

8. All the questionnaires that are received (other than those that satisfy the exclusion criteria seen in section S.8) must be used in the calculations.

S.17. **Data Source** *(Check ONLY the sources for which the measure is SPECIFIED AND TESTED).*

If other, please describe in S.18.

Instrument-Based Data

S.18. **Data Source or Collection Instrument** *(Identify the specific data source/data collection instrument (e.g. name of database, clinical registry, collection instrument, etc., and describe how data are collected.)*

IF instrument-based, identify the specific instrument(s) and standard methods, modes, and languages of administration.

The collection instrument is the CoreQ: Long-Stay Family questionnaire and for exclusions the Resident Assessment Instrument Minimum Data Set (MDS) version 3.0 is used

S.19. **Data Source or Collection Instrument** *(available at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)*

Available in attached appendix at A.1

S.20. **Level of Analysis** *(Check ONLY the levels of analysis for which the measure is SPECIFIED AND TESTED)*

Facility

S.21. **Care Setting** *(Check ONLY the settings for which the measure is SPECIFIED AND TESTED)*

Post-Acute Care

If other:

S.22. **COMPOSITE Performance Measure** - Additional Specifications *(Use this section as needed for aggregation and weighting rules, or calculation of individual performance measures if not individually endorsed.)*

Not Applicable.

2. Validity – See attached Measure Testing Submission Form

CoreQ_Family_Testing_Final_v7.1-637202272105370632.docx

2.1 For maintenance of endorsement

Reliability testing: If testing of reliability of the measure score was not presented in prior submission(s), has reliability testing of the measure score been conducted? If yes, please provide results in the Testing attachment. Please use the most current version of the testing attachment (v7.1). Include information on all testing conducted (prior testing as well as any new testing); use red font to indicate updated testing.

No

2.2 For maintenance of endorsement

Has additional empirical validity testing of the measure score been conducted? If yes, please provide results in the Testing attachment. Please use the most current version of the testing attachment (v7.1). Include information on all testing conducted (prior testing as well as any new testing); use red font to indicate updated testing.

No

2.3 For maintenance of endorsement

Risk adjustment: For outcome, resource use, cost, and some process measures, risk-adjustment that includes social risk factors is not prohibited at present. Please update sections 1.8, 2a2, 2b1,2b4.3 and 2b5 in the

Testing attachment and S.140 and S.11 in the online submission form. NOTE: These sections must be updated even if social risk factors are not included in the risk-adjustment strategy. You MUST use the most current version of the Testing Attachment (v7.1) -- older versions of the form will not have all required questions.

No - This measure is not risk-adjusted

Measure Testing (subcriteria 2a2, 2b1-2b6)

Measure Number (*if previously endorsed*)**:** 2616
Measure Title: CoreQ: Long-Stay Family Measure
Date of Submission: 1/28/2020

Type of Measure:

☒ **Outcome (*including PRO-PM*)**	☐ **Composite – *STOP – use composite testing form***
☐ Intermediate Clinical Outcome	☐ Cost/resource
☐ Process *(including Appropriate Use)*	☐ Efficiency
☐ Structure	

1. DATA/SAMPLE USED FOR ALL TESTING OF THIS MEASURE

Often the same data are used for all aspects of measure testing. In an effort to eliminate duplication, the first five questions apply to all measure testing. If there are differences by aspect of testing,(e.g., reliability vs. validity) be sure to indicate the specific differences in question 1.7.

1.1. What type of data was used for testing? (*Check all the sources of data identified in the measure specifications and data used for testing the measure. Testing must be provided for all the sources of data specified and intended for measure implementation.* ***If different data sources are used for the numerator and denominator, indicate N [numerator] or D [denominator] after the checkbox.***)

Measure Specified to Use Data From: (***must be consistent with data sources entered in S.17***)	**Measure Tested with Data From:**
☐ abstracted from paper record	☐ abstracted from paper record
☐ claims	☐ claims
☐ registry	☐ registry
☐ abstracted from electronic health record	☐ abstracted from electronic health record
☐ eMeasure (HQMF) implemented in EHRs	☐ eMeasure (HQMF) implemented in EHRs
☒ other: CoreQ: Long-Stay Family questionnaire	☒ other: CoreQ: Long-Stay Family questionnaire, Pilot CoreQ: Long-Stay Family questionnaire, Nursing Home Compare and CASPER

1.2. If an existing dataset was used, identify the specific dataset (*the dataset used for testing must be consistent with the measure specifications for target population and healthcare entities being measured; e.g., Medicare Part A claims, Medicaid claims, other commercial insurance, nursing home MDS, home health OASIS, clinical registry*).

First, the Pilot CoreQ: Long-Stay Family questionnaire containing an extended list of questions included on the CoreQ: Long-Stay Family questionnaire was utilized for reliability and validity testing.

Second, data from the CoreQ: Long-Stay Family questionnaire was used to test the measure for reliability and validity.

Third, to validate the measure, we also utilized Certification and Survey Provider Enhanced Reporting (CASPER) Quality Indicators and data form Nursing Home Compare.

1.3. What are the dates of the data used in testing? June, 2014-September, 2014

1.4. What levels of analysis were tested? (*testing must be provided for all the levels specified and intended for measure implementation, e.g., individual clinician, hospital, health plan*)

Measure Specified to Measure Performance of: (***must be consistent with levels entered in item S.20***)	**Measure Tested at Level of:**
☐ individual clinician	☐ individual clinician
☐ group/practice	☐ group/practice
☒ hospital/facility/agency	☒ hospital/facility/agency
☐ health plan	☐ health plan
☐ other: Click here to describe	☒ other: Individual family

1.5. How many and which measured entities were included in the testing and analysis (by level of analysis and data source)? (*identify the number and descriptive characteristics of measured entities included in the analysis (e.g., size, location, type); if a sample was used, describe how entities were selected for inclusion in the sample*)

The testing and analysis included three data sources, one of which had additional variables collected for a subset of respondents:

1. The Pilot CoreQ: Long-Stay Family questionnaire was examined using responses from 1,324 Family members or resident representatives from a national sample of nursing facilities (Data Source #1).
    a. In addition, Family-level sociodemographic (SDS) variables were examined using this same sample of 1,324 Family members or resident representatives (#1 above) in nursing facilities across the US. (Data Source #1).
2. Validity testing of the Pilot CoreQ: Long-Stay Family questionnaire was examined using responses from 100 Family members or resident representatives from the Pittsburgh area. (Data Source #2).
3. CoreQ: Long-Stay Family measure was examined using 221 facilities and included responses from 6,192 Family members or resident representatives. These nursing facilities were located in multiple states across the US. (Data Source #3).

Some basic descriptive characteristics of these facilities (data sources) are provided below.

Table 1.5: Descriptive Statistics of Centers Included in the Analysis

Data Source	Average Number of Licensed Beds	Average Daily Census	Sample Size of Family members (N)
Listed #1 (above)	136	122	1,324

Listed #2 (above)	202	188	100
Listed #3 (above)	142	131	6,192

1.6. How many and which <u>patients</u> were included in the testing and analysis (by level of analysis and data source)? (*identify the number and descriptive characteristics of patients included in the analysis (e.g., age, sex, race, diagnosis); if a sample was used, describe how patients were selected for inclusion in the sample*)

Family Level of Analysis

Data was used from the CoreQ: Long-Stay Family questionnaire. The questionnaire was administered to all eligible long-stay family (with the exclusions described in the Specification part of this application). The testing and analysis included:

1. The Pilot CoreQ: Long-Stay Family questionnaire was examined using responses from 1,324 family members or resident representatives from a national sample of nursing facilities. (Data #1)
    a. In addition, Family-level sociodemographic (SDS) variables were examined using this same sample of 1,324 family members (Data #1 above) in nursing facilities across the US.
2. Validity testing of the Pilot CoreQ: Long-Stay Family questionnaire was examined using responses from 100 family members from the Pittsburgh area. (Data #2)
3. CoreQ: Long-Stay Family questionnaire MEASURE was examined using 221 facilities and included responses from 6,192 family members or resident representatives. These nursing facilities were located in multiple states across the US. (Data #3)

The descriptive characteristics of the family members are given in the following table that includes information from all of the data used (the education level and race information comes only from the sample described above with 1,324 respondents, as this data was not collected for the other samples).

Table 1.6: Respondent Demographics (all samples pooled)

DEMOGRAPHICS		**Percent**
Are you male or female?	Male	30%
	Female	70%
What year were you born?	Average	1946
What is the highest grade or level of school that you have completed?	Some HS	7%
	HS or GED	32%
	Some College/ 2yr Degree	32%
	4yr College Degree	15%
	>4yr College Degree	15%
What is your race?	White	92%
	Black	7%
	Asian	1%

	Native Hawaiian	0%
	American Indian	0%

1.7. If there are differences in the data or sample used for different aspects of testing (e.g., reliability, validity, exclusions, risk adjustment), identify how the data or sample are different for each aspect of testing reported below.

We conducted two levels of testing in the development of the CoreQ: Long-Stay Family measure. The first focused on testing (e.g., reliability, validity, and exclusions) of the CoreQ: Long-Stay Family questionnaire. The first source of data (pilot data) was utilized in developing and choosing the items to be included in the CoreQ: Long-Stay Family questionnaire. This included using a questionnaire with 18 items. Below we call this the Pilot CoreQ: Long-Stay Family questionnaire (i.e., Data #1, above). A subset of 100 family members from Data #1 was chosen in Data #2 to conduct a lagged re-administration of the same survey to measure agreement in response for the same family members regarding care the same period of time.

Once the CoreQ: Long-Stay Family questionnaire was developed, a second source of data was used to test the validity of the CoreQ: Long-Stay Family measure (i.e., facility and summary score validity). This second data source is described above (i.e.221 facilities including responses from 6,192 family members [Data #3, above]).

1.8 What were the social risk factors that were available and analyzed? For example, patient-reported data (e.g., income, education, language), proxy variables when social risk data are not collected from each patient (e.g. census tract), or patient community characteristics (e.g. percent vacant housing, crime rate) which do not have to be a proxy for patient-level data.

The following Family-level sociodemographic variables were available for analysis. For the distributions of these categories, see Tables 1.6 above.

- Age
  - Exact date of birth
- Sex
  - Male
  - Female

- Highest level of education
  - Some high school, but did not graduate
  - High school graduate or GED
  - Some college or 2 year degree
  - 4 year college graduate
  - More than 4 year college degree
- Race
  - White
  - Black or African American
  - Asian
  - Native Hawaiian or other Pacific Islander
  - American Indian or Alaskan Native.

2a2. RELIABILITY TESTING

***Note**: If accuracy/correctness (validity) of data elements was empirically tested, separate reliability testing of data elements is not required – in 2a2.1 check critical data elements; in 2a2.2 enter "see section 2b2 for validity testing of data elements"; and skip 2a2.3 and 2a2.4.*

2a2.1. What level of reliability testing was conducted? (*may be one or both levels*)
☒ **Critical data elements used in the measure** (*e.g., inter-abstractor reliability; data element reliability must address ALL critical data elements*)
☒ **Performance measure score** (e.g., *signal-to-noise analysis*)

2a2.2. For each level checked above, describe the method of reliability testing and what it tests (*describe the steps—do not just name a method; what type of error does it test; what statistical analysis was used*)

We measured reliability at the: (1) data element level; (2) the person/questionnaire level; and, (3) at the measure (i.e., facility) level. More detail of each analysis follows.

(1) DATA ELEMENT LEVEL

To determine if the CoreQ: Long-Stay Family questionnaire items were repeatable, producing the same results a high proportion of the time when assessed in the same population in the same time period, we re-administered the questionnaire to family members 1 month after their first survey. The Pilot CoreQ: Long-Stay Family questionnaire had responses from 100 family members; we re-administered the survey to 50 of these same family members. The re-administered sample was a sample of convenience as they represented family members from the Pittsburgh area (the location of the team testing the questionnaire). To measure the agreement, we calculated first the distribution of responses by question in the original round of surveys, and then again in the follow-up surveys (they should be distributed similarly); and second, calculated the correlations between the original and follow-up responses by question (they should be highly correlated).

(2) PERSON/QUESTIONNAIRE LEVEL

Having tested whether the data elements matched between the pilot responses and the re-administered responses, we then examined whether the person-level results matched between the Pilot CoreQ: Long-Stay Family questionnaire responses and their corresponding re-administered responses. In particular, we calculated the percent of time that there was agreement between whether or not the pilot response was poor, average, good, very good or excellent, and whether or not the re-administered response was poor, average, good, very good or excellent.

(3) MEASURE (FACILITY) LEVEL

Last, we measured stability of the facility-level measure when the facility's score is calculated using multiple "draws" from the same population. This measures how stable the facility's score would be if the underlying family members are from the same population but are subject to the kind of natural sample variation that occurs over time. We did this by bootstrap with 10,000 repetitions of the facility score calculation, and present the percent of facility resamples where the facility score is within 1 percentage point, 3 percentage points, 5 percentage points, and 10 percentage points of the original score calculated on the Pilot CoreQ: Long-Stay Family questionnaire sample.

2a2.3. For each level of testing checked above, what were the statistical results from reliability testing? (e.g., *percent agreement and kappa for the critical data elements; distribution of reliability statistics from a signal-to-noise analysis*)

(1) DATA ELEMENT LEVEL

Table 2a2.3.a shows the three CoreQ: Long-Stay Family questionnaire items, and the response per item for both the pilot survey of 100 family members and the re-administered survey of 50 family members. The responses in the pilot survey are not statistically significant from the re-administered survey. This shows that the data elements were highly repeatable and produced the same results a high proportion of the time when assessing the same population in the same time period.

Table 2a2.3.a: CoreQ: Long-Stay Family Questionnaire Responses from the Pilot and Re-administered Survey

Questionnaire Item	Response	Percent [Pilot Survey (N=100)]	Percent [Re-Administered Survey (N=50)]
1. In recommending this facility to your friends and family, how would you rate it overall?	Poor	4.5%	4%
	Average	14%	13%
	Good	24%	25%
	Very Good	35%	36%
	Excellent	20%	19%
2. Overall, how would you rate the staff?	Poor	2%	3%
	Average	12%	11%
	Good	22%	22%
	Very Good	34%	32%
	Excellent	23%	22%
3. How would you rate the care you receive?	Poor	3%	3%
	Average	14%	13%
	Good	22%	22%
	Very Good	33%	31%
	Excellent	21%	22%

NO SIGNIFICANT DIFFERENCES AT p=0.01

Table 2a2.3.b shows the average of the percent agreement from the first survey score to the second survey score for each item in the CoreQ: Long-Stay Family questionnaire. This shows very high levels of agreement.

Table 2a2.3.b: Average Percent Agreement between the Pilot and Re-administered Surveys

Questionnaire Item	Percent Agreement
1. In recommending this facility to your friends and family, how would you rate it overall?	97.1%
2. Overall, how would you rate the staff?	98.8%
3. How would you rate the care your family member received?	97.5%

(2) PERSON/QUESTIONNAIRE LEVEL

Table 2a2.3.c shows the CoreQ: Long-Stay Family questionnaire items, and the agreement in response per item for both the pilot survey of 100 family members compared with the re-administered survey of 50 family

members. The person-level responses in the pilot survey are not statistically significant from the re-administered survey. This shows that a high percent of time there was agreement between whether or not the pilot response was poor, average, good, very good or excellent, and whether or not the re-administered response was poor, average, good, very good or excellent. Table 2a2.3.d shows the agreement between the pilot and re-administered responses. In summary, 97% or more of the re-administered responses agreed with their corresponding pilot responses, in terms of whether or not they were rated in the categories of poor or average or good, very good or excellent.

Table 2a2.3.c: Average Percent Agreement between Responses per Item for the Pilot Survey and Re-Administered Survey

Questionnaire Item	Response	Percent Person-Level Agreement in Response for the Pilot Survey (N=100) vs. Re-Administered Survey (N=50)
1. In recommending this facility to your friends and family, how would you rate it overall?	Poor	98%
	Average	97%
	Good	97%
	Very Good	98%
	Excellent	97%
2. Overall, how would you rate the staff?	Poor	98%
	Average	96%
	Good	98%
	Very Good	99%
	Excellent	99%
3. How would you rate the care you receive?	Poor	99%
	Average	99%
	Good	97%
	Very Good	98%
	Excellent	97%

Table 2a2.3.d: Average Percent Agreement between Response Options for the Pilot Survey and Re-Administered Survey

		Re-Administered Response	
		Poor (1) or Average (2)	Good (3), Very Good (4), or Excellent (5)
Pilot Response	Poor (1) or Average (2)	98.5%	98.8%
	Good (3), Very Good (4), or Excellent (5)	98.5%	98.7%

(3) MEASURE (FACILITY) LEVEL

After having performed the 10,000-repetition bootstrap, 11.5% of bootstrap repetition scores were within 1 percentage point of the score under the original pilot sample, 20.9% were within 3 percentage points, 30.4% were within 5 percentage points, and 42.2% were within 10 percentage points.

2a2.4 What is your interpretation of the results in terms of demonstrating reliability? (i.*e., what do the results mean and what are the norms for the test conducted?*)
In summary, the measure displays a high degree of element-level, questionnaire-level, and measure (facility)-level reliability. First, the CoreQ: Long-Stay Family questionnaire data elements were highly repeatable, with pilot and re-administered responses agreeing between 97% and 99% of the time depending on the question. That is, this produced the same results a high proportion of the time when assessed in the same population in the same time period. Second, the questionnaire level scores were also highly repeatable, with pilot and re-administered responses agreeing 98% of the time (or more). Third, a facility drawing family members from the same underlying population will only vary modestly. The 10,000-repetition bootstrap results show that the CoreQ: Long-Stay Family measure scores from the same facility are moderately stable given the minimum sample size of 20 was set for this measure; and the maximum sample size was 95.

2b1. VALIDITY TESTING

2b1.1. What level of validity testing was conducted? (*may be one or both levels*)
☒ **Critical data elements** (*data element validity must address ALL critical data elements*)
☒ **Performance measure score**

☐ **Empirical validity testing**

☒ **Systematic assessment of face validity of performance measure score as an indicator** of quality or resource use (*i.e., is an accurate reflection of performance on quality or resource use and can distinguish good from poor performance*) **NOTE**: Empirical validity testing is expected at time of maintenance review; if not possible, justification is required.

2b1.2. For each level of testing checked above, describe the method of validity testing and what it tests (*describe the steps—do not just name a method; what was tested, e.g., accuracy of data elements compared to authoritative source, relationship to another measure as expected; what statistical analysis was used)*
In the development of the CoreQ: Long-Stay Family questionnaire, three sources of data were used to perform three levels of validity testing. These are described above in Section 1.5.

The first source of data (data from a sample of convenience collected near the researchers developing the questionnaire in Pittsburgh) was used in developing and choosing the format to be utilized in the CoreQ: Long-Stay Family questionnaire (i.e., response scale).

The second source of data, was pilot data collected from a national sample of 1,324 family members. This data was used in choosing the items to be used in the CoreQ: Long-Stay Family questionnaire (i.e., questionnaire items). This data was also used in examining Family-level sociodemographic (SDS) variables.

The third source of data (collected from 221 facilities) was used examine the validity of the CoreQ: Long-Stay Family measure (i.e., facility and summary score validity). These family members / nursing facilities were from multiple states across the U.S.

Thus, the following sections describe this validity testing:
1. Validity Testing of the questionnaire format used in the CoreQ: Long-Stay Family questionnaire (using data source 1, from above);
2. Testing the items for the CoreQ: Long-Stay Family questionnaire (using data source 2, from above);
3. Testing to determine if a sub-set of items could reliably be used to produce an overall indicator of

satisfaction (Core Q: Long-Stay Family measure) (using data source 3, from above);
4. Validity testing for the CoreQ: Long-Stay Family measure (also using data source 1, from above).

1. Validity Testing for the Questionnaire Format used in the CoreQ: Long-Stay Family Questionnaire

A. The face validity of the domains used in the CoreQ: Long-Stay Family questionnaire was evaluated via a literature review. The literature review was conducted to examine important areas of satisfaction for LTC family. Specifically, the research team examined 12 commonly used satisfaction surveys and reports to determine the most valued domains when looking at satisfaction. These surveys were identified by completing internet searches in PubMed and Google. Key terms that were searched included: Family satisfaction, long-term care satisfaction, and elderly satisfaction.

B. The face validity of the domains was also examined using a focus group of family members. The overall ranking used was 1=Most important and 22=Least important. That is family members were asked to rank the domains from most important to least important. The respondents were family members (N=40) of residents in five nursing facilities in the Pittsburgh region.

C. The face validity of the Pilot CoreQ: Long-Stay Family questionnaire response scale was also examined. The respondents were family members (N=40) with residents in five nursing facilities in the Pittsburgh region The percent of respondents that stated they "fully understood" how the response scale worked, could complete the scale, AND in cognitive testing understood the scale was used.

D. The Flesch-Kinkaid scale was used to determine if respondent correctly understood the questions being asked (Streiner & Norman, 1995).

Streiner, D. L. & Norman, G.R. (1995). Health measurement scales: A practical guide to their development and use. 2nd ed. New York: Oxford.

2. Testing the Items for the CoreQ: Long-Stay Family Questionnaire

The second series of validity testing was used to further identify items that should be included in the CoreQ: Long-Stay Family questionnaire. This analysis was important, as all items in a satisfaction measure should have adequate psychometric properties (such as low basement or ceiling effects). For this testing, (1) A pilot group of 40 family members was first used in focus groups; (2) a Pilot version of the CoreQ: Long-Stay Family questionnaire survey was administered consisting of 18 items (N= 1,324 family members). The testing consisted of:

A. Family members were asked to rate the 18 different satisfaction questions related to their experience in SNFs. This was conducted with a pilot group of 40 family members in focus groups.

B. The Pilot CoreQ: Long-Stay Family questionnaire items performance with respect to the distribution of the response scale and with respect to missing responses. (Using 1,324 family members described above)

C. The intent of the Pilot instrument was to have items that represented the most important areas of satisfaction (as identified above) in a parsimonious manner. Additional analyses such as exploratory factor analysis (EFA) were used to eliminate items in the Pilot instrument. This was an iterative process that included using Eigenvalues from the principal factors (unrotated) and correlation analysis of the individual items. (using 1,324 family members described above)

3. To determine if a Sub-Set of Items could be used to Produce an Overall Indicator of Satisfaction (The Core Q: Long-Stay Family Measure).

The CoreQ: Long-Stay Family measure under development was meant to represent overall satisfaction with as few items as possible. The testing given below describes how this was achieved.

A. To support the construct validity that the idea that the CoreQ items measured a single concept of "satisfaction" – we performed a correlation analysis using all items in the instrument.

B. **B.** In addition, using all items in the instruments a factor analysis was conducted. Using the global items Q1 ("How satisfied are you with the facility?") the Cronbach's Alpha of adding the "best" additional item was examined.

4. *Validity Testing for the Core Q: Long-Stay Family Measure.*

A. To determine if the 3 items in the CoreQ: Long-Stay Family questionnaire were a reliable indicator of satisfaction, the correlation between these three items (the "CoreQ: Long-Stay Family Measure") and ALL of the items on the Pilot CoreQ instrument was conducted.

B. We performed additional validity testing of the facility-level CoreQ: Long-Stay Family measure by examining the correlations between the CoreQ: Long-Stay Family measure scores and i) measures of regulatory compliance and other quality metrics from the Certification and Survey Provider Enhanced Reporting (CASPER) data, and ii) several other quality metrics from Nursing Home Compare. If the CoreQ Long Stay Family scores correlate negatively with the measures that decrease as they get better, and positively with the measures that increase as they get better, then this supports the validity of the CoreQ Long Stay Family measure.

2b1.3. What were the statistical results from validity testing? (*e.g., correlation; t-test*)

1. Validity Testing for the Questionnaire Format used in the CoreQ: Long-Stay Family Questionnaire

A. The face validity of the domains used in the CoreQ: Long-Stay Family questionnaire was evaluated via a literature review (described above).

The research team examined the surveys and reports to identify the different domains that were included. The research team scored the domains by simply counting if an instrument included the domain. Table 2b2.3.a gives the domains that were found throughout the search, as well as a score. An example is the domain clinical care, this was used in 10 out of the 12 surveys identified in the literature. An interpretation of this finding would be that items addressing clinical care are extremely important in satisfaction surveys. These domains were used in developing the pilot CoreQ: Long-Stay Family questionnaire items.

Table 2b2.3.a: Survey Domain Score out of 12

Domain	Score out of 12	Domain	Score out of 12
Food	11	Spiritual	4
Activities	10	Confidence in Caregivers	3
Administration	10	Language and Communication	3
Clinical Care	10	Personal Suite	3
Staff Interaction	10	Therapy	3

Choice and Decision Making	9	Care Access	2
Facility Environment	9	Case Manager	2
Security and Safety	9	Comfort	2
Overall	8	Maintenance	2
Staff Overall	7	Move In	2
Autonomy and Privacy	6	Non-Clinical Staff Services	2
Housekeeping	6	Transitions	2
Personal Care	6	Transportation	2
Recommend facility	6	Emergency Response	1
Resident to Resident Friendships	5	Finances	1
Family Involvement	4	Time	1
Resident to Staff Friendships	4	Trust	1

B. The face validity of the domains was also examined using family members. The following abbreviated table shows the rank of importance for each group of domains. The overall ranking used was 1=Most important and 22=Least important. The ranking of the 3 areas used in the CoreQ: Long-Stay Family questionnaire are shown. Note, the food domain was ranked third – but was excluded from the CORE Q based on additional analyses showing that it was highly correlated with the overall domain; thus, it added little to the measure.

Table 2b2.3.b: Face Validity Abbreviated Results

Domain / Question	Average Rank
OVERALL (In recommending this facility to your friends and family, how would you rate it overall?)	4
STAFF (Overall, how would you rate the staff?)	1
CARE (How would you rate the care you receive?)	2

C. The face validity of the pilot CoreQ: Long-Stay Family questionnaire response scale was also examined. Table 2b2.3.c gives the percent of respondents that stated they "fully understood" how the response scale worked, could complete the scale, AND in cognitive testing understood the scale.

Table 2b2.3.c: Respondent's Understanding of Response Scale

Scale Format	Residents /Family
Yes – No	100%
Yes – Somewhat – No	100%
Always – Usually – Sometimes –Never	100%
Very happy – Somewhat happy – Unhappy	100%
Excellent – Good – Fair – Poor	100%
Very Good – Good – Average – Poor – Very Poor	100%

Very Satisfied – Satisfied – Neither Satisfied or Dissatisfied – Dissatisfied – Very Dissatisfied	100%
4 Point Satisfaction Scale (1=Very unsatisfied, 2=Unsatisfied, 3=Neutral, 4=Satisfied)	100%
5 Point Likert Scale (1=Poor, 2=Average, 3=Good, 4=Very Good, 5=Excellent)	100%
Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree	95%
5 Point Importance Scale (1=Very important, 5=Very unimportant)	95%
5 Point Expectancy Scale (1=Not met, 2=Nearly met, 3=Met, 4=Exceeded, 5=Far exceeded expectations)	90%
10 Point Satisfaction Scale (1=Poor, 10=Excellent)	90%
8 Point Satisfaction Scale (1=Very dissatisfied, 2=Dissatisfied, 3=Somewhat dissatisfied, 4=Neither satisfied nor dissatisfied, 5=Somewhat satisfied, 6=Satisfied, 7=Very satisfied, 8=No response)	85%

Note: Highlighted cell represents the scale used in the CoreQ.

D. The CoreQ: Long-Stay Family questionnaire was purposefully written using simple language. No a priori goal for reading level was set, however a Flesch-Kinkaid scale score of six, or lower, is achieved for all questions.

2. Testing the Items for the CoreQ: Long-Stay Family Questionnaire

A. Each family member was asked to rate on a scale of 1 to 10 (with 10 as the best) how important they thought the question was for evaluating the experience with SNF care. The three questions included in the COREQ were highly rated out of all the questions and in analysis of family member's responses to 18 questions. That is, these three items were shown to provide unique information to distinguish satisfaction with SNFs. Specifically, "In recommending this facility to your friends and family, how would you rate it overall?" had an average score of 9.69; "Overall, how would you rate the staff?" had an average score of 9.6; and, "How would you rate the care you receive?" had an average score of 9.5. This shows a very pervasive influence of the satisfaction items with the experience of SNF care. See Table 1c.5 (Appendix)

B. The pilot CoreQ: Long-Stay Family questionnaire items are shown in Table 2b2.3.d. This shows that the items performed well with respect to the distribution of the response scale and with respect to missing responses.

C. Using all items in the instruments (excluding the global item Q1 ("How would you rate the facility?")) exploratory factor analysis (EFA) was used to evaluate the construct validity of the measure. The Eigenvalues from the principal factors (unrotated) are presented in the Table below. In this analysis, the first Eigenvalue is overwhelmingly greater than the second Eigenvalue, this supports the proposition that the CoreQ instrument is measuring a single global concept of customer satisfaction – rather than a number of sub-concepts of customer satisfaction. Sensitivity analyses using principal factors and rotating provide highly similar findings.

Table 2b2.3.e: Exploratory Factor Analysis Results

	Long-Stay Family
Factor 1	11.73
Factor 2	0.61

3. To determine if a Sub-Set of Items could Reliably be used to Produce an Overall Indicator of Satisfaction (The Core Q: Long-Stay Family measure).

A. To support the construct validity that the idea that the CoreQ items measured a single concept of "satisfaction" – we performed a correlation analysis using all items in the instrument. The analysis identifies the pairs of CoreQ items with the highest correlations. The highest correlations are shown in the Table 2b2.3.f. Items with the highest correlation are potentially providing similar satisfaction information. Because items with the highest correlation were potentially providing similar satisfaction information they could be eliminated from the instrument. Note, the table provides 7 sets of correlations, however the analysis was conducted examining all possible correlations between items.

Table 2b2.3.f: CoreQ: Long-Stay Family Questionnaire Example Item Correlations

	Family
Highest Correlation	Q1-Q10 (.845)
Next highest Correlation	Q1-Q2 (.841)
Next highest Correlation	Q1-Q6 (.826)
Next highest Correlation	Q1-Q5 (.757)
Next highest Correlation	Q1-Q9 (.782)
Next highest Correlation	Q1-Q18 (.710)

RESULT = ITEMS TO DROP

B. In addition, using all items in the instrument a factor analysis was conducted. Using the global items Q1 ("How satisfied are you with the facility?") the Cronbach's Alpha of adding the "best" additional item is shown in the table below. Cronbach's alpha measures the internal consistency of the values entered into the factor analysis; a value of 0.7 or higher is generally considered acceptably high. The additional item(s) is considered best in the sense that it is most highly correlated with the existing item, and therefore provides little additional information about the same construct. So this analysis was also used to eliminate items. Note, table 2b2.3.g again provides 7 sets of correlations, however the analysis was conducted examining all possible correlations between items.

Table 2b2.3.g: Secondary Correlation Analysis of CoreQ: Long-Stay Family Questionnaire Items

	Family
Q1 + last satisfaction item ADD	Q10 (.943) Q6 (.939) Q2 (.935)
Q1 + ADD ADD	Q2 + Q6 (.931) Q10 + Q6 (.931) Q2 + Q10 (.929)
Q1 + ADD ADD	Q10 + Q6 (.939) Q9 + Q6 (.935) Q2 +Q6 (.935)

Thus, using the correlation information and factor analysis 3 items representing the CoreQ: Long-Stay Family questionnaire were identified.

4. *Validity Testing for the Core Q: Long-Stay Family Measure.*

The overall intent of the analyses described above was to identify if a sub-set of items could reliably be used to

produce an overall indicator of satisfaction, the CoreQ: Long-Stay Family questionnaire.

A. The items were all scored according to the rules identified elsewhere. The same scoring was used in creating the 3 item CoreQ: Long-Stay Family questionnaire summary score and the satisfaction score using the Pilot CoreQ: Long-Stay Family questionnaire. The correlation was identified as having a value of 0.90.

That is, the correlation score between actual the "CoreQ: Long-Stay Family Measure" and all of the 18 items used in the Pilot instrument indicates that the satisfaction information is approximately the same if we had included either the 3 items (much less burdensome, and therefore likely to yield a higher response rate) or the 18 item Pilot instrument. Thus, we only included the three measures as additional measures did not provide additional information for a quality measure to assess a facilities satisfaction score. Additional questions may help with quality improvement efforts to identify specific areas of satisfaction or dissatisfaction.

B. We performed additional validity testing of the facility-level CoreQ: Long-Stay Family measure by measuring the correlations between the CoreQ: Long-Stay Family measure scores and A) measures of regulatory compliance and other quality metrics from the Certification and Survey Provider Enhanced Reporting (CASPER) data, B) several other quality metrics from Nursing Home Compare, C) risk-adjusted discharge to community measure [NQF# 2858], and D) risk adjusted PointRight® Pro 30™ Rehospitalizations [NQF# 2375].

CoreQ: Long-Stay Family measure is the percentage of family members of residents discharged from the facility within 100 days of admission from a hospital to the nursing facility who, on average for the three CoreQ items included in the measure, rated the facility >= 3. We measured satisfaction using family's responses to the three items from the CoreQ: Long-Stay Family questionnaire (see Table 2a2.3.a).

The summary score from the 3 CoreQ: Long-Stay Family questionnaire items is calculated in the following way: Respondents answering poor are given a score of 1, average = 2, good =3, very good =4 and excellent =5. For the 3 questionnaire items the average score for the Family is calculated. The facility score represents the percent of family members with average scores of 3 or above. This score should be associated with quality. Therefore, for each facility in the sample the correlation with other quality indicators was examined.

(i) Relationship with CASPER Quality Indicators

Certification and Survey Provider Enhanced Reporting (CASPER) contains data collected as part of state/federal nursing home inspections. In short, nursing facilities that accept residents with Medicare and/or Medicaid payments are surveyed. This includes most (i.e., 97% [16,000 facilities]) nursing homes in the U.S. The survey process occurs approximately yearly, and includes the recording of many quality characteristics of the nursing home. These include restraint use; pressure ulcers; catheter use; antipsychotic use; antidepressant use; antianxiety use; and, use of hypnotics. These are commonly used quality indicators used for examining the quality of nursing homes.

In addition, when a nursing home is determined not to meet a certification minimum standard a deficiency citation is issued. These deficiency citations are also commonly used in the analyses of the quality of nursing homes. Approximately 180 deficiency citations exist and are grouped into 16 categories. These 16 categories group like areas together. They were developed by CMS and have considerable face validity; although, one limitation of using these categories is that they were not defined using empirical estimation (such as factor analysis). One category groups together 25 "quality of care" deficiency citations. In addition, for all deficiency citations a determination of the scope and severity of the problem(s) identified is also made. One of 12 categories is used which are labeled "A" through "L," with L having the highest severity and scope. The most severe (i.e., JKL) are used in this

analysis. Thus, we would expect a negative correlation between family satisfaction and the number and severity of deficiencies cited by the State Survey agency.

Table 2b2.3.g: Correlation results between the CoreQ Long Stay Family Questionnaire Measure Score and CASPER Quality Indicators

Quality Indicator	Correlation with Satisfaction Summary Score	P-Value
Restraint Use	-0.28	<0.01
Pressure Ulcers	-0.04	0.51
Catheter Use	-0.03	0.70
Antipsychotic Use	-0.14	0.04
Antidepressant Use	0.08	0.23
Antianxiety Use	-0.09	0.19
Use of Hypnotics	-0.10	0.16
Deficiency Citation	-0.08	0.23

(ii) Relationship with Nursing Home Compare (NHC) Quality Indicators, Five Star ratings, and staffing levels

Nursing Home Compare (NHC) is a nursing home report card. After several years of pilot testing, the Centers for Medicare and Medicaid Services (CMS) released this report card on the world-wide web in November of 2002. Briefly, Nursing Home Compare provides information for facility location, structural factors (such as ownership), and staffing characteristics (such as registered nurse [RN] staffing levels). Most significantly, standardized quality information is presented in what are called Quality Measures (QMs). These are calculated from MDS information.

At the time period of for this study (i.e., 2014) CMS reported on 19 measures – these are called the core Quality Measures. The Quality Measures address specific areas of resident care, 5 are for short-stay residents and 14 are for long-stay residents. Long-stay measures are for those residents staying at a facility 3 months or more and short-stay measures are for residents staying at a facility less than 3 months. The long-stay measures are most pertinent to the CoreQ: Long-Stay Family questionnaire; therefore, these were used in the analyses.

Nursing Home Compare also uses a five-star rating for facilities. This is based on information from the health inspection, direct care staffing, and the MDS quality measures. A five star facility is the highest score and a 1 star facility the lowest score. With respect to staffing, two measures are used: 1) RN hours per Family day; and 2) total staffing hours (RN+ LPN+ nurse aide hours) per Family day.

Table 2b2.3.h: Correlation results between the CoreQ Long Stay Family Questionnaire Measure Score and NHC Quality Indicators, Five Star ratings, and staffing levels

Quality Indicator	Correlation with Satisfaction Summary Score MEASURE	P-Value
Percent of long-stay residents experiencing one or more falls with major injury.	-0.17	0.01
Percent of long-stay residents with a urinary tract infection	-0.29	0.09

Percent of long-stay residents who self-report moderate to severe pain	-0.24	0.15
Percent of long-stay high-risk residents with pressure ulcers	-0.21	0.22
Percent of long-stay low-risk residents who lose control of their bowels or bladder	-0.11	0.01
Percent of long-stay residents who have/had a catheter inserted and left in their bladder	-0.32	0.07
Percent of long-stay residents who were physically restrained	-0.41	0.09
Percent of long-stay residents whose need for help with daily activities has increased	-0.33	0.03
Percent of long-stay residents who lose too much weight	-0.19	0.21
Percent of long-stay residents who have depressive symptoms	-0.13	0.10
Percent of long-stay residents assessed and given, appropriately, the seasonal influenza vaccine	0.40	0.08
Percent of long-stay residents assessed and given, appropriately, the pneumococcal vaccine	0.30	0.09
Percent of long-stay residents who are administered antipsychotic medications	0.16	0.10
Five-Star rating	0.32	0.13
RN hours per resident day	0.45	0.10
Total staffing hours	0.42	0.05

(iii) Relationship with the risk-adjusted Discharge to Community Measure

The Discharge to Community measure [NQF# 2858] determines the percentage of all new admissions from a hospital who are discharged back to the community within 100 days and remain out of any skilled nursing center for the next 30 days. The measure, referring to a rolling year of MDS entries, is calculated each quarter and includes all new admissions to a SNF regardless of payor source. Unsuccessful discharges will result in the resident becoming a long stay resident, which we hypothesize would increase family member dissatisfaction in SNFs with poor discharge to community rates.

The results of testing for correlation between Risk-adjusted discharge to community measure (from 2015q1) and the CoreQ: Long-Stay Family questionnaire are provided in the table below.

Table 2b2.3.i: Correlation results between the CoreQ Long Stay Family Measure and Risk-adjusted Discharge to Community Measure

CoreQ: Long-Stay Family	Correlation with Risk-adjusted discharge to community measure	P-Value
Q1: In recommending this facility to your friends and family, how would you rate it overall?	-0.03	0.65
Q2: Overall, how would you rate the staff?	-0.06	0.36

Q3: How would you rate the care you family member received?	-0.05	0.44
CoreQ: Long-Stay Family summary score	-0.05	0.48

(iv) Relationship with the risk adjusted PointRight® Pro 30™ Rehospitalizations

PointRight® Pro 30™ [NQF# 2375] is an all-cause, risk adjusted rehospitalization measure. It provides the rate at which all patients (regardless of payer status or diagnosis) who enter skilled nursing facilities from acute hospitals and are subsequently rehospitalized during their SNF stay, within 30 days from their admission to the SNF. Individuals who are rehospitalized after admission are much more likely to become a long stay residents. We hypothesize family members would therefore be more dissatisfied on average in SNFs with high short stay resident rehospitalization rates.

The results of testing for correlation between Risk-adjusted PointRight® Pro 30™ Rehospitalizations measure (from 2015q2) and the CoreQ: Long-Stay Family questionnaire are provided in the table below.

Table 2b2.3.j: Correlation results between the CoreQ Long Stay Family Measure and Risk-adjusted PointRight® Pro 30™ Rehospitalizations Measure

CoreQ: Long-Stay Family	Correlation with Risk-adjusted PointRight® Pro 30™ Rehospitalizations measure	P-Value
Q1: In recommending this facility to your friends and family, how would you rate it overall?	-0.21	<0.01
Q2: Overall, how would you rate the staff?	-0.18	<0.01
Q3: How would you rate the care you family member received?	-0.20	<0.01
CoreQ: Long-Stay Family summary score	-0.21	<0.01

2b1.4. What is your interpretation of the results in terms of demonstrating validity? (i.*e., what do the results mean and what are the norms for the test conducted?*)

1. Validity Testing for the Questionnaire Format used in the CoreQ: Long-Stay Family Questionnaire

A. The literature review shows that domains used in the Pilot CoreQ: Long-Stay Family questionnaire items have a high degree of both face validity and content validity.

B. Family's overall rankings, show the general "domain" areas used indicates a high degree of both face validity and content validity.

C. The results show that 100% of Family's are able to complete the response format used. This testing indicates a high degree of both face validity and content validity.

D. The Flesch-Kinkaid scale score achieved for all questions indicates that respondents have a high degree of understanding of the item.

2. Testing the Items for the CoreQ: Long-Stay Family Questionnaire

A. The percent of missing responses for the items is very low. The distribution of the summary score is wide. This is important for quality improvement purposes, as nursing facilities can use benchmarks etc.

B. EFA shows that one factor explains the common variance of the items. A single factor can be interpreted as the only "concept" being measured by those variables. This means that the instrument measures the global concept of satisfaction and not multiple areas of satisfaction. This supports the validity of the CoreQ instrument as measuring a single concept of "customer satisfaction". This testing indicates a high degree of criterion validity.

3. Testing to Determine if a Sub-Set of Items could Reliably be used to Produce an Overall Indicator of Satisfaction (The Core Q: Long-Stay Family measure)

A. Using the correlation information of the Core Q: Long-Stay Family questionnaire (18 items) and the 3 items representing the CoreQ: Long-Stay Family questionnaire a high degree of correlation was identified. This testing indicates a high degree of criterion validity.

B. EFA shows that one factor explains the common variance of the items. A single factor can be interpreted as the only "concept" being measured by those variables. This means that the instrument measures the global concept of satisfaction and not multiple areas of satisfaction. This supports the validity of the CoreQ instrument as measuring a single concept of "customer satisfaction". This testing indicates a high degree of criterion validity.

4. *Validity Testing for the Core Q: Long-Stay Family Measure*

A. The correlation of the 3 item CoreQ: Long-Stay Family measure summary score (identified elsewhere in this document) with the overall satisfaction score (scored using all data and the same scoring metric) gave a value of 0.90.

That is, the correlation score between actual the "CoreQ: Long-Stay Family Measure" and all of the 18 items used in the Pilot instrument indicates that the satisfaction information is approximately the same if we had included either the 3 items or the 18 item Pilot questions.

This indicates that the CoreQ: Long-Stay Family measure score adequately represents the overall satisfaction of the facility. This testing indicates a high degree of criterion validity.

B.

(i) Relationship with CASPER Quality Indicators

The CASPER Quality Indicators all had negative correlation with the CoreQ: Long-Stay Family measure as expected (higher satisfaction is associated with better quality). These correlations range from ± 0.03 to 0.28. The CoreQ: Long-Stay Family measure is associated with these quality indicators. This testing indicates a reasonable degree of construct validity and convergent validity.

(ii) Relationship with Nursing Home Compare (NHC) Quality Indicators, Five Star ratings, and staffing levels

The Nursing Home Compare (NHC) Quality Indicators, Five Star ratings, and staffing levels had a moderate to high level of correlation with the CoreQ: Long-Stay Family measure. These correlations range from ± 0.11 to 0.45. The CoreQ: Long-Stay Family measure is associated with these quality indicators, and always in the hypothesized direction (good correlates with good). In particular, as emphasized in the structure-process-outcome framework of the evidence section, the link between staffing and customer satisfaction is particularly high, as confirmed by the correlation coefficients 0.45 for RN hours per resident-day and 0.42 for total staffing hours per resident day. This testing indicates a reasonable degree of construct validity and convergent validity.

(iii) Relationship with the risk-adjusted Discharge to Community Measure

The risk-adjusted Discharge to community measure was negatively correlated to the CoreQ: Long-Stay Family measure. The correlations range from -0.03 to -0.06, all of which are not statistically significant at the p-value of 0.05. This was not as hypothesized which may be related to some SNFs that specialize in long stay, have very low discharge to community rates as admissions do not have a plan to go home.

(iv) Relationship with the risk adjusted PointRight® Pro 30™ Rehospitalizations

The risk-adjusted PointRight® Pro 30™ Rehospitalizations was negatively correlated to the CoreQ: Long-Stay Family measure. The correlations range from -0.18 to -0.21, and all of them were statistically significant at the p-value of 0.05. This is expected because lower rehospitalization rates (an indicator of high quality) are associated with higher satisfaction scores. This was as hypothesized. This testing indicates a reasonable degree of construct validity and convergent validity.

As noted by Mor and associates (2003, p.41) "there is only a low level of correlation among the various measures of quality" In long term care settings. Castle and Ferguson (2010) also show the pattern of findings of quality indicators in nursing facilities is consistently moderate with respect to the correlations identified. The magnitude of correlations of the CoreQ with quality metrics are consistent with these findings in this setting.

2b2. EXCLUSIONS ANALYSIS

NA ☐ no exclusions — *skip to section 2b4*

2b2.1. Describe the method of testing exclusions and what it tests (*describe the steps—do not just name a method; what was tested, e.g., whether exclusions affect overall performance scores; what statistical analysis was used*)

To develop the CoreQ: Long-Stay Family measure, we convened an expert panel to advise us on aspects such as which exclusions to apply to the measure, with the goal to make sure as many family members who are capable of giving a response are included as possible, and that the voice of the Family is included not proxies.

The exclusion analysis included 221 nursing homes that have used the CoreQ: Long-Stay Family measure. These facilities were included in multiple states across the US (this is data source 3, from above).

2b2.2. What were the statistical results from testing exclusions? (*include overall number and percentage of individuals excluded, frequency distribution of exclusions across measured entities, and impact on performance measure scores*)

The expert panel advised us to exclude: 1) Family members of residents receiving hospice care; and (2) Family members of residents with a legal court appointed guardian.

In addition we exclude; (3) Family members of residents who have lived in the SNF for less than 100 days; (4) Respondents who have one or more missing data point (on the COREQ items); and (5) surveys received outside of the time window (more than two months after the administration date).

These exclusions are often used with satisfaction surveys (Sangl et al., 2007). The exclusions were made at the time of data collection, so we are able to report descriptive statistics regarding the number of exclusions made.

The exclusion analysis included responses from 221 facilities (described elsewhere). The exclusions were tracked and from these facilities included 2% Family members of residents with hospice; and 4% family members with a legal court appointed guardian.

Sangl, J., Bernard, S., Buchanan, J., Keller, S., Mitchell, N., Castle, N.G., Cosenza, C., Brown, J., Sekscenski, E., and Larwood, D. (2007). The development of a CAHPS instrument for nursing home families. Journal of Aging and Social Policy, 19(2), 63-82.

2b2.3. What is your interpretation of the results in terms of demonstrating that exclusions are needed to prevent unfair distortion of performance results? (*i.e., the value outweighs the burden of increased data collection and analysis. Note: **If patient preference is an exclusion**, the measure must be specified so that the effect on the performance score is transparent, e.g., scores with and without exclusion*)
These exclusions were applied because such family members were either unable to provide an independent response or for whom the burden of completing a questionnaire is inappropriate given their residents clinical situation (e.g. hospice residents who are extremely sick and in the dying process). Therefore, the value of excluding these respondents takes into account burden on respondents and likely distortion of the results.

2b3. RISK ADJUSTMENT/STRATIFICATION FOR OUTCOME OR RESOURCE USE MEASURES
If not an intermediate or health outcome, or PRO-PM, or resource use measure, skip to section 2b5.

2b3.1. What method of controlling for differences in case mix is used?

☒ **No risk adjustment or stratification**

☐ **Statistical risk model with** Click here to enter number of factors **risk factors**

☐ **Stratification by** Click here to enter number of categories **risk categories**

☐ **Other,** Click here to enter description

2b3.1.1 If using a statistical risk model, provide detailed risk model specifications, including the risk model method, risk factors, coefficients, equations, codes with descriptors, and definitions.

No risk model is used.

2b3.2. If an outcome or resource use component measure is not risk adjusted or stratified, provide rationale and analyses to demonstrate that controlling for differences in patient characteristics (case mix) is not needed to achieve fair comparisons across measured entities.
No research to date has risk adjusted or stratified satisfaction information from nursing facilities. Testing on

this was conducted as part of the development of the federal initiative to develop a CAHPS®[1] Nursing Home Survey to measure nursing home residents' experience (hereafter referred to as NHCAHPS). No empirical, theoretical or stratified reporting of satisfaction information was recommended as the evidence showed that no clear relationship existed with respect to family characteristics and the satisfaction scores.

RTI International, Harvard University, RAND Corporation. *CAHPS Instrument for Persons Residing in Nursing Homes,* Final Report to CMS, CMS Contract No. CMS-01-01176, Sept. 2003.

2b3.3a. Describe the conceptual/clinical and statistical methods and criteria used to select patient factors (clinical factors or social risk factors) used in the statistical risk model or for stratification by risk (*e.g., potential factors identified in the literature and/or expert panel; regression analysis; statistical significance of p<0.10; correlation of x or higher; patient factors should be present at the start of care*) **Also discuss any "ordering" of risk factor inclusion**; for example, are social risk factors added after all clinical factors?

Not Applicable

2b3.3b. How was the conceptual model of how social risk impacts this outcome developed? Please check all that apply:

- ☒ **Published literature**
- ☐ **Internal data analysis**
- ☐ **Other (please describe)**

2b3.4a. What were the statistical results of the analyses used to select risk factors?

Not Applicable

2b3.4b. Describe the analyses and interpretation resulting in the decision to select social risk factors *(e.g. prevalence of the factor across measured entities, empirical association with the outcome, contribution of unique variation in the outcome, assessment of between-unit effects and within-unit effects.)* **Also describe the impact of adjusting for social risk (or not) on providers at high or low extremes of risk.**

Analyses used to examine social (SDS) factors include: (1) the summary score for each of the 3 CoreQ: Long-Stay Family questionnaire items; (2) the summary score for the CoreQ: Long-Stay Family measure; and (3) the summary score from the CoreQ: Long-Stay Family questionnaire measure at the facility level.

(1) Summary Score for each of the 3 CoreQ: Long-Stay Family Questionnaire Items

The summary score for each of the 3 CoreQ: Long-Stay Family questionnaire items is calculated in the following way: Respondents answering poor are given a score of 1, average = 2, good =3, very good =4 and excellent =5. Correlation and t-test a**nalyses were** used to compare the SDS means with each other. See Table 2b4.4b.a. These analyses show that the individual item scores used in the CORE Q: Long-Stay Family measure are not significantly different based on either education level or race. That is, the educational makeup of the respondents or the racial makeup of the respondents does not appear to relate to the scores for individual items.

Table 2b4.4b.a: Mean CoreQ: Long-Stay Family Distribution Item by Level of Education and Race

What is the highest grade or level of school that you have completed?	**Respondents**	**Q1**	**Q2**	**Q3**

		Mean	*Mean*	*Mean*
Some high school, but did not graduate	***7% (n=95)***	3.28	3.31	2.50
High school graduate or GED	***32% (n=419)***	3.31	3.45	2.61
Some college or 2 year degree	***32% (n=414)***	3.30	3.44	2.65
4 year college graduate	***15% (n=204)***	3.27	3.42	2.57
More than 4 year college degree	***15% (n=192)***	3.26	3.46	2.61
RANK CORRELATION		0.0056	0.0154	0.0098

RANK CORRELATION OF ITEMS WITH EDUCATION: NONE SIGNIFICANT AT p=0.05

Table 2b4.4b.a: Mean CoreQ: Long-Stay Family Distribution Item by Level of Education and Race (continued)

What is your race?	**Respondents**	**Q1**	**Q2**	**Q3**
		Mean	Mean	Mean
White	***92% (n=1196)***	3.32	3.46	2.63
Black or African-American	**7% (n=92)**	2.98	3.04	2.44
Asian	**1% (n=17)**	3.05	3.47	2.63
Native Hawaiian or other Pacific Islander	**0% (n=0)**	0	0	0
American Indian or Alaskan Native	**0% (n=0)**	0	0	0
TWO-SAMPE T-TEST	1 vs. 2	2.79	3.46	1.59
	1 vs. 3	0.97	0.45	0.49
	2 vs. 3	0.28	1.63	0.77

RACE ITEMS: NONE SIGNIFICANTY DIFFERENT AT p=0.05

(2) Summary Score for the CoreQ: Long-Stay Family Measure

The summary score for each of the 3 CoreQ: Long-Stay Family questionnaire items is calculated in the following way: Respondents answering poor are given a score of 1, average = 2, good =3, very good =4 and excellent =5. For the 3 questionnaire items the average score for the Family is calculated. Correlation and T-test a**nalyses were** used to compare the SDS means with each other. See Table 2b4.4b.b. These analyses show that the CORE Q: Long-Stay Family measure score is not significantly different based on either education level or race of respondents. That is, the educational makeup of the respondents or the racial makeup of the respondents does not appear to relate to the measure score.

Table 2b4.4b.b: Mean CoreQ: Long-Stay Family Distribution by Level of Education and Race

What is the highest grade or level of school that you have completed?	**Respondents**	**Measure Score**
		Mean
Some high school, but did not graduate	***7% (n=95)***	3.39
High school graduate or GED	***32% (n=419)***	3.66

Some college or 2 year degree	***32% (n=414)***	3.51
4 year college graduate	***15% (n=204)***	3.47
More than 4 year college degree	***15% (n=192)***	3.89

RANK CORRELATION OF MEASURE SCORE WITH EDUCATION: NOT SIGNIFICANT AT p=0.05

Table 2b4.4b.b: Mean CoreQ: Long-Stay Family Distribution by Level of Education and Race (continued)

What is your race?	**Respondents**	**Measure Score**
		Mean
White	***92% (n=1196)***	3.48
Black or African-American	**7% (n=92)**	3.67
Asian	**1% (n=17)**	3.83
Native Hawaiian or other Pacific Islander	**0% (n=0)**	0
American Indian or Alaskan Native	**0% (n=0)**	0
		p-value
TWO-SAMPLE T-TEST	1 vs. 2	0.19
	1 vs. 3	0.21
	2 vs. 3	0.57

RACE MEASURE SCORE: NONE SIGNIFICANTY DIFFERENT AT p=0.05

(3.) Summary score from the CoreQ: Long-Stay Family Measure (at the facility level).

The summary score for each of the 3 CoreQ: Long-Stay Family questionnaire items is calculated in the following way: Respondents answering poor are given a score of 1, average = 2, good =3, very good =4 and excellent =5. For the 3 questionnaire items the average score for the Family is calculated. The facility score represents the percent of families with average scores of 3 or above. A t-test a**nalysis was** used to compare the mean scores. See Table 2b4.4b.c. This analysis demonstrated the CORE Q: Long-Stay Family measure is not significantly different based on either education level or race. That is, the educational makeup of the respondents or the racial makeup of the respondents does not appear to be related to this measure.

Table 2b4.4b.c: CoreQ: Long-Stay Family Score with and without stratification for Education and Race

What is the highest grade or level of school that you have completed?	**Respondents**	**Measure Score**		
		Score with SDS Characteristic vs. Without Characteristic		
Some high school, but did not graduate	***7% (n=95)***	82.5	83.4	n.s
High school graduate or GED	***32% (n=419)***	83.1	83.3	n.s
Some college or 2 year degree	***32% (n=414)***	83.4	82.5	n.s
4 year college graduate	***15% (n=204)***	83.3	83.2	n.s
More than 4 year college degree	***15% (n=192)***	83.9	83.6	n.s

N.S. = Not significant at p=0.05

Table 2b4.4b.c: CoreQ: Long-Stay Family Score with and without stratification for Education and Race (continued)

What is your race?	Respondents	Measure Score (Mean)		
		Score with SDS Characteristic vs. Without Characteristic		
White	***92% (n=1196)***	83.7	83.4	n.s
Black or African-American	**7% (n=92)**	83.5	83.3	n.s
Asian	**1% (n=17)**	83.8	83.5	n.s
Native Hawaiian or other Pacific Islander	**0% (n=0)**	0	0	0
American Indian or Alaskan Native	**0% (n=0)**	0	0	0

N.S. = Not significant at p=0.05

2b3.5. Describe the method of testing/analysis used to develop and validate the adequacy of the statistical model or stratification approach (*describe the steps—do not just name a method; what statistical analysis was used*)
Not Applicable.

Provide the statistical results from testing the approach to controlling for differences in patient characteristics (case mix) below.
If stratified, skip to 2b3.9

2b3.6. Statistical Risk Model Discrimination Statistics (*e.g., c-statistic, R-squared*)**:**
Not Applicable.

2b3.7. Statistical Risk Model Calibration Statistics (*e.g., Hosmer-Lemeshow statistic*):
Not Applicable.

2b3.8. Statistical Risk Model Calibration – Risk decile plots or calibration curves:
Not Applicable.

2b3.9. Results of Risk Stratification Analysis:

Not Applicable.

2b3.10. What is your interpretation of the results in terms of demonstrating adequacy of controlling for differences in patient characteristics (case mix)? (i.*e., what do the results mean and what are the norms for the test conducted*)
Not Applicable.

2b3.11. Optional Additional Testing for Risk Adjustment (*not required, but would provide additional support of adequacy of risk model, e.g., testing of risk model in another data set; sensitivity analysis for missing data; other methods that were assessed*)

Not Applicable.

2b4. IDENTIFICATION OF STATISTICALLY SIGNIFICANT & MEANINGFUL DIFFERENCES IN PERFORMANCE

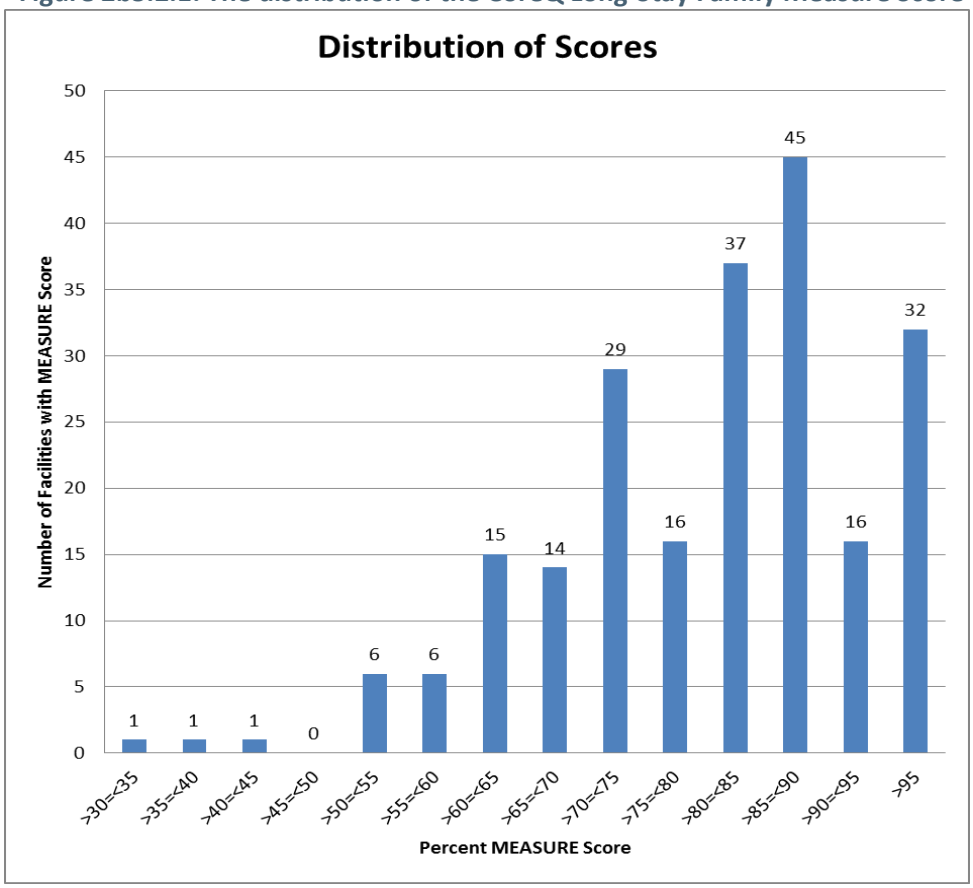
2b4.1. Describe the method for determining if statistically significant and clinically/practically meaningful differences in performance measure scores among the measured entities can be identified (*describe the steps—do not just name a method; what statistical analysis was used? Do not just repeat the information provided related to performance gap in 1b)*

We performed an analyses to examine whether the CoreQ Long-Stay Family measure captured clinically/practically meaningful differences between providers by examining a histogram of the scores for the providers in the CoreQ: Long-Stay Family questionnaire sample (Figure 2b5.2.1).

2b4.2. What were the statistical results from testing the ability to identify statistically significant and/or clinically/practically meaningful differences in performance measure scores across measured entities? (e.g., *number and percentage of entities with scores that were statistically significantly different from mean or some benchmark, different from expected; how was meaningful difference defined*)

The histogram below shows the distribution of the CoreQ Long-Stay Family measure which has a good distribution and range of scores.

Figure 2b5.2.1: The distribution of the CoreQ Long-Stay Family Measure Score



2b4.3. What is your interpretation of the results in terms of demonstrating the ability to identify statistically significant and/or clinically/practically meaningful differences in performance across measured entities? (i.*e., what do the results mean in terms of statistical and meaningful differences?*)

The CoreQ Long-Stay Family scores reflect practical and meaningful differences in quality between facilities. The histogram in Section 2b5.2 shows that the distribution of summary scores is quite wide, indicating the scores can be used to differentiate facilities of varying levels of customer satisfaction quality.

2b5. COMPARABILITY OF PERFORMANCE SCORES WHEN MORE THAN ONE SET OF SPECIFICATIONS

If only one set of specifications, this section can be skipped.

Note: *This item is directed to measures that are risk-adjusted (with or without social risk factors)* ***OR*** *to measures with more than one set of specifications/instructions (e.g., one set of specifications for how to identify and compute the measure from medical record abstraction and a different set of specifications for claims or eMeasures). It does not apply to measures that use more than one source of data in one set of specifications/instructions (e.g., claims data to identify the denominator and medical record abstraction for the numerator).* ***Comparability is not required when comparing performance scores with and without social risk factors in the risk adjustment model. However, if comparability is not demonstrated for measures with more than one set of specifications/instructions, the different specifications (e.g., for medical records vs. claims) should be submitted as separate measures.***

2b5.1. Describe the method of testing conducted to compare performance scores for the same entities across the different data sources/specifications (*describe the steps—do not just name a method; what statistical analysis was used*)

Not Applicable

2b5.2. What were the statistical results from testing comparability of performance scores for the same entities when using different data sources/specifications? (*e.g., correlation, rank order*)

Not Applicable

2b5.3. What is your interpretation of the results in terms of the differences in performance measure scores for the same entities across the different data sources/specifications? (i.*e., what do the results mean and what are the norms for the test conducted*)

Not Applicable

2b6. MISSING DATA ANALYSIS AND MINIMIZING BIAS

2b6.1. Describe the method of testing conducted to identify the extent and distribution of missing data (or nonresponse) and demonstrate that performance results are not biased due to systematic missing data (or differences between responders and nonresponders) and how the specified handling of missing data minimizes bias (*describe the steps—do not just name a method; what statistical analysis was used*)

Three items are used in the CoreQ: Long-Stay Family questionnaire. In calculating the CoreQ: Long-Stay Family measure if 1 item of 3 is missing then imputation is used, and if 2 (or more) of the 3 items is missing, the respondent is excluded. The imputation method consists of using the average score from the items answered. The testing to identify the extent and distribution of missing data included examining the frequency of missing responses for each of the 3 CoreQ: Long-Stay Family questionnaire items and the extent and distribution of missing data for more than one missing response for the items. The method of testing to identify if the performance results were biased included examining the correlation with the quality indicators (described above) when imputation was and was not used.

2b6.2. What is the overall frequency of missing data, the distribution of missing data across providers, and the results from testing related to missing data? (*e.g., results of sensitivity analysis of the effect of various rules for missing data/nonresponse; if no empirical sensitivity analysis, identify the approaches for handling missing data that were considered and pros and cons of each*)

As noted above, 3 items are used in the CoreQ: Long-Stay Family questionnaire. In calculating the CoreQ: Long-Stay Family measure if 1 item of 3 is missing then imputation is used, and if 2 (or more) of the 3 items is

missing, the respondent is excluded. The imputation method consists of using the average score from the items answered. From the testing of 6,192 Family members (described elsewhere) we found:

1. In recommending this facility to your friends and family, how would you rate it overall? That missing responses occurred in 4.28% (n=265) cases.
2. Overall, how would you rate the staff?

Missing responses occurred in 4.31% (n=267) cases.

3. How would you rate the care your family member received?

Missing responses occurred in 4.25% (n=263) cases.

Two (or more) missing responses occurred in 236 cases. Thus, the degree of missing data was very small (=3.8%). Imputation was used in 220 cases or 3.5% of respondents.

2b6.3. What is your interpretation of the results in terms of demonstrating that performance results are not biased due to systematic missing data (or differences between responders and nonresponders) and how the specified handling of missing data minimizes bias**?** (i.*e., what do the results mean in terms of supporting the selected approach for missing data and what are the norms for the test conducted; if no empirical analysis, provide rationale for the selected approach for missing data*)

Bias from imputation was minimal. The correlation with the quality indicators described above (i.e., restraint use, pressure ulcers, catheter use, antipsychotic use, antidepressant use, antianxiety use, use of hypnotics, and deficiency citations) was unchanged. When the respondents were removed from the analyses, the average Summary Scores remained the same.

3. Feasibility

Extent to which the specifications including measure logic, require data that are readily available or could be captured without undue burden and can be implemented for performance measurement.

3a. Byproduct of Care Processes

For clinical measures, the required data elements are routinely generated and used during care delivery (e.g., blood pressure, lab test, diagnosis, medication order).

3a.1. Data Elements Generated as Byproduct of Care Processes.

Other

If other: Satisfaction Survey

3b. Electronic Sources

The required data elements are available in electronic health records or other electronic sources. If the required data are not in electronic health records or existing electronic sources, a credible, near-term path to electronic collection is specified.

3b.1. To what extent are the specified data elements available electronically in defined fields (*i.e., data elements that are needed to compute the performance measure score are in defined, computer-readable fields*) Update this field for **maintenance of endorsement**.

ALL data elements are in defined fields in a combination of electronic sources

3b.2. If ALL the data elements needed to compute the performance measure score are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than

electronic sources. For **maintenance of endorsement**, if this measure is not an eMeasure (eCQM), please describe any efforts to develop an eMeasure (eCQM).

Not applicable. In an effort to keep administrative burden low to encourage collection of satisfaction data, which is important in the field, there are no efforts to develop an eCQM.

3b.3. If this is an eMeasure, provide a summary of the feasibility assessment in an attached file or make available at a measure-specific URL. Please also complete and attach the NQF Feasibility Score Card.

Attachment:

3c. Data Collection Strategy

Demonstration that the data collection strategy (e.g., source, timing, frequency, sampling, patient confidentiality, costs associated with fees/licensing of proprietary measures) can be implemented (e.g., already in operational use, or testing demonstrates that it is ready to put into operational use). For eMeasures, a feasibility assessment addresses the data elements and measure logic and demonstrates the eMeasure can be implemented or feasibility concerns can be adequately addressed.

3c.1. Required for maintenance of endorsement. Describe difficulties (as a result of testing and/or operational use of the measure) regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, other feasibility/implementation issues.

IF instrument-based, consider implications for both individuals providing data (patients, service recipients, respondents) and those whose performance is being measured.

Maintenance of endorsement update:

There have been no reported difficulties. Providers, vendors, patients and family members (or designated party) have liked the fact that it is a short questionnaire. Patients and the family members (or designated party) have expressed appreciation that their satisfaction or lack thereof with the facility is being measures.

From initial endorsement:

Since the CoreQ: Long-Stay Family measure has been created and utilized in testing and quality improvement, we have modified it in the following ways.

We conducted analyses on collecting data for the suggested 2 month time period. Even the smallest nursing facilities were able to achieve the 20 survey response goal identified above. We identified that a majority of nursing facilities (i.e., 80%) in our sample could achieve this number of responses if given 2 months. This recommendation was incorporated into the specifications (given above).

As part of the CoreQ: Long-Stay Family measure development, existing satisfaction vendors were contacted (including MyInnerView, Symbria, and NRC) for input on the administration and sample selection used. With respect to administration, the 2 month window used for including completed surveys are currently often used standard time periods used in the industry. With respect to the sample selection, the exclusion criteria (i.e., residents with court appointed legal guardian for all decisions; residents on hospice) were well received by these vendors. In many cases most of these sample selection criteria are already used by the vendors.

3c.2. Describe any fees, licensing, or other requirements to use any aspect of the measure as specified *(e.g., value/code set, risk model, programming code, algorithm)*.

No fees, licensing, or other requirements to use any aspect of the measure as specified (e.g., value/code set, risk model, programming code, and algorithm) exist.

4. Usability and Use

Extent to which potential audiences (e.g., consumers, purchasers, providers, policy makers) are using or could use performance results for both accountability and performance improvement to achieve the goal of high-quality, efficient healthcare for individuals or populations.

4a. Accountability and Transparency

Performance results are used in at least one accountability application within three years after initial endorsement and are publicly reported within six years after initial endorsement (or the data on performance results are available). If not in use at the time of initial endorsement, then a credible plan for implementation within the specified timeframes is provided.

4.1. Current and Planned Use

NQF-endorsed measures are expected to be used in at least one accountability application within 3 years and publicly reported within 6 years of initial endorsement in addition to performance improvement.

Specific Plan for Use	Current Use (for current use provide URL)
	Payment Program NJ Quality Incentive Payemnt Program https://www.spb.nj.gov/humanservices/doas/documents/NF%20Quality%20Incentive%20Payment%20Program%20October%202019%20Final.pdf TN Medicaid Quality Incentive Program (TennCare) n/a GA Medicaid Quality Incentive Payment Program n/a Professional Certification or Recognition Program AHCA Quality Initiative https://www.ahcancal.org/quality_improvement/qualityinitiative/Pages/default.aspx Quality Awards https://066b40b5535506586917-68298049b65edbd7ec9f493f0b1c8eb3.ssl.cf2.rackcdn.com/ahca_1ecb9d979e9f049b2382b029da472a1c.pdf Quality Improvement (external benchmarking to organizations) AHCA Quality Initiative https://www.ahcancal.org/quality_improvement/qualityinitiative/Pages/default.aspx AHCA Long Term Care (LTC) Trend Tracker https://www.ahcancal.org/research_data/trendtracker/Pages/default.aspx Quality Improvement (Internal to the specific organization) Large Nursing Chain N/A SNF provider: Brookside Inn in Colorado https://www.youtube.com/watch?v=V5OcpyJDUkQ

4a1.1 For each CURRENT use, checked above (update for maintenance of endorsement), provide:

- Name of program and sponsor
- Purpose
- Geographic area and number and percentage of accountable entities and patients included

- Level of measurement and setting

Quality Awards

- Name: National Quality Award Program
- Purpose: This Baldrige-accredited award program seeks to recognize and help skilled nursing facilities and assisted living communities implement the Baldrige framework for performance excellence. The Baldrige framework emphasizes building systems and using data to understand and meet customer and patient needs. As such, silver and gold recipients must submit benchmarked patient satisfaction data in their application, and CoreQ is one of the acceptable measures. Regardless if an applicant receives an award, they receive a feedback report on their application, which discusses their approach, including deployment, learning, and integration of said approach, in understanding and meeting their patient needs. The goal of this feedback report is to help them improve their processes which would eventually lead to higher patient satisfaction and CoreQ scores.
- Geographic Area: There are currently 697 active silver quality award recipients and 44 gold recipients across the country. All recipients are listed online.

LTC Trend Tracker

- Name: LTC Trend Tracker
- Purpose: Provide an online tool for SNF and AL members to trend and benchmark their performance on CoreQ. In addition to have reports where users can login to access, there are PDF publications that are pushed out to users via email with data for their specific facility, including CoreQ. These publications include CoreQ run charts to show their trend over time and whether they have met the Quality Initiative Goal of a 10% improvement since 2017 or achieved a high performance rate of greater than 90%.
- Geographic Area: All of the approximately 10,000 SNF members and 4,000 AL members have access to LTC Trend Tracker and thus these reports and publications.

The CoreQ: Long-Stay Family measure is currently in use by a large nursing home chain for the purposes of quality improvement.

In addition, Massachusetts Senior Care is currently using the Measure for quality improvement. A total of 150 facilities in Massachusetts are collecting satisfaction data using of the CoreQ: Long-Stay Family questionnaire. The CoreQ: Long-Stay Family measure is calculated and distributed in a report card to each participant.

Furthermore, 27 national satisfaction vendors in the SNF and AL area have agreed to add the CoreQ to their questionnaires and calculate the measure. This is an increase from 10 vendors a few years ago. The following customer satisfaction vendors are using CoreQ (updated list is also found here: http://coreq.org/)

- Align
- A Place For Mom
- Blue Sky Creative
- Brighton Consulting Group
- Care Analytics
- Cortex Health Inc.
- The Doug Williams Group, Inc.
- Healthcare Academy (ReadyQ)
- Holleran
- inQ Experience Surveys
- Lighthouse Care Updates
- Market Research Answers (CareSat)
- Nexus Health Resources, Inc
- NRC Health
- Pinnacle
- Providigm/abaqis
- Qblue Surveys, Inc.
- Qualtrics
- Reputation.com

- Senior Living Alliance
- Sensight Surveys
- Service Trac
- Simplus Surveys
- Sky Care Media
- Sperduto & Associates, Inc.
- Symbria
- Viewpoint 2 Quality

We do not have counts of patients being surveyed and geographical representation from the vendors, however they represent the majority of customer satisfaction vendors currently doing SNF business in the United States.

In 2019, AHCA/NCAL began sharing reports with vendors on the data they have uploaded to LTC Trend Tracker on behalf of their client SNFs and ALs. The purpose of these reports was to show them trends on how many data submissions meet measure requirements, such as sample size and response rate. These reports were in addition to conference calls with the vendors to discuss best practices and potential issues with meeting CoreQ measure requirements.

A letter has been sent to all 10,000 AHCA SNF members indicating which vendors to date have agreed to add the CoreQ to their questionnaire and calculate the measure (see attached letter in appendix, section 4.a.1). A user's manual has been developed and is available on AHCA's website for all satisfaction survey vendors to use, in addition to the measures' specific website: http://coreq.org/.

AHCA and NCAL have also incorporated the CoreQ into their national Quality Initiative goals. AHCA represents nearly 10,000 of the 15,000 SNFs and provides feedback to all of its members on their satisfaction scores using the CoreQ. This has resulted in growing number of members and vendors collecting the data.

4a1.2. If not currently publicly reported OR used in at least one other accountability application (e.g., payment program, certification, licensing) what are the reasons? (*e.g., Do policies or actions of the developer/steward or accountable entities restrict access to performance results or impede implementation?*)

Not applicable, see section 4a1.1.

4a1.3. If not currently publicly reported OR used in at least one other accountability application, provide a credible plan for implementation within the expected timeframes -- any accountability application within 3 years and publicly reported within 6 years of initial endorsement. (*Credible plan includes the specific program, purpose, intended audience, and timeline for implementing the measure within the specified timeframes. A plan for accountability applications addresses mechanisms for data aggregation and reporting.*)

AHCA NCAL is in the midst of its the third Quality Initiative, laying out a series of quality improvement and reporting goals for the AHCA membership, which covers approximately 10,000 of all SNFs in the U.S. Among these goals is the improvement of both long-stay measures and the short-stay measure by 10% (baseline rate: 2017Q1), or achieving a rate of >90% by March 2021 (https://www.ahcancal.org/quality_improvement/qualityinitiative/Pages/Customer-Satisfaction.aspx).

Because it has been included in the Quality Initiative 2018-2021, AHCA's machinery for publicizing and encouraging the adoption of the tool has been activated, including AHCA's quality division spending a large number of staff hours working to accomplish this. Part of these initiatives are providing semi-annual quality initiative feedback reports through the LTC Trend TrackerSM to all the providers submitting data. The LTC Trend TrackerSM CoreQ report and upload feature within LTC Trend Tracker includes an API for vendors performing the survey on behalf of SNFs or individual users so that the aggregate CoreQ results will be immediately available to providers as they are collected. Given that LTC Trend TrackerSM is probably the leading method for SNFs to profile their quality and other data, the incorporation of CoreQ into LTC Trend Tracker means it has become the de facto standard for customer satisfaction surveys for the SNF industry. This is evident by having 7 large national satisfaction vendors in the SNF area now use the CoreQ in their questionnaires and calculate the measure.

We also continue working with states who require satisfaction measurement to incorporate the CoreQ into their process. In the state of New Jersey, the Long-stay resident and family measures are part of the Department of Human Services Quality Incentive Payment Program (https://www.spb.nj.gov/humanservices/doas/documents/NF%20Quality%20Incentive%20Payment%20Program%20October%202019%20Final.pdf), but we do not have any data on the count or the geographic distribution of this. The state of Massachusetts has included the CoreQ short stay as part of its current ongoing quality improvement initiatives on measuring satisfaction in SNFs. Tennessee uses the resident and family long-stay measures as part of their Medicaid quality incentive program, to align Medicaid payments with person-centered care initiatives. Similarly, the state of Georgia also uses these measures as part of the SNF Medicaid Quality incentive payment program. Many other states which are in the midst of developing or updating their Medicaid quality incentive payment programs are considering incorporating the long-stay CoreQ measures. AHCA has a presence in each state, and our state affiliates continue promoting the use of the CoreQ in those states that are collecting or considering collecting satisfaction.

4a2.1.1. Describe how performance results, data, and assistance with interpretation have been provided to those being measured or other users during development or implementation.

How many and which types of measured entities and/or others were included? If only a sample of measured entities were included, describe the full population and how the sample was selected.

We provide these via different channels that will be discussed at length in 4a2.1.2. In short, these channels include: the CoreQ website (http://www.coreq.org/), Long-Term Care Trend Tracker (LTCTT, https://www.ahcancal.org/research_data/trendtracker/Pages/default.aspx), Quality Initiative Publications, Top-Line Publications, and various stakeholder meetings and advocacy efforts.

4a2.1.2. Describe the process(es) involved, including when/how often results were provided, what data were provided, what educational/explanatory efforts were made, etc.

Assistance with data and generally understanding the measure is provided through the open-source measure website (http://www.coreq.org/) where the public can find the manual (containing the measure algorithm) as well as the participating vendors (with their direct contacts).

Feedback on the performance results and data is provided via a quarterly push report, called Top-Line, sent to all members who have access to the Long Term Care Trend Tracker (LTCTT). They get an email notification when the data is updated. AHCA has held many webinars for membership on how to better understand all the data components. Further, if the providers being measured need assistance, there is a mailbox (LTCTT-specific) included in the push report, where providers may and do directly contact. We have also set up many FAQs and resources in the adult-learning website https://educate.ahcancal.org/

On LTCTT, we also have set up a CoreQ report which is updated quarterly directly being fed data from the API that vendors use to upload CoreQ measure scores. Therefore, those that are choosing to participate in this, will automatically see their results on the benchmarking tool. The tool is also interactive in allowing the user to see scores over time and allow them to benchmark themselves against whatever relevant peer is most pertinent (state, nation, MSA).

Further, because the CoreQ measures are part of the quality Initiative, all members and those who have access to LTCTT receive push semi-annual Quality Initiative Publications. Here too they can see run charts of their performance over time, as well as their state average and state rank for the published time period. Likewise, in this publication, we also provide different resources, two of which are the mailbox for LTCTT and a Quality Initiative-only mailbox, with designated staff continuously monitoring them.

All those that enter data or have vendors enter their data, obtain this feedback and resources.

Finally, in presentations with state affiliates and any other advocacy efforts (such as assistance with developing Medicaid quality incentives), we continue to advocate for the use of CoreQ.

4a2.2.1. Summarize the feedback on measure performance and implementation from the measured entities and others described in 4d.1.

Describe how feedback was obtained.

We are not sure what section 4d.1 refers to as it is not in this page, but in the even that you meant 4b.1, the following is the response:

Because all the data in 4b.1. is from providers who either have individually or through their vendor submitted data that meets the specifications for measurement, they are able to see their own performance (current and over time) via LTCTT (data source in 4b.1.). Additionally, because LTCTT allows for setting peer comparisons for benchmarking, these providers can also see data for whatever region they specify as pertinent (i.e. state, MSA, nation).

4a2.2.2. Summarize the feedback obtained from those being measured.

Because we do not administer the instruments, we have no way of measuring the feedback collected by residents and family members (or designated parties). It is the vendors who informally collect this feedback, but in favor of reducing the burden that patients and family members (or designated parties) may face, they keep the formal solicited CoreQ survey to only the tested questions. Therefore, any such feedback has been informal. With regards to providers, we provide feedback via the channels mentioned in 4a2.1.1. They do not see an administrative burden since most of them have these instruments administered by vendors and calculated by vendors and LTCTT. For those who cannot afford a vendor, Dr. Nick Castle (one of the developers of the measure) has volunteered to administer and collect their satisfaction measure.

4a2.2.3. Summarize the feedback obtained from other users

Other users such as the state agencies involved in the administration of the Medicaid quality incentive program as well as the quality initiative programs have lauded the small number of questions that are included in this measure. This is especially important as more states move to Medicaid value-based care with a person-centered care model.

Additionally, to maintain transparency and increase awareness of the measures, we have presented abstracts and posters on all 5 CoreQ measures (SNF and AL) at various professional conferences: Academy health (2019), International Association of Gerontology and Geriatrics World Congress (2017), Gerontological Society of America (2019), see below.

Castle, N., Schwartz, L., Gifford, D. (2019, November) Using a Universal Satisfaction Score in Long-Term Care Settings. Paper presented at the annual meeting of the Gerontological Society of America, Austin TX.

Schwartz, L., Castle, N., Domi, M., Gifford, D. (2019, June). CoreQ: Development of a Universal Satisfaction Score for SNF and AL Residents and Families. Poster session presented at the Academy Health Annual Research Meeting, Washington, DC.

Castle, N. & Schwartz, L. (2017, July) Development of a Universal Satisfaction Score for Long-Term Care Facilities. Poster presented at the World Congress of the International Association of Gerontology and Geriatrics.

4a2.3. Describe how the feedback described in 4a2.2.1 has been considered when developing or revising the measure specifications or implementation, including whether the measure was modified and why or why not.

Because feedback has been largely positive, we have not had a reason to believe that these measures needed to be modified.

Improvement

Progress toward achieving the goal of high-quality, efficient healthcare for individuals or populations is demonstrated. If not in use for performance improvement at the time of initial endorsement, then a credible rationale describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

4b1. Refer to data provided in 1b but do not repeat here. Discuss any progress on improvement (trends in performance results, number and percentage of people receiving high-quality healthcare; Geographic area and number and percentage of accountable entities and patients included.)

If no improvement was demonstrated, what are the reasons? If not in use for performance improvement at the time of initial endorsement, provide a credible rationale that describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

We have been actively monitoring improvement of membership because it has been part of the Quality Initiative (https://www.ahcancal.org/quality_improvement/qualityinitiative/Pages/default.aspx). Members need to improve the measures by 10% from their baseline of 2017Q1 score, or achieve a score of more than 90% (satisfaction rate) by March 2021. The current iteration of the quality initiative kicked off in 2018. On average, approximately 13% of membership submits CoreQ data every quarter. Thus far, on average, 18% of the providers who nationally submitted data have met this goal for at least one of the CoreQ measures (SS discharge, or LS residents, or LS family). This represents facilities across all 50 states plus the District of Columbia. We provide all facilities that submit this data and the state affiliates with their progress on semi-annual push reports.

With regards to CoreQ LS family (or designated party), 10% of the total facilities in the nation that have submitted CoreQ data have met the goal of either having >90% satisfaction rate or at least a 10% improvement in the satisfaction rate since 2017Q1. The states of AL, GA, IA, NH, RI, TN, VT, WV, and WY have at least 20% of the SNFs that submitted data meet the quality initiative goal. Approximately 50% of the facilities in GA that submit CoreQ data, meet the quality initiative goal. CO, CT, MI, and NJ have at least 15% of the SNFs that submitted data meet the quality initiative goal. All but one state have at least a facility meet the quality initiative goal.

These stats are slightly lower than those of the CoreQ LS resident measure, but it's most likely because it's more difficult to reach and follow up with family (or designated party) than it is with patients residing in the facility.

4b2. Unintended Consequences

The benefits of the performance measure in facilitating progress toward achieving high-quality, efficient healthcare for individuals or populations outweigh evidence of unintended negative consequences to individuals or populations (if such evidence exists).

4b2.1. Please explain any unexpected findings (positive or negative) during implementation of this measure including unintended impacts on patients.

There were no negative consequences to individuals or populations identified during testing or evidence of unintended negative consequences to individuals or populations reported since the implementation of the CoreQ: Long-Stay Family questionnaire or the measure that is calculated using this questionnaire. This is consistent with satisfaction surveys in general in nursing facilities. Many other satisfaction surveys are used in nursing facilities with no reported unintended consequences to patients or their families.

There are no potentially serious physical, psychological, social, legal, or other risks for patients. However, in some cases the satisfaction questionnaire can highlight poor care for some dissatisfied patients, and this may make them further dissatisfied.

4b2.2. Please explain any unexpected benefits from implementation of this measure.

A large vendor has reported patients and family members writing in the margins of the survey that they appreciate being asked about their satisfaction in a short questionnaire with the nursing home and the care provided, however, we don't systemic way of capturing this data. Another thing that we are noticing is the peer-effect in nudging the submission of data. Because the data is submitted on LTCTT allowing for providers to set benchmarks and peer comparisons, providers are nudging others in their larger organizations to submit data. Further, they continue to advocate for it through their local channels (state affiliates and conferences),

because the more providers submit measurement data, the more robust their peer comparisons will be in LTCTT.

5. Comparison to Related or Competing Measures

If a measure meets the above criteria and there are endorsed or new related measures (either the same measure focus or the same target population) or competing measures (both the same measure focus and the same target population), the measures are compared to address harmonization and/or selection of the best measure.

5. Relation to Other NQF-endorsed Measures

Are there related measures (conceptually, either same measure focus or target population) or competing measures (conceptually both the same measure focus and same target population)? If yes, list the NQF # and title of all related and/or competing measures.

Yes

5.1a. List of related or competing measures (selected from NQF-endorsed measures)

2615 : CoreQ: Long-Stay Resident Measure

5.1b. If related or competing measures are not NQF endorsed please indicate measure title and steward.

5a. Harmonization of Related Measures

The measure specifications are harmonized with related measures;
OR
The differences in specifications are justified

5a.1. If this measure conceptually addresses EITHER the same measure focus OR the same target population as NQF-endorsed measure(s):
Are the measure specifications harmonized to the extent possible?

No

5a.2. If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden.

The CoreQ: Long-Stay Family measure does not conceptually address the same measure focus as any other NQF-endorsed measures, however it does conceptually address the same target population as another NQF-endorsed satisfaction measure. The Consumer Assessment of Health Providers and Systems (CAHPS®) Nursing Home Family Member Survey Instrument (NQF #0693) presented by the Agency for Healthcare Research and Quality received NQF approval over 9 years ago in March, 2011. This instrument is endorsed to collect family member satisfaction information and consists of a 50 item questionnaire. Our application also uses nursing home residents (The CoreQ: Long-Stay Family measure) but consists of three items that are aggregated into a single measure. The score from these items is used to provide standardized information on the overall family satisfaction of the facility. The current CAHPS survey is not used in this way.

5b. Competing Measures

The measure is superior to competing measures (e.g., is a more valid or efficient way to measure);
OR
Multiple measures are justified.

5b.1. If this measure conceptually addresses both the same measure focus and the same target population as NQF-endorsed measure(s):
Describe why this measure is superior to competing measures (e.g., a more valid or efficient way to measure quality); OR provide a rationale for the additive value of endorsing an additional measure. (Provide analyses when possible.)

Not Applicable

Appendix

A.1 Supplemental materials may be provided in an appendix. All supplemental materials (such as data collection instrument or methodology reports) should be organized in one file with a table of contents or bookmarks. If material pertains to a specific submission form number, that should be indicated. Requested information should be provided in the submission form and required attachments. There is no guarantee that supplemental materials will be reviewed.

Attachment: CoreQ_Family_Appendix_Final_updated_Jan2020-637136704109863494.docx

Contact Information

Co.1 Measure Steward (Intellectual Property Owner): AHCA/NCAL

Co.2 Point of Contact: Courtney, Bishnoi, cbishnoi@ahca.org, 202-898-2807-

Co.3 Measure Developer if different from Measure Steward: American Health Care Association

Co.4 Point of Contact: Marsida, Domi, mdomi@ahca.org, 202-898-2848-

Additional Information

Ad.1 Workgroup/Expert Panel involved in measure development

Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.

The workgroup gave input, reviewing our suggested administration, required response rate, the manual, and exclusions.

Mary Tess Crotty, Genesis - Also helped provide feedback on the development process and the user manual. Additionally, she reviewed the analyses.

Matt O'Connor HCR Manor Care- Also helped provide feedback on the development process and the user manual. Additionally, he conducted some analyses and reviewed the analyses.

Judy Hoff, Health Care Academy

Rich Kortum, My Innerview/National Research Corporation

Peter Kramer, abaqis/Providigm

Ellen Kuebrich, abaqis/Providigm

Michael Johnson, ServiceTrac

Chris Magelby, Pinnacle

Measure Developer/Steward Updates and Ongoing Maintenance

Ad.2 Year the measure was first released: 2015

Ad.3 Month and Year of most recent revision: 10, 2015

Ad.4 What is your frequency for review/update of this measure? Annually

Ad.5 When is the next scheduled review/update for this measure? 04, 2020

Ad.6 Copyright statement: None

Ad.7 Disclaimers: None

Ad.8 Additional Information/Comments: None