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: Click 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 #: 2548

Corresponding Measures:

De.2. Measure Title: Child Hospital Consumer Assessment of Healthcare Providers and Systems (Child HCAHPS) Survey

Co.1.1. Measure Steward: Agency for Healthcare Research and Quality

De.3. Brief Description of Measure: The Child Hospital Consumer Assessment of Healthcare Providers and Systems (Child HCAHPS) Survey is a standardized survey instrument that asks parents and guardians (henceforth referred to as parents) of children under 18 years old to report on their and their child's experiences with inpatient hospital care.

The performance measures of the Child HCAHPS survey consist of 39 items organized by overarching groups into the following 18 composite and single-item measures:

Communication with Parent

1. Communication between you and your child's nurses (3 items)
2. Communication between you and your child's doctors (3 items)
3. Communication about your child's medicines (4 items)
4. Keeping you informed about your child's care (2 items)
5. Privacy when talking with doctors, nurses, and other providers (1 item)
6. Preparing you and your child to leave the hospital (5 items)
7. Keeping you informed about your child's care in the Emergency Room (1 item)

Communication with Child

8. How well nurses communicate with your child (3 items)
9. How well doctors communicate with your child (3 items)
10. Involving teens in their care (3 items)

Attention to Safety and Comfort

11. Preventing mistakes and helping you report concerns (2 items)
12. Responsiveness to the call button (1 item)
13. Helping your child feel comfortable (3 items)

14. Paying attention to your child's pain (1 item)

Hospital Environment

15. Cleanliness of hospital room (1 item)

16. Quietness of hospital room (1 item)

Global Rating

17. Overall rating (1 item)

18. Recommend hospital (1 item)

We recommend that the scores for the Child HCAHPS composite and single-item measures be calculated using a top-box scoring method. The top box score refers to the percentage of respondents who answered survey items using the best possible response option. The measure time frame is 12 months. A more detailed description of the Child HCAHPS measure can be found in the Detailed Measure Specifications (Appendix A).

1b.1. Developer Rationale: CAHPS surveys measure aspects of healthcare delivery that are important to patients and their families and for which patients are generally the only or best source of information. Use of Child HCAHPS will benefit patients, families, and providers. Patients and their families can use scores from the Child HCAHPS measures to help make better and more informed choices about their providers. Providers and third-party payers can use the measure reports to assess quality for quality improvement initiatives and incentive programs.

IMPORTANCE OF MEASURING PATIENT- AND FAMILY-CENTERED CARE

The healthcare system has shifted dramatically toward the delivery of patient-centered care. Patient-centeredness refers to the principle that care should be designed around patients' needs, preferences, circumstances, and well-being. It has been identified as a core aspect of healthcare quality that should be addressed as part of overall quality improvement strategies.[1-3] In pediatrics, the goal is family-centeredness, meaning care that is designed around the child's and family's needs. Hospitals provide family-centered care by involving the patient and family as active participants in care.

Research shows that patient-centered care is important in improving the quality of care and achieving desirable outcomes.[4-14] Studies of adults have found that care that is more patient-centered, as measured by patient experience surveys, is associated with lower readmission and mortality rates as well as greater adherence to treatment plans.[15-19] Furthermore, studies of adults have demonstrated that patient-centered care may help reduce racial and ethnic disparities in the quality of care.[20-22]

Studies in the pediatric setting have similarly demonstrated that patient- and family-centered care is associated with better parent-reported experience and improved health outcomes.[3-7,23-29] For example, parents' perceptions of their child's care quality decline when parents are less involved in decision making and receive fewer explanations about their child's care.[30-31] Moreover, poor family-centeredness is associated with increased family stress and higher rates of delayed or forgone care.[25] Using a patient- and family-centered approach helps children and their families cope with the stress of hospitalization by easing anxiety, establishing trust and support, and promoting shared-decision making.[32]

IMPORTANCE OF PATIENT EXPERIENCE AS A MEASURE OF PATIENT- AND FAMILY-CENTERED CARE

One key approach to measuring patient- and family-centeredness is through assessment of patient experience. Patient experience surveys capture the patient's or family's perception of the care received, making them valuable tools for measuring patient-centered care. Patients are often best able to judge how well their providers are meeting their healthcare needs, and this understanding correlates with health outcomes and satisfaction. In fact, studies have shown that the association between patient-centeredness and health outcomes is stronger when patient-centeredness is measured by patient report than when it is measured by provider or researcher assessment.[15,33,34]

The Consumer Assessment of Healthcare Providers and Systems Hospital Survey – Child Version (Child HCAHPS) evaluates family-centeredness by measuring parents' perspectives on their child's inpatient experiences of

care. The Child HCAHPS survey reports on aspects of family-centered care such as how much providers involve families in a child's care, the hospital environment, and the age-appropriateness of care delivery.

PEDIATRIC INPATIENT EXPERIENCE OF CARE: LACK OF STANDARDIZED QUALITY MEASUREMENT

Measuring patient experience has become a standard in assessing healthcare quality among adult patients. The National Quality Forum's (NQF) National Priorities Partnership and Measure Applications Partnership cite assessment of patient experience as a top priority.[35,36] The Consumer Assessment of Healthcare Providers and Systems Hospital Survey - Adult Version (Adult HCAHPS) facilitates objective and meaningful comparisons across hospitals of patients´ perspectives regarding aspects of care that are important to them.[37] The Centers for Medicare & Medicaid Services (CMS) uses Adult HCAHPS results to inform consumer choice through public reporting on the Hospital Compare website and to calculate incentive payments for the CMS Hospital Value-based Purchasing Program.[37] Although Adult HCAHPS has become a national standard in quality measurement among adult patients, an analogous pediatric survey has not been previously developed. Child HCAHPS will fill the need for a tool to assess inpatient experience of pediatric care and differences in experience across hospitals.

DISPARITIES IN CHILDREN'S EXPERIENCES WITH CARE

Racial/ethnic disparities have been documented in pediatric outpatient settings.[38-40] One study demonstrated that non-English speaking parents of Asian and Hispanic children reported worse patient experience in multiple domains.[38] However, little is known about racial/ethnic disparities in pediatric inpatient experience of care. Child HCAHPS collects data on the race and ethnicity of the surveyed child, which will allow for stratification to assess racial/ethnic differences in care.

POTENTIAL FOR QUALITY IMPROVEMENT

Patients, including children,[41-42] are able to identify areas that they believe are important targets for quality improvement initiatives.[41-47] For nearly two decades, healthcare organizations have used CAHPS survey scores to assess patients' experience of care.[48,49] When CMS began publicly reporting Adult HCAHPS scores in 2008, hospitals were able to implement changes that were associated with improvements in their patient experience scores after only one year.[50] This example of achievement of small but meaningful increases in scores suggests potential for improvement. Patient experience survey results have also prompted quality improvement initiatives in ambulatory and inpatient settings.[47,51,52] For example, a guide was released in 2008 that described potential interventions that can be used to improve performance on specific Adult CAHPS domains and improve patient experience.[52] In the inpatient setting, hospitals could use Child HCAHPS to identify gaps in performance in the domains measured by the survey (e.g., quality of discharge planning) and variation in performance associated with patient (e.g., race/ethnicity, type of insurance) or hospital (e.g., service line, type of hospital) characteristics.[50,53-55]

REFERENCES

1. Browne K, Roseman D, Shaller D, Edgman-Levitan S. Analysis & commentary. Measuring patient experience as a strategy for improving primary care. Health Aff Proj Hope. 2010;29(5):921-925. doi:10.1377/hlthaff.2010.0238.

2. Cosgrove DM, Fisher M, Gabow P, Gottlieb G, Halvorson GC, James BC, Kaplan GS, Perlin JB, Petzel R, Steele GD, Toussaint JS. Ten strategies to lower costs, improve quality, and engage patients: the view from leading health system CEOs. Health Aff Proj Hope. 2013;32(2):321-327. doi:10.1377/hlthaff.2012.1074.

3. Kuo DZ, Houtrow AJ, Arango P, Kuhlthau KA, Simmons JM, Neff JM. Family-Centered Care: Current Applications and Future Directions in Pediatric Health Care. Matern Child Health J. 2012;16(2):297-305.

4. Palfrey JS, Sofis LA, Davidson EJ, Liu J, Freeman L, Ganz ML, Pediatric Alliance for Coordinated Care. The Pediatric Alliance for Coordinated Care: evaluation of a medical home model. Pediatrics. 2004;113(5 Suppl):1507-1516.

5. Clark NM, Gong M, Schork MA, Evans D, Roloff D, Hurwitz M, Maiman L, Mellins RB. Impact of education for physicians on patient outcomes. Pediatrics. 1998;101(5):831-836.

6. Clark NM, Gong M, Schork MA, Kaciroti N, Evans D, Roloff D, Hurwitz M, Maiman LA, Mellins RB. Long-term effects of asthma education for physicians on patient satisfaction and use of health services. Eur Respir J. 2000;16(1):15-21.

7. Denboba D, McPherson MG, Kenney MK, Strickland B, Newacheck PW. Achieving family and provider partnerships for children with special health care needs. Pediatrics. 2006;118(4):1607-1615. doi:10.1542/peds.2006-0383.

8. Veroff D, Marr A, Wennberg DE. Enhanced support for shared decision making reduced costs of care for patients with preference-sensitive conditions. Health Aff Proj Hope. 2013;32(2):285-293. doi:10.1377/hlthaff.2011.0941.

9. Boulding W, Glickman SW, Manary MP, Schulman KA, Staelin R. Relationship between patient satisfaction with inpatient care and hospital readmission within 30 days. Am J Manag Care. 2011;17(1):41-48.

10. Glickman SW, Boulding W, Manary M, Staelin R, Roe MT, Wolosin RJ, Ohman EM, Peterson ED, Schulman KA. Patient satisfaction and its relationship with clinical quality and inpatient mortality in acute myocardial infarction. Circ Cardiovasc Qual Outcomes. 2010;3(2):188-195. doi:10.1161/CIRCOUTCOMES.109.900597.

11.   Shen MJ, Hamann HA, Thomas AJ, Ostroff JS. Association between patient-provider communication and lung cancer stigma. Support Care Cancer. 2016;24(5):2093-2099. doi:10.1007/s00520-015-3014-0

12. Walling AM, Keating NL, Kahn KL, et al. Lower Patient Ratings of Physician Communication Are Associated With Unmet Need for Symptom Management in Patients With Lung and Colorectal Cancer. J Oncol Pract. 2016;12(6):e654-669. doi:10.1200/JOP.2015.005538

13. Etingen B, Miskevics S, LaVela SL. Assessing the Associations of Patient-Reported Perceptions of Patient-Centered Care as Supplemental Measures of Health Care Quality in VA. J Gen Intern Med. 2016;31 Suppl 1:10-20. doi:10.1007/s11606-015-3557-2

14. Toomey SL, Elliott MN, Schwebel DC, et al. Relationship Between Adolescent Report of Patient-Centered Care and of Quality of Primary Care. Acad Pediatr. 2016;16(8):770-776. doi:10.1016/j.acap.2016.01.006

15. Stewart M, Brown JB, Donner A, McWhinney IR, Oates J, Weston WW, Jordan J. The impact of patient-centered care on outcomes. J Fam Pract. 2000;49(9):796-804.

16. Stewart MA. Effective physician-patient communication and health outcomes: a review. CMAJ Can Med Assoc J. 1995;152(9):1423-1433.

17. Street RL Jr, Slee C, Kalauokalani DK, Dean DE, Tancredi DJ, Kravitz RL. Improving physician-patient communication about cancer pain with a tailored education-coaching intervention. Patient Educ Couns. 2010;80(1):42-47. doi:10.1016/j.pec.2009.10.009.

18. Street RL Jr, Makoul G, Arora NK, Epstein RM. How does communication heal? Pathways linking clinician-patient communication to health outcomes. Patient Educ Couns. 2009;74(3):295-301. doi:10.1016/j.pec.2008.11.015.

19.   Bastani F, Abadi TA, Haghani H. Effect of Family-centered Care on Improving Parental Satisfaction and Reducing Readmission among Premature Infants: A Randomized Controlled Trial. J Clin Diagn Res. 2015;9(1):SC04-08. doi:10.7860/JCDR/2015/10356.5444

20. Saha S, Beach MC, Cooper LA. Patient centeredness, cultural competence and healthcare quality. J Natl Med Assoc. 2008;100(11):1275-1285.

21. Van Ryn M. Research on the provider contribution to race/ethnicity disparities in medical care. Med Care. 2002;40(1 Suppl):I140-151.

22. Beach MC, Rosner M, Cooper LA, Duggan PS, Shatzer J. Can Patient-Centered Attitudes Reduce Racial and Ethnic Disparities in Care? Acad Med. 2007;82(2):193-198.

23. Jessop DJ, Stein RE. Providing comprehensive health care to children with chronic illness. Pediatrics. 1994;93(4):602-607.

24. Homer CJ, Klatka K, Romm D, Kuhlthau K, Bloom S, Newacheck P, Van Cleave J, Perrin JM. A review of the evidence for the medical home for children with special health care needs. Pediatrics. 2008;122(4):e922-937. doi:10.1542/peds.2007-3762.

25. Smaldone A, Honig J, Byrne MW. Delayed and forgone care for children with special health care needs in New York State. Matern Child Health J. 2005;9(2 Suppl):S75-86. doi:10.1007/s10995-005-3859-9.

26. Farmer JE, Clark MJ, Sherman A, Marien WE, Selva TJ. Comprehensive primary care for children with special health care needs in rural areas. Pediatrics. 2005;116(3):649-656. doi:10.1542/peds.2004-0647.

27. Scal P, Ireland M. Addressing transition to adult health care for adolescents with special health care needs. Pediatrics. 2005;115(6):1607-1612. doi:10.1542/peds.2004-0458.

28. Ngui EM, Flores G. Satisfaction with care and ease of using health care services among parents of children with special health care needs: the roles of race/ethnicity, insurance, language, and adequacy of family-centered care. Pediatrics. 2006;117(4):1184-1196. doi:10.1542/peds.2005-1088.

29. Kuhlthau KA, Bloom S, Van Cleave J, et al. Evidence for family-centered care for children with special health care needs: a systematic review. Acad Pediatr. 2011;11(2):136-143.

30. Homer CJ, Marino B, Cleary PD, Alpert HR, Smith B, Crowley Ganser CM, Brustowicz RM, Goldmann DA. Quality of care at a children's hospital: the parent's perspective. Arch Pediatr Adolesc Med. 1999;153(11):1123-1129.

31. Mack JW, Hilden JM, Watterson J, Moore C, Turner B, Grier HE, Weeks JC, Wolfe J. Parent and physician perspectives on quality of care at the end of life in children with cancer. J Clin Oncol Off J Am Soc Clin Oncol. 2005;23(36):9155-9161. doi:10.1200/JCO.2005.04.010.

32. Epstein RM, Fiscella K, Lesser CS, Stange KC. Why the nation needs a policy push on patient-centered health care. Health Aff Proj Hope. 2010;29(8):1489-1495. doi:10.1377/hlthaff.2009.0888.

33. Kane GC, Gotto JL, Mangione S, West S, Hojat M. Jefferson Scale of Patient's Perceptions of Physician Empathy:Preliminary Psychometric Data. Croat Med J. 2007;48(1):81-86.

34. Patient-Centered Care: What It Means And How To Get There – Health Affairs Blog. Available at: http://healthaffairs.org/blog/2012/01/24/patient-centered-care-what-it-means-and-how-to-get-there/. Accessed January 13, 2014.

35. NQF: Person- and Family-Centered Care. Available at: https://www.qualityforum.org/Topics/Patient_and_Family_Engagement.aspx. Accessed February 7, 2014.

36. Measure Applications Partnership. MAP Families of Measures: Safety, Care Coordination, Cardiovascular Conditions, Diabetes. National Quality Forum; 2013:1-146.

37. Centers for Medicare & Medicaid. HospitalHCAHPS. 2013. Available at: http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/HospitalHCAHPS.html. Accessed November 29, 2013.

38. Weech-Maldonado R, Morales LS, Spritzer K, Elliott M, Hays RD. Racial and ethnic differences in parents' assessments of pediatric care in Medicaid managed care. Health Serv Res. 2001;36(3):575-594.

39. Raphael JL, Guadagnolo BA, Beal AC, Giardino AP. Racial and ethnic disparities in indicators of a primary care medical home for children. Acad Pediatr. 2009;9(4):221-227. doi:10.1016/j.acap.2009.01.011.

40. Flores G, Lin H. Trends in racial/ethnic disparities in medical and oral health, access to care, and use of services in US children: has anything changed over the years? Int J Equity Health. 2013;12:10. doi:10.1186/1475-9276-12-10

41. Davies B, Collins JB, Steele R, Cook K, Brenner A, Smith S. Children's perspectives of a pediatric hospice program. J Palliat Care. 2005;21(4):252-261.

42. Robertson S, Pryde K, Evans K. Patient involvement in quality improvement: is it time we let children, young people and families take the lead? Arch Dis Child Educ Pract Ed. 2014;99(1):23-27. doi:10.1136/archdischild-2013-304327.

43. Ward HO, Kibble S, Mehta G, Franklin M, Kovoor J, Jones A, Panesar S, Carson-Stevens A. How asking patients a simple question enhances care at the bedside: medical students as agents of quality improvement. Perm J. 2013;17(4):27-31. doi:10.7812/TPP/13-028.

44. Callanan C. Recording patient stories as an aid to training and service improvement. Nurs Manag Harrow Lond Engl 1994. 2012;19(8):20-22. doi:10.7748/nm2012.12.19.8.20.c9445.

45. Tsianakas V, Maben J, Wiseman T, Robert G, Richardson A, Madden P, Griffin M, Davies EA. Using patients' experiences to identify priorities for quality improvement in breast cancer care: patient narratives, surveys or both? BMC Health Serv Res. 2012;12:271. doi:10.1186/1472-6963-12-271.

46. Grogan A, Coughlan M, O' Mahony B, McKee G. The development of a patient partnership programme and its impact on quality improvements in a comprehensive haemophilia care service. Haemoph Off J World Fed Hemoph. 2012;18(6):875-880. doi:10.1111/j.1365-2516.2012.02885.x.

47. Roberts L. Improving quality, service delivery and patient experience in a musculoskeletal service. Man Ther. 2013;18(1):77-82. doi:10.1016/j.math.2012.04.010.

48. Cleary PD. The increasing importance of patient surveys. Now that sound methods exist, patient surveys can facilitate improvement. BMJ. 1999;319(7212):720-721.

49. Cleary PD, Edgman-Levitan S. Health care quality. Incorporating consumer perspectives. JAMA J Am Med Assoc. 1997;278(19):1608-1612.

50. Elliott MN, Lehrman WG, Goldstein EH, Giordano LA, Beckett MK, Cohea CW, Cleary PD. Hospital survey shows improvements in patient experience. Health Aff Proj Hope. 2010;29(11):2061-2067. doi:10.1377/hlthaff.2009.0876.

51. Solberg LI, Asche SE, Fontaine P, Flottemesch TJ, Anderson LH. Trends in quality during medical home transformation. Ann Fam Med. 2011;9(6):515-521. doi:10.1370/afm.1296.

52. Centers for Medicare & Medicaid. The CAHPS Improvement Guide: Practical Strategies for Improving the Patient Care Experience.; 2008. Available at: www.cahps.ahrq.gov. Accessed January 22, 2014.

53. Chatterjee P, Joynt KE, Orav EJ, Jha AK. Patient experience in safety-net hospitals: implications for improving care and value-based purchasing. Arch Intern Med. 2012;172(16):1204-1210. doi:10.1001/archinternmed.2012.3158.

54. Wild DMG, Kwon N, Dutta S, Tessier-Sherman B, Woddor N, Sipsma HL, Rizzo T, Bradley EH. Who's behind an HCAHPS score? Jt Comm J Qual Patient Saf Jt Comm Resour. 2011;37(10):461-468.

55. Gupta A, Daigle S, Mojica J, Hurley RW. Patient perception of pain care in hospitals in the United States. J Pain Res. 2009;2:157-164.

S.4. Numerator Statement: Using the top-box scoring method, the numerator of the top-box score for a measure consists of the number of respondents with a completed survey who gave the best possible answer for the item(s) in a measure.

For example, the top-box numerator for the communication between you and your child's nurses composite is the number of respondents who answered "Always" to questions about how well nurses communicated well with them.

S.6. Denominator Statement: The denominator for each single-item measure is the number of respondents with a completed survey who responded to the item. The denominator for each composite measure is the number of respondents with a completed survey who responded to at least one of the items within the measure. The target population for the survey is parents of children under 18 years old who have been discharged from the hospital during the target 12-month time frame.

S.8. Denominator Exclusions: SURVEY AND MEASURES 1-18

Exclude parents of certain patients from the measure (numerator and denominator) based on clinical and non-clinical criteria:

1. "No-publicity" patients
2. Court/law enforcement patients
3. Patients with a foreign home address
4. Patients discharged to hospice care (hospice-home or hospice-medical facility)
5. Patients who are excluded because of state regulations
6. Patients who are wards of the state
7. Healthy newborns
8. Maternity-stay patients
9. Patients admitted for observation
10. Patients discharged to skilled nursing facilities
11. Patients who are emancipated minors

MEASURES 1-18

Exclude respondents from the numerator and denominator of a measure if they have completed survey items in the measure using multiple marks (i.e., they gave multiple answers to an individual question).

MEASURES 8-9

Exclude the following respondents from the numerator and denominator:

1. All those who answered "No" to screener question 6 (Is your child able to talk with nurses and doctors about his or her health care?)
2. All those whose child was under 3 years old at discharge as determined using administrative data

MEASURE 10

Exclude the following respondents from the numerator and denominator:

1. All those who answered "No" in screener question 43 (During this hospital stay, was your child 13 years old or older?)
2. All those whose child was under 13 years old at discharge as determined using administrative data
3. All those who answered "No" in screener question 6 (Is your child able to talk with nurses and doctors about his or her health care?)

MEASURE 12

Exclude the following respondents from the numerator and denominator:

1. All those who answered "No" in screener question 25 (During this hospital stay, did you or your child ever press the call button?)

MEASURE 14

Exclude the following respondents from the numerator and denominator:

1. All those who answered "No" in screener question 30 (During this hospital stay, did your child have pain that needed medicine or other treatment?)

De.1. Measure Type: Outcome

S.17. Data Source: Claims

S.20. Level of Analysis: Facility

IF Endorsement Maintenance – Original Endorsement Date: Jan 07, 2015 **Most Recent Endorsement Date:** Jan 07, 2015

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.

Evidence Summary

- Brief background: This is a patient-reported outcome-based performance measure (PRO-PM) that uses survey data from parents/caregivers of patients ages 0-17 related to their experience of care in the hospital setting.
- Developer provided an updated logic model that depicts the relationship between facility structural components, clinical quality, healthcare-related patient behaviors, outcomes, and patient-reported experience of care.
- Value and meaningfulness to patient was addressed by the developer. Patient and family input was provided during survey development through 8 focus groups, 109 cognitive interviews, and 23 end-user interviews.
- The evidence presented didn't clearly define evidence of processes, structures, interventions or services that can be used to influence HCAHPS performance. There is an implied connection cited through several sources:
  - Studies linking treatment adherence and communication between providers; this suggests that if providers improve communication, patients will have better outcomes and will therefore report better experience of communication and overall satisfaction with care.
  - Studies linking patient experience to higher levels of adherence to recommended treatments, better clinical outcomes, and lower health care utilization; this makes the argument for

patient experience of care but does not necessarily empirically demonstrate something that a hospital can do to improve their performance on the measure.

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:

Question for the Committee:

  o *Is there at least one thing that the provider can do to achieve a change in the measure results?*

  o *Does the target population value the measured outcome and finds it meaningful?*

Guidance from the Evidence Algorithm

Measure assesses outcome (box 1) YES -> relationship between outcome and at least one healthcare action (box 2) YES -> PASS

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 three sets of Child HCAHPS performance scores
    - 2012-2014 field test of 69 hospitals
    - 2017 data from 128 hospitals and 2018 data from 172 hospitals
    - 2015-2019 data from 122 hospitals
- Mean and standard deviation for the performance score ranged between 0.55 – 0.86, and 0.04 – 0.15

Disparities

- Developer presented racial and ethnic, socioeconomic, and gender data to examine disparities in performance on the measure
- Racial and ethnic disparity analysis
    - In unadjusted results for the majority of the measures, compared with hospital top-box scores for White patients, those for Black and Hispanic patients were higher and those for Asian/Pacific Islanders were lower.
    - In multivariate analyses controlling for child global health status, child age, respondent relation to child, respondent age, and hospital, the results were similar across racial/ethnic groups.
    - If the major explanation for racial/ethnic variation in inpatient pediatric experience were overall differences (for all racial/ethnic groups) in patient experience between hospitals serving high versus low proportions of non-White children, one would expect that controlling for hospital would decrease the racial/ethnic variation observed in unadjusted scores. Controlling for hospital had only a small effect on racial/ethnic differences.
- Socioeconomic analysis
    - In unadjusted results, developer found a pattern for a majority of the measures such that top-box scores were highest for those who had not completed high school and decreased for each higher level of educational attainment.

- o In multivariate analyses controlling for child global health status, child age, respondent relation to child, respondent age, and hospital, results were similar.
- o Developer notes that these differences in scores may reflect differences in expectations of care or reporting styles associated with education level rather than actual differences in the quality of care received.
- Gender analysis
  - o No significant differences in top-box scores for males and females for all but two measures.
  - o Parents of female children gave slightly higher scores for the Communication about Medicines composite, and parents of male children gave slightly higher scores for the Quietness composite.
  - o In multivariate analyses controlling for child global health status, child age, respondent relation to child, respondent age, and hospital, results were similar.

Questions for the Committee:

- Does the Committee agree there is there a gap in care that warrants a national performance measure?

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: *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.*

- The authors cite appropriate evidence, albeit pediatric-specififc evidence is much more limited
- Studies cited showing improved health outcomes for parents and children linked to patient experience
- Pass. The provider can use the information to target areas of improvement. Patients want to share their feelings about these topics.

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?*

- Current performance data was provided, there is a fair amount of variation (i.e., gap) identified, and disparities analyses conducted.
- There is variation between hospitals. Disparities were assessed for race with higher scores in Hispanics and African Americans, lower in Asian population, when adjusted for factors such as global health, no significant variation noted, lower education levels also had higher satisfaction
- Rated moderate. Used effectively by many hospitals. I wonder if the issues around Black and Hispanic populations rating different areas higher are a result of perceived power distance or language issues.

Criteria 2: Scientific Acceptability of Measure Properties

2a. Reliability: [Specifications](#) **and** [Testing](#)

2b. Validity: [Testing](#); [Exclusions](#); [Risk-Adjustment](#); [Meaningful Differences](#); [Comparability](#); [Missing Data](#)

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 Scientific Methods Panel

Methods Panel Review (Combined)

Methods Panel Evaluation Summary:

This measure was reviewed by the Scientific Methods Panel and discussed on the call. A summary of the measure and the Panel discussion is provided below.

- **Reliability:** 1 high, 4 moderate, 0 low and 1 insufficient → measure passes with moderate reliability rating
  - Testing included score-level and data element testing
  - SMP members noted that "Cronbach's alpha was used to evaluate the reliability of the composite measures and an inter-class reliability coefficient was calculated to determine whether variation in domain scores across facilities is due to true variation versus chance or measurement error. The latter approach is acceptable for evaluating reliability (precision) of facility scores."
  - Panel members noted low alpha scores for certain measures, and missing values amongst single item measures:
    - Nurse-parent communication – 0.94
    - Doctor-parent communication – 0.94
    - Communication about medicines – **0.43**
    - Informed about child's care – 0.85
    - Privacy with providers – **No score**
    - Preparing to leave hospital – 0.92
    - Informed in emergency room – **No score**
    - Nurse-child communication – 0.90
    - Doctor-child communication – 0.92
    - Involving teens in care – 0.75
    - Mistakes and concerns – **0.26**
    - Nurse-parent communication – **No score**
    - Doctor-parent communication – 0.63
    - Communication about medicines – **No score**
    - Informed about child's care – **No score**
    - Privacy with providers – **No score**

- Preparing to leave hospital – **No score**
- Informed in emergency room – **No score**
  - o Note: measure developer only performed data-element testing (using Cronbach's alpha) for multi-item domains. Global scores and single element measures were therefore not included in data-element reliability testing.
- **Validity:** 1 high, 4 moderate, 0 low and 1 insufficient → measure passes with moderate validity rating
  - o Testing included score-level and data element testing
  - o Extensive tests were conducted including focus group and cognitive interview, factor analysis, item-to-composite correlations, composite-to-composite correlations, composite single-item correlations with overall rating, these covered both data element validity and measure score validity.

Questions for the Committee regarding reliability:

- Does the Committee Do you have any concerns that the measure can be consistently implemented (i.e., are measure specifications adequate)?

- Recall that each of the measurement domains contained in this CAHPS survey is a measure unto itself that must be evaluated by the Standing Committee. The Committee may vote on them as a whole if you have no concerns, but the measures must be considered as separate endorsements. Some of the measures did not meet the usual thresholds considered good for reliability (> 0.70). Nonetheless, the SMP has passed all of the measures. Does the Committee think there is a need to discuss and/or vote on reliability?

Questions for the Committee regarding validity:

- Do you have any concerns regarding the validity of the measure (e.g., exclusions, risk-adjustment approach, etc.)?

- The SMP is satisfied with the validity analyses for the measure. Does the Committee think there is a need to discuss and/or vote on validity?

| Preliminary rating for reliability: | ☐ High | ☒ Moderate | ☐ Low | ☐ Insufficient |
| Preliminary rating for validity: | ☐ High | ☒ Moderate | ☐ Low | ☐ Insufficient |

Combined Methods Panel Scientific Acceptability Evaluation

Measure Number: 2548

Measure Title: Consumer Assessment of Healthcare Providers and Systems Hospital Survey – Child Version (Child HCAHPS)

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: "MIF_xxxx" document, 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.**

   MP#1: No concerns.

   MP#5: None

RELIABILITY: TESTING

Submission document: "MIF_xxxx" document for 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 <u>VALIDITY</u> testing** of <u>patient-level data</u> conducted?

   ☒☐ **Yes**   ☒☐ **No MP#1: N/A since both were provided   MP#4**NA

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

   Submission document: Testing attachment, section 2a2.2

   MP#4: Appropriate

   MP#3: The method used for assessing measure score reliability was appropriate, reporting both ICC and hospital level reliability.

   Cronbach's alphas were calculated to assess the internal consistency reliability of multi-item scales and were calculated appropriately at the hospital level.

   MP#1: The developer submitted an analysis of internal consistency of the items in the child HCAHPS instrument within each composite using Cronbach's alpha, an ICC to evaluate hospital-level effects on scores and hospital unit-level reliability scores via a signal-to-noise approach. These approaches are appropriate. The psychometric properties of the instrument have been published previously.

   MP#2: reasonable

   MP#5: The methods used were reasonable, generally-acceptable, and appropriate.   At the data element level, Cronbach's alpha was used to assess reliability of specific "composites" (measures derived from two or more survey items).   At the measure score level, an ICC and a separate reliability estimate were calculated, following the approach used in all other CAHPS measures submitted for review.

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

   Submission document: Testing attachment, section 2a2.3

MP#4: Adequate sample size Good reliability for most composite measures.

MP#3: The results of measure score reliability are very good, with N=300, all measures had hospital level unit reliability above 0.60.

Internal consistency estimates were in general very good except for two measures, only 0.43 for "Communication about medicines" and 0.26 for "Mistakes and concerns."

MP#1: Reliability testing results were generally quite strong. Internal consistency of items within composites were mostly quite high (alpha > 0.80). Alpha was lower for items in the 'Communication about medicines' and 'Mistakes and concerns' composite items, however, the hospital level-unit reliability for these measures was more than acceptable (reliability coefficient > .85). Only one composite had sub-par hospital-level reliability, 'Involving teens in care', with a reliability coefficient of 0.62 among hospitals with an n=300.

MP#5: The results generally supported the reliability of the set of measures derived from the survey. Two measures had low Cronbach's alpha levels, but adequate measure score reliability levels, so they apparently can yield reliable scores at the facility level even if the individual items don't seem to be picking up the same underlying construct.

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**

    MP#1: (data element reliability not evaluated for all measures, just the composites, however, score level reliability was appropriately tested and acceptable)☐

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

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

    ☒☐ **High** (NOTE: Can be HIGH <u>only if</u> score-level testing has been conducted)

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

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

    ☐ **Insufficient** (NOTE: Should rate <u>INSUFFICIENT</u> 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.**

    MP#4: Based on testing results.

    MP#6: Performance Scores from the Child HCAHPS National Field Test and Two Large National Survey Vendors and trend scores demonstrated significant reliability

MP#1: The composite measure items have good internal consistency. The composite with lowest signal to noise ratio of 0.62 supports an overall assessment of "moderate", otherwise, had the signal-to-noise ratio for this composite been higher, this measure could have achieved a rating of 'high'.

MP#2:

a. **Suggest removing communications about medicines and mistakes and concerns, where internal consistency coefficients were below 0.50.**

b. **Also, Intraclass correlation coefficients ranges from 0.9% (Nurse-parent communication, Doctor-parent communication) to 4.3% (Recommend hospital). Overall, our composite and single-item** element **measures have good to excellent hospital-level reliability.**

MP#5: As noted above, the results of reliability testing were generally acceptable, although two of the domain scores didn't have good data element reliability as measured by Cronbach's alpha.   This seems to indicate that the individual items in those domains don't pick up the same underlying construct, but they do yield acceptably reliable scores at the facility level.

MP#3: NQF guideline requires testing of both data element and measure score reliability for instrument-based measures. Question for NQF, how to handle single item data element reliability testing requirement?

Composite and Single Item Measures	Hospital-Level Unit Reliability at N=300	Cronbach's coefficient*	Overall Reliability
Nurse-parent communication	.73	0.94	High
Doctor-parent communication	.73	0.94	High
Communication about medicines	.86	0.43	Moderate
Informed about child's care	.78	0.85	High
Privacy with providers	.83	NA (single item)	NQF (?)
Preparing to leave hospital	.87	0.92	High
Informed in emergency room	.71	NA	NQF (?)
Nurse-child communication	.75	0.90	High
Doctor-child communication	.78	0.92	High
Involving teens in care	.62	0.75	Moderate
Mistakes and concerns	.90	0.26	Low
Call button	.77	NA	NQF (?)
Child comfort	.90	0.63	Moderate
Child pain	.73	NA	NQF (?)
Cleanliness	.86	NA	NQF (?)
Quietness	.89	NA	NQF (?)
Overall rating	.90	NA	NQF (?)
Recommend hospital	.93	NA	NQF (?)

VALIDITY: ASSESSMENT OF THREATS TO VALIDITY

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

    Submission document: Testing attachment, section 2b2.

    MP#6: None- exclusions described in great detail and appeared appropriate

    MP#1/A

    MP#4: Indicate no exclusions

    MP#2: No exclusions

    MP#3: No concern.

MP#5: None

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

    Submission document: Testing attachment, section 2b4.

    MP#1: None

    MP#4: None

    MP#3: No concern.

    MP#6: None

    MP#5: The developers show that there are statistically significant differences among hospitals on the various measures, although Table 9 doesn't seem to be correct – a relatively small number of hospitals are identified as above or below average, but then in the right-hand column, a much higher percentage of hospitals are identified as being different from average. This is not a fatal problem, but something doesn't fit here.   The developers state that users can input a value for some threshold difference that they consider to be substantively meaningful and use that value to identify facilities that differ by that amount or more. This is reasonable, but it defers the issue of "meaningful differences" to users using their own judgment – it is not a property of the measures per se then.   As part of the NQF endorsement process, it is not possible to state that the measure can identify meaningful differences in performance.

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.
    MP#1: N/A
    MP#4: NA
    MP#3: No concern.
    MP#5: None

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

    Submission document: Testing attachment, section 2b6.

    MP#6: None, submitters addressed how missing or multiple choices on one question were addressed in their analysis.

    MP#1: None, this was evaluated appropriately.

    MP#4: None

    MP#3: No concern.

    MP#5: None

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   **MP#1:** (education, language preference)   ☒☐ 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**

MP#6: Appendix K: Case-Mix Adjustment describes the methodology used for adjustment including comparison of adjusted and unadjusted rates.

MP#1: Approach is modest but acceptable.

MP#3: Risk adjustment approach was appropriate

MP#2:

Risk adjustment factors: Child age, Child global health status, Respondent age, Respondent education, Respondent relationship to child, Language preference. Results reasonable

Two adjusters (patient gender, service line) were not included in the case-mix model but were included as examples of adjusters that were considered but rejected. For regression results, missing categories were added where appropriate. Service line missingness was clustered on hospital; the analysis was restricted to records where the information is present. Language preference combines information from the survey (preference missing 4.7%) with actual survey language (missing 0%). Insufficient data on non-English language preference to be conclusive. Other results supportive.

MP#5: The approach is reasonable, althea the text hints that race/ethnicity are factors that area associated with scores on some measures, but the developers have chosen to allow or support stratification on the basis of race/ethnicity rather than including it in an adjustment models, as they have done for parent education. This seems a little inconsistent – why should education be an acceptable risk adjustment variable but race/ethnicity not? Both apparently matter, and on data are provided to suggest that the causal pathways leading to different scores are different between the two.

For cost/resource use measures ONLY:

17. **Are the specifications in alignment with the stated measure intent?**

☐ **Yes** ☐ **Somewhat** ☐ **No (If "Somewhat" or "No", please explain)**

18. **Describe any concerns of threats to validity related to attribution, the costing approach, carve outs, or truncation (approach to outliers):**

VALIDITY: TESTING

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

20. **Method of establishing validity of the measure score:**

☐ **Face validity**

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

MP#1: Given the difficulty finding a gold standard for this measure, the developers evaluated composite to composite correlations; conceptually correlations should be low.

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

21. **Assess the method(s) for establishing validity**

Submission document: Testing attachment, section 2b2.2

MP#4: Appropriate

MP#3: Extensive tests were conducted including focus group and cognitive interview, factor analysis, item-to-composite correlations, composite-to-composite correlations, composite single-item correlations with overall rating, these covered both data element validity and measure score validity.

One potential issue is that measure level validity was assessed through correlations with the overall rating, which happens to be a measure to be evaluated. To accept the testing results would require assuming the validity of the overall rating first.

MP#1: The authors focused on construct validity using confirmatory factor analysis and correlational analyses. While this approach is unorthodox for NQF validity testing, it is reasonable to- perform this approach for patient reported measures of hospital experience.

MP#5: The methods are generally appropriate, involving factor analysis and correlational analyses among measures and with overall ratings of care that are typical of survey measures of this kind and typical of the other CAHPS measures that have been endorsed in the past.   These methods provide only weak evidence for measure score validity., though, as they are somewhat circular – parents who report some good things happening tend to report other good things happening and tend to say that they would recommend the hospital.   Nothing in this set of analyses links the survey results to any independent, objective data on quality of care. The validity at the measure score level rests primarily on face validity.

22. **Assess the results(s) for establishing validity**

    Submission document: Testing attachment, section 2b2.3

    MP#4: Adequate

    MP#3: In general, the testing results are very good, however, the results for the following measures are concerning: "communication about medicines", "mistakes and concerns", "call button", "cleanliness", and "quietness".

    MP#1: The results supported the construct validity for the measures.

    MP#5: Results were generally acceptable, with the caveat noted just above – the measure score validity rests heavily on a judgment of face validity – the empirical analyses do not attempt to link any of the measure scores with some independent, objective measure(s) of quality of care.

23. **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)

24. **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)

25. **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 <u>are</u> threats to validity and/or relevant threats to validity were <u>not assessed OR</u> 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 <u>is required</u>; if not conducted, should rate as INSUFFICIENT.)

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

    MP#4: Based on literature and testing results

    MP#6: Overall the 6 methods of validity testing were robust and appropriate. My only concerns were the low Hospital-Level Item-to-Composite and single item Correlations. The submitters noted and addressed this and given their other results I felt they showed strong validity of the composite scores.

    MP#3:

Composite and Single Item Measures	Overall validity
Nurse-parent communication	Moderate
Doctor-parent communication	Moderate
Communication about medicines	Moderate
Informed about child's care	Moderate
Privacy with providers	Moderate
Preparing to leave hospital	Moderate
Informed in emergency room	Moderate
Nurse-child communication	Moderate
Doctor-child communication	Moderate
Involving teens in care	Moderate
Mistakes and concerns	Low
Call button	Low
Child comfort	Moderate
Child pain	Moderate
Cleanliness	Low
Quietness	Low
Recommend hospital	High
Overall rating	Assumed

    MP#1: Construct validity is weaker than other forms of validity, but the findings presented support continued use of these measures.

    MP#5: As noted above, results were acceptable, but the correlational analyses at the measure score level can only provide modest or weak evidence of measure score validity. Associations with one or more independent, objective measures of quality of care would make the case much more compelling.

    o   **FOR COMPOSITE MEASURES ONLY: Empirical analyses to support composite construction**

27. **What is the level of certainty or confidence that the empirical analysis demonstrates that the component measures add value to the composite and that the aggregation and weighting rules are consistent with the quality construct?**

    ☐ **High**

    ☐ **Moderate**

☐ **Low**

☐ **Insufficient**

28. **Briefly explain rationale for rating of EMPIRICAL ANALYSES TO SUPPORT COMPOSITE CONSTRUCTION**

MP#1/A

29. **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.**

MP#1: Would be interesting to know if the SC knows of relevant benchmarks that could be used to benchmark these measures against.

MP#5: As with the other CAHPS measures, it is identified by the developers as an outcome measure, but it is not. It is a set of process of care measures calculated from a parent survey. There are no true "outcome" data elements here. The survey is not about a change in the health status of the patient – that's the key concept for outcome measures. The fact that the measures are derived from a survey does not make them outcome measures. If the survey was about patient satisfaction, the measures could be labeled outcome measures.   Going all the way back to the original Picker Institute surveys on experience of care, though, the measure developers and researchers have been very careful to distinguish between satisfaction surveys and experience of care surveys. This is one of the latter, and they do not yield outcome measures.

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

2a1. 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?*

- No concerns re: specifications or data elements.
- Developer tested for reliability in the multi-item domains and not single questions. Reliability scored as moderate
- Moderate reliability. No measure of reliability for single element measures.

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

- Generally speaking, the elements of the survey demonstrate adequate reliability via chronbach's alpha and inter-class reliability coefficients. It's notes that for some single items, however, reliability measures are not calculated. The measure passed SMP.
- No
- I'd like to know how reliability would be determined for the single element measures.

2b2. Validity testing: *Do you have any concerns with the testing results?*

- No concerns.
- No
- There seems to be an inverse relationship between top box scoring and level of education, with those with less education giving the most top box scores. I wonder if power distance is at play here and if increased education brings a more critical evaluation of the survey components.

Validity- Threats to Validity: *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?*

- These threats apply to all related PROMs focused on experience in hospital care
- There were differences seen in the hospitals tested. It's not clear how the missing data may affect results
- SMP rates this as Moderate.

Other Threats to Validity: *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?*

- risk adjustment appears to be generally appropriate.
- Testing done based on race, socioeconomic status, differences were not significant when adjusting for other factors such as global health
- Note - one reviewer argues that this is a process rather than an outcome measure. I disagree. Satisfaction with care IS an outcome. And, satisfaction impacts other outcomes.

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.

- Measure is dependent upon administration of surveys via mail or telephone; there are no electronic sources for the measure

- Developer cites as a reason that "mail and telephone administration are the best ways to obtain representative samples of patients based on the contact information that is available for sampling and data collection"

- Developer states that the time requirement for patients of 15 minutes is minimally burdensome

- Developer states that there are no fees associated with using the measure, but fails to explore costs associated with hiring a CMS approved vendor, which is required for most CAHPS surveys

Questions for the Committee:

- Has the developer adequately addressed feasibility challenges?

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

RATIONALE:

- A low rating is assigned because measure developer has not evaluated the burden on facilities associated with measure implementation in the form of fees from retention of an approved CAHPS vendor to administer the surveys.

- Based on the information submitted there is low confidence or certainty that the criterion is met.

- Note: this is not a must pass criteria per NQF's current rules.

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?*

- As noted in pre-review - there is not much explanation re: feasibilty at the facility-level. Also, addition of an electronic option would presumably boost feasibility for families (to complement, not necessarily replace other modalities)
- The survey methods are either telephone or mail. Given the generational preference for text/email that is likely present in the parents being surveyed I would have concerns for low response rates if an electronic option isn't developed
- It seems more feasible for larger facilities. Is it even applicable in Critical Access Hospitals that serve children?

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**

Accountability program details

- Included in public reporting programs
    - Leapfrog group: included in the Leapfrog Hospital Survey
    - Used to evaluate and publicly report on individual facilities
- Included in quality improvement programs
    - Included in the Massachusetts Standard Quality Measure Set (SQMS)
- Measure developer also identified external quality improvement with benchmarking through national field testing results
- Measure developer also identified the Magnet Recognition Program through the American Nurses' Credential Center as a hospital-level designation that includes the Child HCAHPS for this certification program

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

- Developer cites feedback from facilities participating in the national field test, and references no notable difficulties during the test
    - Some reports that the survey was too long with low response rates
    - Some vendors identified confusing wording reported by patients/families
    - Some hospitals expressed concern about inclusion of emergency department questions when they had no ED.
    - Some hospitals expressed concern on the applicability of Child HCAHPS to the NICU population
- Developer states that this feedback has been used to refine the measure
- Developer cites detailed reporting on performance provided to facilities through national survey vendors

Additional Feedback: N/A

Questions for the Committee:

How has the measure been vetted in real-world settings by those being measured or others?

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

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 states that "we do not have access to a longitudinal national database that would allow us to demonstrate change over time in a meaningful way".
- No data was offered.

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

- Developer identified no unexpected findings.

Potential harms

- Developer did not identify any potential harms.

Additional Feedback:

Question for the Committee:

- Do you agree with the measure developer that there are no unintended consequences?

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

RATIONALE:

- Developer has not provided data or discussion related to longitudinal improvement.

- Note: this is not a must-pass criterion.

Criterion 5: Related and Competing Measures

Related or competing measures

- The following measures are all related, though not necessarily competing:
  - NQF 0005 CAHPS Clinician and Group Surveys V3.0
  - NQF 0006 CAHPS Health Plan Survey V5.0
  - NQF 0166 Hospital CAHPS Survey
  - NQF 0258 CAHPS In-Center Hemodialysis Survey
  - NQF 0517 CAHPS Home Health Care Survey
  - NQF 1741 CAHPS Surgical Care Survey
  - NQF 2548 Child Hospital CAHPS Survey
  - NQF 2967 CAHPS Home- and Community-Based Services Survey

Harmonization
N/A

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

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?*

- Not so much on the pediatric side.
- This is one of the CAHPS surveys - each measures a different setting and/or population
- There are a number of related measures, but there was not need for harmonization.

Public and Member Comments

Comments and Member Support/Non-Support Submitted as of: June/13/2019

We agree that HCAHPS would increase patient-centered care, inform consumer choice and quality improvement, and address health disparities (Asian/Hispanic children). We would suggest text outreach in additional to mail/phone. Under "when your child was in the hospital" question 1, there is no contingency for when a child is rushed to the nearest E.R. for stabilization then transported to a children's hospital so we would suggest adding a response category regarding possible transfers. Regarding "your experience with doctors" question 16 there is nothing on communication between providers which is essential for care coordination. We would recommend a question "how well do your child's doctors communicate with each other" otherwise parents a left connecting the dots. In the same section question 28, there is no mention of it all medications were available in the hospital formulary or addressing medication interactions/contraindications as medication administration is the largest cause of medical error and preventable rehospitalization. We would suggest adding one question regarding if all of the medications were available during hospitalization and another on if the hospital was aware of medications which could not be taken concurrently. Under "your child's care in this hospital" question #1 there is no distinction between the regular nurse call button and the emergency button and response. We would recommend a separate question regarding the emergency button and response times. Regarding, "the hospital environment" question #32 there is nothing about patient cleanliness or infection control as hospital acquired infections are a common preventable complication. We could suggest a question on both keeping the patient clean to prevent infection as well as another on environmental infection prevention. Thus, communication between providers, medication administration, and hospital acquired infections must be accounted for if HCAHPS is to be an effective measure of continuity of care, medical errors, and preventable complications.

Developer Submission

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

NQF_Child_HCAHPS_Combined_Performance_Score_2019.xlsx,Child_HCAHPS_NQF_Evidence_Form_Final_04_23_19.docx

1a.1 <u>For Maintenance of Endorsement:</u> 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.

Yes

1a. Evidence (subcriterion 1a)

Measure Number (*if previously endorsed*): 2548

Measure Title: Child Hospital Consumer Assessment of Healthcare Providers and Systems (Child HCAHPS) Survey

IF the measure is a component in a composite performance measure, provide the title of the Composite Measure here:

Date of Submission: 4/9/2019

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

Outcome

☒ Outcome: PRO

   ☒Patient-reported outcome (PRO): Experience with care

   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*):

☐ Process: Click here to name what is being measured

☐ Appropriate use measure:

☐ Structure:

☐ Composite:

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.

Patient- and family-centered care, as measured by patient experience, is a core domain of healthcare quality and a major focus for quality improvement.[1,2] Additionally, patient experience has been linked to other quality measures and health outcomes, clinical processes of care, readmissions, and mortality. Evaluating patient experience is a key means of assessing patient-centered care and can motivate beneficial changes in healthcare delivery.
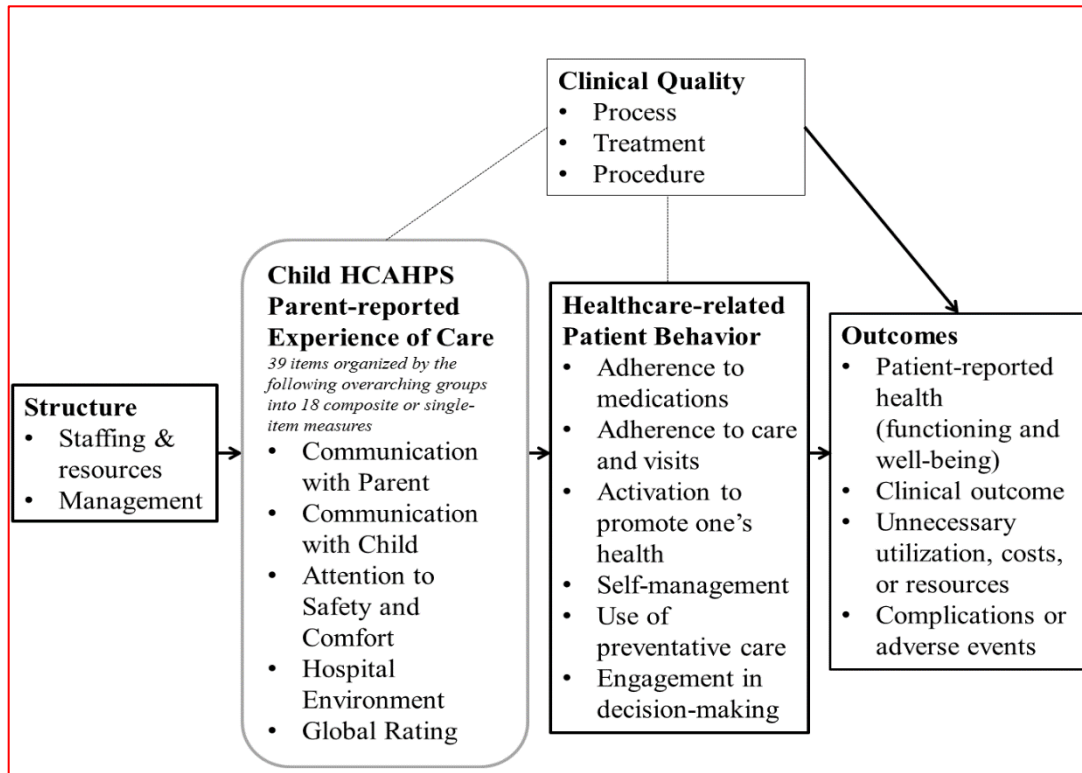
——— Hypothesized Casual Association

——— Hypothesized Association

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.)

A core principle of all CAHPS surveys is to assess aspects of care for which the patient is generally the only or best source of information. As a patient experience measure, Child HCAHPS is meant specifically to evaluate experiences that families and patients value and find meaningful. The Child HCAHPS development process relied heavily on patient and family input in order to ensure we were measuring outcomes important to patients and families. We conducted focus groups, cognitive interviews, and end-user interviews with adolescents and parents of recently hospitalized children across the U.S. to gauge understandability, validity, and meaningfulness of the Child HCAHPS measure. Eight focus groups were held in Boston, Los Angeles, and St. Louis, 109 cognitive interviews were performed in Boston, Los Angeles, Miami, and St. Louis, and an additional 23 end-user interviews were conducted in Atlanta and Washington, D.C. Parent participants across all parts of the Child HCAHPS development process constituted a diverse spectrum with regard to gender, race, ethnicity, insurance status, marital status, child's age, and child's reason for and length of hospitalization. In addition, two focus groups were comprised of recently hospitalized adolescent patients while four others targeted specific populations: Spanish speakers, Medicaid-insured patients, and parents of children with special health care needs.

**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.

PATIENT EXPERIENCE AS A MEASURE OF PATIENT-CENTEREDNESS

The Consumer Assessment of Healthcare Providers and Systems Hospital Survey – Child Version (Child HCAHPS) measures key components of patient experience, such as provider communication, that support patient-centered care. It focuses on aspects of care that consumers have identified as important and for which patients are the only or best source of information. Patient perceptions of high quality care improve patient engagement, leading to improved clinical outcomes. Child HCAHPS is an actionable measure that can help hospitals target interventions that will improve the quality and patient-centeredness of care.

Studies have shown that the association between patient-centeredness and health outcomes is stronger when patient-centeredness is measured by patient report than when it is measured by provider or researcher assessment.[3-6] As such, the Child HCAHPS survey has been designed to evaluate patient- and family-centeredness by measuring parents' perspectives on their child's inpatient experiences of care. Specific domains have been identified by parents and patients in focus groups and interviews as important facets of patient- and family-centered care. These include clear communication, care coordination, being listened to, being treated respectfully, being kept informed, building trust, and being involved in decision-making.[7-12] These domains, which encompass aspects of care about which patients are able to reliably report their experiences,[13] are critical to the validity of patient experience measures. Many of these domains, such as communication with nurses, pain management, and patient safety, are significantly associated with overall hospital ratings, suggesting that they are components of care quality that are highly valued by patients and parents.[14-18]

PROVIDER COMMUNICATION AND HEALTH-RELATED PATIENT BEHAVIORS

One dimension of the Child HCAHPS measure captures parents' perceptions of how well providers communicate with them and their child. Better patient-provider communication promotes more beneficial healthcare-related patient behaviors.[19] A 2009 meta-analysis of 127 studies assessing the link between patient treatment adherence and physician-patient communication found a 19% higher risk of non-adherence among patients whose physician communicated poorly.[20] Another meta-analysis showed positive associations between the quality of clinician-patient communications and adherence to medical treatment in 125 of 127 studies analyzed.[21] Studies using the Clinician and Group, and Health Plan CAHPS measures have found that better provider communication is positively associated with adherence to hypoglycemic medications and antidepressants among diabetics, adherence to tamoxifen among breast cancer patients, and higher rates of colorectal cancer screening among adults in the US.[22-25]

RELATIONSHIP BETWEEN PATIENT-CENTEREDNESS AND OTHER ASPECTS OF QUALITY

Although not all studies are supportive,[26-30] there is growing evidence that patient-centeredness, as reflected by patient experience, is associated with other aspects of quality. Two major systematic reviews have examined the relationships among patient experience, clinical processes, and patient outcomes. A systematic review found that patient experience is favorably associated with adherence to recommended medications and treatments, preventive care such as screenings and immunizations, patient-reported outcomes, clinical outcomes, reduced hospitalizations and primary care visits, and reduced adverse events. [21] A more recent review similarly found that better patient care experiences are associated with higher levels of adherence to recommended prevention and treatment processes, better clinical outcomes, and lower health care utilization.[31]

Studies suggest an association between better patient experiences and lower healthcare utilization. Children with asthma were less likely to visit the emergency department, make urgent office visits, or be hospitalized if their physicians had reviewed a long-term therapeutic plan with their parents.[32] Among African-Americans with type 2 diabetes, those who reported that doctors or nurses usually listened carefully or spent enough time with them were significantly less likely to visit the emergency department in the 12 months following completion of a patient experience survey.[33]

Several studies, primarily in adults, have shown that patient experience correlates directly with a variety of quality metrics, including performance on clinical processes of care and health outcomes.[15,21,34-39] For example, one study found that measures of patient experience, including doctor-patient communication, clinical team interactions, and health promotion support, were positively associated with some prevention and disease management clinical process measures in clinical practices and among individual clinicians.[40] Evidence shows that hospitals whose patients report higher patient experience scores perform better on technical processes of care.[38] Better patient experience, as indicated by scores for individual aspects of care, patients' willingness to recommend the hospital, and overall hospital ratings, is associated with lower mortality rates and 30-day readmission rates.[15,34-37] Other studies have demonstrated associations between patient satisfaction/experience scores and surgical quality outcomes.[41-42] Although less is known about patient experience in pediatrics, it has been shown that parents' reports of quality of care decline when they are less involved in decisions and receive fewer explanations about their child's care.[43-44]

For more details regarding the association between patient experience of care and other aspects of healthcare, see **Evidence Table (Appendix M)**.

REFERENCES

1.   Institute of Medicine Committee on the Quality of Health Care in America. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, D.C.: National Academy Press; 2001.

2.   Institute of Medicine Committee on the Quality of Health Care in America. *Future Directions for the National Healthcare Quality and Disparities Reports*. Washington, D.C.: National Academy Press; 2010.

3.   Stewart M, Brown JB, Donner A, McWhinney IR, Oates J, Weston WW, Jordan J. The impact of patient-centered care on outcomes. *J Fam Pract*. 2000;49(9):796-804.

4.   Kane GC, Gotto JL, Mangione S, West S, Hojat M. Jefferson Scale of Patient's Perceptions of Physician Empathy: Preliminary Psychometric Data. *Croat Med J*. 2007;48(1):81-86.

5.   Patient-Centered Care: What It Means And How To Get There – Health Affairs Blog. Available at: http://healthaffairs.org/blog/2012/01/24/patient-centered-care-what-it-means-and-how-to-get-there/. Accessed January 13, 2014.

6.   Lavallee DC, Chenok KE, Love RM, et al. Incorporating Patient-Reported Outcomes Into Health Care   To Engage Patients And Enhance Care. *Health Aff*. 2016;35(4):575-582. doi:10.1377/hlthaff.2015.1362

7.   Uhl T, Fisher K, Docherty SL, Brandon DH. Insights into patient and family-centered care through the hospital experiences of parents. *J Obstet Gynecol Neonatal Nurs JOGNN NAACOG*. 2013;42(1):121-131. doi:10.1111/1552-6909.12001.

8.   Hsiao JL, Evan EE, Zeltzer LK. Parent and child perspectives on physician communication in pediatric palliative care. *Palliat Support Care*. 2007;5(4):355-365.

9.   Kavanaugh K, Roscigno CI, Swanson KM, Savage TA, Kimura RE, Kilpatrick SJ. Perinatal palliative care: Parent perceptions of caring in interactions surrounding counseling for risk of delivering an extremely premature infant. *Palliat Support Care*. 2013:1-11. doi:10.1017/S1478951513000874.

10.   Van Staa A, Jedeloo S, van der Stege H, On Your Own Feet Research Group. "What we want": chronically ill adolescents' preferences and priorities for improving health care. *Patient Prefer Adherence*. 2011;5:291-305. doi:10.2147/PPA.S17184.

11.   Smith J, Swallow V, Coyne I. Involving Parents in Managing Their Child's Long-Term Condition—A Concept Synthesis of Family-Centered Care and Partnership-in-Care. *Journal of Pediatric Nursing: Nursing Care of Children and Families*. 2015;30(1):143-159. doi:10.1016/j.pedn.2014.10.014

12.   Davidson JE, Aslakson RA, Long AC, et al. Guidelines for Family-Centered Care in the Neonatal, Pediatric, and Adult ICU. *Critical Care Medicine*. 2017;45(1):103. doi:10.1097/CCM.0000000000002169

13.   Kalisch BJ, McLaughlin M, Dabney BW. Patient perceptions of missed nursing care. *Jt Comm J Qual Patient Saf Jt Comm Resour*. 2012;38(4):161-167.

14.	Miceli PJ, Clark PA. Your patient--my child: seven priorities for improving pediatric care from the parent's perspective. *J Nurs Care Qual*. 2005;20(1):43-53; quiz 54-55.

15.	Glickman SW, Boulding W, Manary M, Staelin R, Roe MT, Wolosin RJ, Ohman EM, Peterson ED, Schulman KA. Patient satisfaction and its relationship with clinical quality and inpatient mortality in acute myocardial infarction. *Circ Cardiovasc Qual Outcomes*. 2010;3(2):188-195. doi:10.1161/CIRCOUTCOMES.109.900597.

16.	Wolosin R, Ayala L, Fulton BR. Nursing care, inpatient satisfaction, and value-based purchasing: vital connections. *J Nurs Adm*. 2012;42(6):321-325. doi:10.1097/NNA.0b013e318257392b.

17.	Rathert C, May DR, Williams ES. Beyond service quality: the mediating role of patient safety perceptions in the patient experience-satisfaction relationship. *Health Care Manage Rev*. 2011;36(4):359-368. doi:10.1097/HMR.0b013e318219cda1.

18.	Gupta A, Daigle S, Mojica J, Hurley RW. Patient perception of pain care in hospitals in the United States. *J Pain Res*. 2009;2:157-164.

19.	Fuertes JN, Boylan LS, Fontanella JA. Behavioral Indices in Medical Care Outcome: The Working Alliance, Adherence, and Related Factors. *J Gen Intern Med*. 2009;24(1):80-85. doi:10.1007/s11606-008-0841-4.

20.	Haskard Zolnierek KB, DiMatteo MR. Physician Communication and Patient Adherence to Treatment: A Meta-analysis. *Med Care*. 2009;47(8):826-834. doi:10.1097/MLR.0b013e31819a5acc.

21.	Doyle C, Lennox L, Bell D. A systematic review of evidence on the links between patient experience and clinical safety and effectiveness. *BMJ Open*. 2013;3(1). doi:10.1136/bmjopen-2012-001570.

22.	Ratanawongsa N, Karter AJ, Parker MM, Lyles CR, Heisler M, Moffet HH, Adler N, Warton EM, Schillinger D. Communication and Medication Adherence: The Diabetes Study of Northern California. *JAMA Intern Med*. 2013;173(3):210-218. doi:10.1001/jamainternmed.2013.1216.

23.	Liu Y, Malin JL, Diamant AL, Thind A, Maly RC. Adherence to Adjuvant Hormone Therapy in Low-income Women with Breast Cancer: The Role of Provider-Patient Communication. *Breast Cancer Res Treat*. 2013;137(3):829-836. doi:10.1007/s10549-012-2387-8.

24.	Carcaise-Edinboro P, Bradley CJ. Influence of Patient-Provider Communication on Colorectal Cancer Screening. *Med Care July 2008*. 2008;46(7):738-745. doi:10.1097/MLR.0b013e318178935a.

25.	Bauer AM, Parker MM, Schillinger D, et al. Associations Between Antidepressant Adherence and Shared Decision-Making, Patient–Provider Trust, and Communication Among Adults with Diabetes: Diabetes Study of Northern California (DISTANCE). *J GEN INTERN MED*. 2014;29(8):1139-1147. doi:10.1007/s11606-014-2845-6

26.	Fenton JJ, Jerant AF, Bertakis KD, Franks P. The cost of satisfaction: a national study of patient satisfaction, health care utilization, expenditures, and mortality. *Arch Intern Med*. 2012;172(5):405-411. doi:10.1001/archinternmed.2011.1662.

27.	Chesney M, Lindeke L, Johnson L, Jukkala A, Lynch S. Comparison of child and parent satisfaction ratings of ambulatory pediatric subspecialty care. *J Pediatr Health Care Off Publ Natl Assoc Pediatr Nurse Assoc Pract*. 2005;19(4):221-229. doi:10.1016/j.pedhc.2005.02.003.

28.	Girotra S, Cram P, Popescu I. Patient satisfaction at America's lowest performing hospitals. *Circ Cardiovasc Qual Outcomes*. 2012;5(3):365-372. doi:10.1161/CIRCOUTCOMES.111.964361.

29.	Hoff RA, Rosenheck RA, Meterko M, Wilson NJ. Mental illness as a predictor of satisfaction with inpatient care at Veterans Affairs hospitals. *Psychiatr Serv Wash DC*. 1999;50(5):680-685.

30.	Elliott MN, Haviland AM, Cleary PD, Zaslavsky AM, Farley DO, Klein DJ, Edwards CA, Beckett MK, Orr N, Saliba D. Care experiences of managed care Medicare enrollees near the end of life. *J Am Geriatr Soc*. 2013;61(3):407-412. doi:10.1111/jgs.12121.

31.   Price RA, Elliott MN, Zaslavsky AM, Hays RD, Lehrman WG, Rybowski L, Edgman-Levitan S, Cleary PD. Examining the Basis for Including Patient Experience Measures in Health Care Accountability Programs. *In Press*.

32.   Clark NM, Cabana MD, Nan B, Gong ZM, Slish KK, Birk NA, Kaciroti N. The Clinician-Patient Partnership Paradigm: Outcomes Associated With Physician Communication Behavior. *Clin Pediatr (Phila)*. 2008;47(1):49-57. doi:10.1177/0009922807305650.

33.   Gary T, Maiese E, Batts-Turner M, Wang N, Brancati F. Patient satisfaction, preventive services, and emergency room use among African-Americans with type 2 diabetes. *Dis Manag*. 2005;8(6):361-371.

34.   Boulding W, Glickman SW, Manary MP, Schulman KA, Staelin R. Relationship between patient satisfaction with inpatient care and hospital readmission within 30 days. *Am J Manag Care*. 2011;17(1):41-48.

35.   Jaipaul CK, Rosenthal GE. Do Hospitals With Lower Mortality Have Higher Patient Satisfaction? A Regional Analysis of Patients With Medical Diagnoses. *Am J Med Qual*. 2003;18(2):59-65. doi:10.1177/106286060301800203.

36.   Meterko M, Wright S, Lin H, Lowy E, Cleary PD. Mortality among patients with acute myocardial infarction: the influences of patient-centered care and evidence-based medicine. *Health Serv Res*. 2010;45(5 Pt 1):1188-1204. doi:10.1111/j.1475-6773.2010.01138.x.

37.   Berry JG, Ziniel SI, Freeman L, Kaplan W, Antonelli R, Gay J, Coleman EA, Porter S, Goldmann D. Hospital readmission and parent perceptions of their child's hospital discharge. *Int J Qual Health Care*. 2013;25(5):573-581. doi:10.1093/intqhc/mzt051.

38.   Isaac T, Zaslavsky AM, Cleary PD, Landon BE. The relationship between patients' perception of care and measures of hospital quality and safety. *Health Serv Res*. 2010;45(4):1024-1040. doi:10.1111/j.1475-6773.2010.01122.x.

39.   Etingen B, Miskevics S, LaVela SL. Assessing the Associations of Patient-Reported Perceptions of Patient-Centered Care as Supplemental Measures of Health Care Quality in VA. *J Gen Intern Med*. March 2016. doi:10.1007/s11606-015-3557-2

40.   Sequist TD, Schneider EC, Anastario M, Odigie EG, Marshall R, Rogers WH, Safran DG. Quality monitoring of physicians: linking patients' experiences of care to clinical quality and outcomes. *J Gen Intern Med*. 2008;23(11):1784-1790. doi:10.1007/s11606-008-0760-4.

41.   Tsai TC, Orav EJ, Jha AK. Patient Satisfaction and Quality of Surgical Care in US Hospitals. *Ann Surg*. 2015;261(1):2-8. doi:10.1097/SLA.0000000000000765

42.   Sacks GD, Lawson EH, Dawes AJ, et al. Relationship Between Hospital Performance on a Patient Satisfaction Survey and Surgical Quality. *JAMA Surg*. 2015;150(9):858-864. doi:10.1001/jamasurg.2015.1108

43.   Homer CJ, Marino B, Cleary PD, Alpert HR, Smith B, Crowley Ganser CM, Brustowicz RM, Goldmann DA. Quality of care at a children's hospital: the parent's perspective. *Arch Pediatr Adolesc Med*. 1999;153(11):1123-1129.

44.   Mack JW, Hilden JM, Watterson J, Moore C, Turner B, Grier HE, Weeks JC, Wolfe J. Parent and physician perspectives on quality of care at the end of life in children with cancer. *J Clin Oncol Off J Am Soc Clin Oncol*. 2005;23(36):9155-9161. doi:10.1200/JCO.2005.04.010.

Note: For health outcome performance measures, no further information is required; however, you may provide evidence for any of the structures, processes, interventions, or service identified above.

1a.3. SYSTEMATIC REVIEW(S) 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 <u>systematic review of the body of evidence</u> 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.

CAHPS surveys measure aspects of healthcare delivery that are important to patients and their families and for which patients are generally the only or best source of information. Use of Child HCAHPS will benefit patients, families, and providers. Patients and their families can use scores from the Child HCAHPS measures to help make better and more informed choices about their providers. Providers and third-party payers can use the measure reports to assess quality for quality improvement initiatives and incentive programs.

IMPORTANCE OF MEASURING PATIENT- AND FAMILY-CENTERED CARE

The healthcare system has shifted dramatically toward the delivery of patient-centered care. Patient-centeredness refers to the principle that care should be designed around patients' needs, preferences, circumstances, and well-being. It has been identified as a core aspect of healthcare quality that should be addressed as part of overall quality improvement strategies.[1-3] In pediatrics, the goal is family-centeredness, meaning care that is designed around the child's and family's needs. Hospitals provide family-centered care by involving the patient and family as active participants in care.

Research shows that patient-centered care is important in improving the quality of care and achieving desirable outcomes.[4-14] Studies of adults have found that care that is more patient-centered, as measured by patient experience surveys, is associated with lower readmission and mortality rates as well as greater adherence to treatment plans.[15-19] Furthermore, studies of adults have demonstrated that patient-centered care may help reduce racial and ethnic disparities in the quality of care.[20-22]

Studies in the pediatric setting have similarly demonstrated that patient- and family-centered care is associated with better parent-reported experience and improved health outcomes.[3-7,23-29] For example, parents' perceptions of their child's care quality decline when parents are less involved in decision making and receive fewer explanations about their child's care.[30-31] Moreover, poor family-centeredness is associated with increased family stress and higher rates of delayed or forgone care.[25] Using a patient- and family-centered approach helps children and their families cope with the stress of hospitalization by easing anxiety, establishing trust and support, and promoting shared-decision making.[32]

IMPORTANCE OF PATIENT EXPERIENCE AS A MEASURE OF PATIENT- AND FAMILY-CENTERED CARE

One key approach to measuring patient- and family-centeredness is through assessment of patient experience. Patient experience surveys capture the patient's or family's perception of the care received, making them valuable tools for measuring patient-centered care. Patients are often best able to judge how well their providers are meeting their healthcare needs, and this understanding correlates with health outcomes and satisfaction. In fact, studies have shown that the association between patient-centeredness and health outcomes is stronger when patient-centeredness is measured by patient report than when it is measured by provider or researcher assessment.[15,33,34]

The Consumer Assessment of Healthcare Providers and Systems Hospital Survey – Child Version (Child HCAHPS) evaluates family-centeredness by measuring parents' perspectives on their child's inpatient experiences of care. The Child HCAHPS survey reports on aspects of family-centered care such as how much providers involve families in a child's care, the hospital environment, and the age-appropriateness of care delivery.

PEDIATRIC INPATIENT EXPERIENCE OF CARE: LACK OF STANDARDIZED QUALITY MEASUREMENT

Measuring patient experience has become a standard in assessing healthcare quality among adult patients. The National Quality Forum's (NQF) National Priorities Partnership and Measure Applications Partnership cite assessment of patient experience as a top priority.[35,36] The Consumer Assessment of Healthcare Providers and Systems Hospital Survey - Adult Version (Adult HCAHPS) facilitates objective and meaningful comparisons across hospitals of patients´ perspectives regarding aspects of care that are important to them.[37] The Centers for Medicare & Medicaid Services (CMS) uses Adult HCAHPS results to inform consumer choice through public reporting on the Hospital Compare website and to calculate incentive payments for the CMS Hospital Value-based Purchasing Program.[37] Although Adult HCAHPS has become a national standard in quality measurement among adult patients, an analogous pediatric survey has not been previously developed. Child HCAHPS will fill the need for a tool to assess inpatient experience of pediatric care and differences in experience across hospitals.

DISPARITIES IN CHILDREN'S EXPERIENCES WITH CARE

Racial/ethnic disparities have been documented in pediatric outpatient settings.[38-40] One study demonstrated that non-English speaking parents of Asian and Hispanic children reported worse patient experience in multiple domains.[38] However, little is known about racial/ethnic disparities in pediatric inpatient experience of care. Child HCAHPS collects data on the race and ethnicity of the surveyed child, which will allow for stratification to assess racial/ethnic differences in care.

POTENTIAL FOR QUALITY IMPROVEMENT

Patients, including children,[41-42] are able to identify areas that they believe are important targets for quality improvement initiatives.[41-47] For nearly two decades, healthcare organizations have used CAHPS survey scores to assess patients' experience of care.[48,49] When CMS began publicly reporting Adult HCAHPS scores in 2008, hospitals were able to implement changes that were associated with improvements in their patient experience scores after only one year.[50] This example of achievement of small but meaningful increases in scores suggests potential for improvement. Patient experience survey results have also prompted quality improvement initiatives in ambulatory and inpatient settings.[47,51,52] For example, a guide was released in 2008 that described potential interventions that can be used to improve performance on specific Adult CAHPS domains and improve patient experience.[52] In the inpatient setting, hospitals could use Child HCAHPS to identify gaps in performance in the domains measured by the survey (e.g., quality of discharge planning) and variation in performance associated with patient (e.g., race/ethnicity, type of insurance) or hospital (e.g., service line, type of hospital) characteristics.[50,53-55]

REFERENCES

1. Browne K, Roseman D, Shaller D, Edgman-Levitan S. Analysis & commentary. Measuring patient experience as a strategy for improving primary care. Health Aff Proj Hope. 2010;29(5):921-925. doi:10.1377/hlthaff.2010.0238.

2. Cosgrove DM, Fisher M, Gabow P, Gottlieb G, Halvorson GC, James BC, Kaplan GS, Perlin JB, Petzel R, Steele GD, Toussaint JS. Ten strategies to lower costs, improve quality, and engage patients: the view from leading health system CEOs. Health Aff Proj Hope. 2013;32(2):321-327. doi:10.1377/hlthaff.2012.1074.

3. Kuo DZ, Houtrow AJ, Arango P, Kuhlthau KA, Simmons JM, Neff JM. Family-Centered Care: Current Applications and Future Directions in Pediatric Health Care. Matern Child Health J. 2012;16(2):297-305.

4. Palfrey JS, Sofis LA, Davidson EJ, Liu J, Freeman L, Ganz ML, Pediatric Alliance for Coordinated Care. The Pediatric Alliance for Coordinated Care: evaluation of a medical home model. Pediatrics. 2004;113(5 Suppl):1507-1516.

5. Clark NM, Gong M, Schork MA, Evans D, Roloff D, Hurwitz M, Maiman L, Mellins RB. Impact of education for physicians on patient outcomes. Pediatrics. 1998;101(5):831-836.

6. Clark NM, Gong M, Schork MA, Kaciroti N, Evans D, Roloff D, Hurwitz M, Maiman LA, Mellins RB. Long-term effects of asthma education for physicians on patient satisfaction and use of health services. Eur Respir J. 2000;16(1):15-21.

7. Denboba D, McPherson MG, Kenney MK, Strickland B, Newacheck PW. Achieving family and provider partnerships for children with special health care needs. Pediatrics. 2006;118(4):1607-1615. doi:10.1542/peds.2006-0383.

8. Veroff D, Marr A, Wennberg DE. Enhanced support for shared decision making reduced costs of care for patients with preference-sensitive conditions. Health Aff Proj Hope. 2013;32(2):285-293. doi:10.1377/hlthaff.2011.0941.

9. Boulding W, Glickman SW, Manary MP, Schulman KA, Staelin R. Relationship between patient satisfaction with inpatient care and hospital readmission within 30 days. Am J Manag Care. 2011;17(1):41-48.

10. Glickman SW, Boulding W, Manary M, Staelin R, Roe MT, Wolosin RJ, Ohman EM, Peterson ED, Schulman KA. Patient satisfaction and its relationship with clinical quality and inpatient mortality in acute myocardial infarction. Circ Cardiovasc Qual Outcomes. 2010;3(2):188-195. doi:10.1161/CIRCOUTCOMES.109.900597.

11.   Shen MJ, Hamann HA, Thomas AJ, Ostroff JS. Association between patient-provider communication and lung cancer stigma. Support Care Cancer. 2016;24(5):2093-2099. doi:10.1007/s00520-015-3014-0

12.   Walling AM, Keating NL, Kahn KL, et al. Lower Patient Ratings of Physician Communication Are Associated With Unmet Need for Symptom Management in Patients With Lung and Colorectal Cancer. J Oncol Pract. 2016;12(6):e654-669. doi:10.1200/JOP.2015.005538

13. Etingen B, Miskevics S, LaVela SL. Assessing the Associations of Patient-Reported Perceptions of Patient-Centered Care as Supplemental Measures of Health Care Quality in VA. J Gen Intern Med. 2016;31 Suppl 1:10-20. doi:10.1007/s11606-015-3557-2

14. Toomey SL, Elliott MN, Schwebel DC, et al. Relationship Between Adolescent Report of Patient-Centered Care and of Quality of Primary Care. Acad Pediatr. 2016;16(8):770-776. doi:10.1016/j.acap.2016.01.006

15. Stewart M, Brown JB, Donner A, McWhinney IR, Oates J, Weston WW, Jordan J. The impact of patient-centered care on outcomes. J Fam Pract. 2000;49(9):796-804.

16. Stewart MA. Effective physician-patient communication and health outcomes: a review. CMAJ Can Med Assoc J. 1995;152(9):1423-1433.

17. Street RL Jr, Slee C, Kalauokalani DK, Dean DE, Tancredi DJ, Kravitz RL. Improving physician-patient communication about cancer pain with a tailored education-coaching intervention. Patient Educ Couns. 2010;80(1):42-47. doi:10.1016/j.pec.2009.10.009.

18. Street RL Jr, Makoul G, Arora NK, Epstein RM. How does communication heal? Pathways linking clinician-patient communication to health outcomes. Patient Educ Couns. 2009;74(3):295-301. doi:10.1016/j.pec.2008.11.015.

19.   Bastani F, Abadi TA, Haghani H. Effect of Family-centered Care on Improving Parental Satisfaction and Reducing Readmission among Premature Infants: A Randomized Controlled Trial. J Clin Diagn Res. 2015;9(1):SC04-08. doi:10.7860/JCDR/2015/10356.5444

20. Saha S, Beach MC, Cooper LA. Patient centeredness, cultural competence and healthcare quality. J Natl Med Assoc. 2008;100(11):1275-1285.

21. Van Ryn M. Research on the provider contribution to race/ethnicity disparities in medical care. Med Care. 2002;40(1 Suppl):I140-151.

22.   Beach MC, Rosner M, Cooper LA, Duggan PS, Shatzer J. Can Patient-Centered Attitudes Reduce Racial and Ethnic Disparities in Care? Acad Med. 2007;82(2):193-198.

23. Jessop DJ, Stein RE. Providing comprehensive health care to children with chronic illness. Pediatrics. 1994;93(4):602-607.

24. Homer CJ, Klatka K, Romm D, Kuhlthau K, Bloom S, Newacheck P, Van Cleave J, Perrin JM. A review of the evidence for the medical home for children with special health care needs. Pediatrics. 2008;122(4):e922-937. doi:10.1542/peds.2007-3762.

25. Smaldone A, Honig J, Byrne MW. Delayed and forgone care for children with special health care needs in New York State. Matern Child Health J. 2005;9(2 Suppl):S75-86. doi:10.1007/s10995-005-3859-9.

26. Farmer JE, Clark MJ, Sherman A, Marien WE, Selva TJ. Comprehensive primary care for children with special health care needs in rural areas. Pediatrics. 2005;116(3):649-656. doi:10.1542/peds.2004-0647.

27. Scal P, Ireland M. Addressing transition to adult health care for adolescents with special health care needs. Pediatrics. 2005;115(6):1607-1612. doi:10.1542/peds.2004-0458.

28. Ngui EM, Flores G. Satisfaction with care and ease of using health care services among parents of children with special health care needs: the roles of race/ethnicity, insurance, language, and adequacy of family-centered care. Pediatrics. 2006;117(4):1184-1196. doi:10.1542/peds.2005-1088.

29. Kuhlthau KA, Bloom S, Van Cleave J, et al. Evidence for family-centered care for children with special health care needs: a systematic review. Acad Pediatr. 2011;11(2):136-143.

30. Homer CJ, Marino B, Cleary PD, Alpert HR, Smith B, Crowley Ganser CM, Brustowicz RM, Goldmann DA. Quality of care at a children's hospital: the parent's perspective. Arch Pediatr Adolesc Med. 1999;153(11):1123-1129.

31. Mack JW, Hilden JM, Watterson J, Moore C, Turner B, Grier HE, Weeks JC, Wolfe J. Parent and physician perspectives on quality of care at the end of life in children with cancer. J Clin Oncol Off J Am Soc Clin Oncol. 2005;23(36):9155-9161. doi:10.1200/JCO.2005.04.010.

32. Epstein RM, Fiscella K, Lesser CS, Stange KC. Why the nation needs a policy push on patient-centered health care. Health Aff Proj Hope. 2010;29(8):1489-1495. doi:10.1377/hlthaff.2009.0888.

33. Kane GC, Gotto JL, Mangione S, West S, Hojat M. Jefferson Scale of Patient's Perceptions of Physician Empathy:Preliminary Psychometric Data. Croat Med J. 2007;48(1):81-86.

34. Patient-Centered Care: What It Means And How To Get There – Health Affairs Blog. Available at: http://healthaffairs.org/blog/2012/01/24/patient-centered-care-what-it-means-and-how-to-get-there/. Accessed January 13, 2014.

35. NQF: Person- and Family-Centered Care. Available at: https://www.qualityforum.org/Topics/Patient_and_Family_Engagement.aspx. Accessed February 7, 2014.

36. Measure Applications Partnership. MAP Families of Measures: Safety, Care Coordination, Cardiovascular Conditions, Diabetes. National Quality Forum; 2013:1-146.

37. Centers for Medicare & Medicaid. HospitalHCAHPS. 2013. Available at: http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/HospitalHCAHPS.html. Accessed November 29, 2013.

38. Weech-Maldonado R, Morales LS, Spritzer K, Elliott M, Hays RD. Racial and ethnic differences in parents' assessments of pediatric care in Medicaid managed care. Health Serv Res. 2001;36(3):575-594.

39. Raphael JL, Guadagnolo BA, Beal AC, Giardino AP. Racial and ethnic disparities in indicators of a primary care medical home for children. Acad Pediatr. 2009;9(4):221-227. doi:10.1016/j.acap.2009.01.011.

40. Flores G, Lin H. Trends in racial/ethnic disparities in medical and oral health, access to care, and use of services in US children: has anything changed over the years? Int J Equity Health. 2013;12:10. doi:10.1186/1475-9276-12-10

41. Davies B, Collins JB, Steele R, Cook K, Brenner A, Smith S. Children's perspectives of a pediatric hospice program. J Palliat Care. 2005;21(4):252-261.

42. Robertson S, Pryde K, Evans K. Patient involvement in quality improvement: is it time we let children, young people and families take the lead? Arch Dis Child Educ Pract Ed. 2014;99(1):23-27. doi:10.1136/archdischild-2013-304327.

43. Ward HO, Kibble S, Mehta G, Franklin M, Kovoor J, Jones A, Panesar S, Carson-Stevens A. How asking patients a simple question enhances care at the bedside: medical students as agents of quality improvement. Perm J. 2013;17(4):27-31. doi:10.7812/TPP/13-028.

44. Callanan C. Recording patient stories as an aid to training and service improvement. Nurs Manag Harrow Lond Engl 1994. 2012;19(8):20-22. doi:10.7748/nm2012.12.19.8.20.c9445.

45. Tsianakas V, Maben J, Wiseman T, Robert G, Richardson A, Madden P, Griffin M, Davies EA. Using patients' experiences to identify priorities for quality improvement in breast cancer care: patient narratives, surveys or both? BMC Health Serv Res. 2012;12:271. doi:10.1186/1472-6963-12-271.

46. Grogan A, Coughlan M, O' Mahony B, McKee G. The development of a patient partnership programme and its impact on quality improvements in a comprehensive haemophilia care service. Haemoph Off J World Fed Hemoph. 2012;18(6):875-880. doi:10.1111/j.1365-2516.2012.02885.x.

47. Roberts L. Improving quality, service delivery and patient experience in a musculoskeletal service. Man Ther. 2013;18(1):77-82. doi:10.1016/j.math.2012.04.010.

48. Cleary PD. The increasing importance of patient surveys. Now that sound methods exist, patient surveys can facilitate improvement. BMJ. 1999;319(7212):720-721.

49. Cleary PD, Edgman-Levitan S. Health care quality. Incorporating consumer perspectives. JAMA J Am Med Assoc. 1997;278(19):1608-1612.

50. Elliott MN, Lehrman WG, Goldstein EH, Giordano LA, Beckett MK, Cohea CW, Cleary PD. Hospital survey shows improvements in patient experience. Health Aff Proj Hope. 2010;29(11):2061-2067. doi:10.1377/hlthaff.2009.0876.

51. Solberg LI, Asche SE, Fontaine P, Flottemesch TJ, Anderson LH. Trends in quality during medical home transformation. Ann Fam Med. 2011;9(6):515-521. doi:10.1370/afm.1296.

52. Centers for Medicare & Medicaid. The CAHPS Improvement Guide: Practical Strategies for Improving the Patient Care Experience.; 2008. Available at: www.cahps.ahrq.gov. Accessed January 22, 2014.

53. Chatterjee P, Joynt KE, Orav EJ, Jha AK. Patient experience in safety-net hospitals: implications for improving care and value-based purchasing. Arch Intern Med. 2012;172(16):1204-1210. doi:10.1001/archinternmed.2012.3158.

54. Wild DMG, Kwon N, Dutta S, Tessier-Sherman B, Woddor N, Sipsma HL, Rizzo T, Bradley EH. Who's behind an HCAHPS score? Jt Comm J Qual Patient Saf Jt Comm Resour. 2011;37(10):461-468.

55. Gupta A, Daigle S, Mojica J, Hurley RW. Patient perception of pain care in hospitals in the United States. J Pain Res. 2009;2:157-164.

1b.2. Provide performance scores on the measure as specified (<u>current and over time</u>) at the specified level of analysis. *(<u>This is required for maintenance of endorsement</u>. 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.*

We provide three sets of Child HCAHPS performance scores. First, we provide performance scores for each of the Child HCAHPS measures using data from the 2012-2014 national field test. Data from 69 hospitals were used to calculate scores for all measures, except for the composite measure Involving Teens in Care, for which data from 67 hospitals were used (hospitals were excluded if they did not have an adequate sample size to allow for variance calculations). We also provide performance scores from the two largest vendors administering the Child HCAHPS measure at the national level. Vendor A administered Child HCAHPS in 2017 to 34,156 patients in 172 total facilities and in 2018 to 46,296 patients in 225 total facilities. Performance scores

from Vendor A are for the 128 and 175 facilities in 2017 and 2018, respectively, that had at least 30 responses during the collection period. Vendor B administered Child HCAHPS to 91,438 in 122 facilities during the collection period 2/20/2015-1/31/2019. Performance scores from Vendor B are for all facilities/respondents during the collection period. We provide the following performance score values for each dataset: mean; minimum and maximum score; standard deviation; interquartile range; and mean score by quintile. Due to the number of hospitals in each dataset, we have reported mean scores by quintile rather than decile to provide a better representation of score distribution, allowing for more meaningful comparisons of scores. Please see the sheet labeled "performance scores" in the excel workbook attached with the evidence submission 1a. for the performance data described above.

Finally, we have included additional performance scores from survey vendor A to demonstrate change over time. The sheet labeled "performance trends" in the attached performance score excel sheet includes two sets of trends. The data show the performance scores for the individual years from 2016 to 2017 and 2017 to 2018 and a calculation of the difference between the two sets of years for each Child HCAHPS measure item.

Child HCAHPS National Field Test Data:

Measure X

Line 1 – Mean (M); standard deviation (SD); minimum/maximum (min/max); 25th/50th/75th percentile (%ile); interquartile range (IQR)

Line 2 – Quintiles: quintile 1 mean/quintile 2 mean/quintile 3 mean/quintile 4 mean/quintile 5 mean

Nurse-Parent Communication:

M: .81; SD: .07; min/max: .49/1.00; %ile: .78/.81/.84; IQR: .06

Quintiles: .72/.79/.81/.83/.89

Doctor-Parent Communication:

M: .81; SD: .07; min/max: .47/.91; %ile: .79/.82/.85; IQR: .06

Quintiles: .70/.79/.82/.84/.88

Communication About Medicines:

M: .78; SD: .06; min/max: .47/.96; %ile: .76/.80/.82; IQR: .06

Quintiles: .69/.77/.79/.81/.85

Informed About Child's Care:

M: .71; SD: .08; min/max: .41/.89; %ile: .67/.72/.75; IQR: .08

Quintiles: .59/.68/.72/.74/.79

Privacy With Providers:

M: .81; SD: .08; min/max: .37/.91; %ile: .78/.83/.87; IQR: .09

Quintiles: .68/.78/.83/.86/.89

Preparing to Leave Hospital:

M: .79; SD: .07; min/max: .48/.92; %ile: .77/.80/.83; IQR: .06

Quintiles: .68/.77/.80/.82/.86

Informed in Emergency Room:

M: .84; SD: .08; min/max: .61/1.00; %ile: .81/.84/.88; IQR: .07

Quintiles: .72/.80/.84/.87/.94

Nurse-Child Communication:

M: .69; SD: .09; min/max: .35/.92; %ile: .67/.70/.74; IQR: .07

Quintiles: .55/.67/.69/.72/.80

Doctor-Child Communication:

M: .65; SD: .11; min/max: .18/.96; %ile: .62/.66/.70; IQR: .08

Quintiles: .50/.62/.66/.69/.77

Involving Teens in Care:

M: .70; SD: .10; min/max: .37/.96; %ile: .65/.72/.75; IQR: .10

Quintiles: .55/.66/.71/.75/.82

Mistakes and Concerns:

M: .55; SD: .07; min/max: .38/.70; %ile: .51/.56/.59; IQR: .08

Quintiles: .46/.52/.55/.58/.65

Call Button:

M: .59; SD: .08; min/max: .40/.79; %ile: .54/.58/.65; IQR: .11

Quintiles: .49/.55/.58/.64/.71

Child Comfort:

M: .67; SD: .07; min/max: .49/.86; %ile: .64/.67/.71; IQR: .07

Quintiles: .57/.64/.67/.70/.76

Child Pain:

M: .74; SD: .09; min/max: .47/.96; %ile: .70/.74/.78; IQR: .08

Quintiles: .60/.71/.74/.77/.85

Cleanliness:

M: .69; SD: .10; min/max: .45/1.00; %ile: .64/.69/.73; IQR: .09

Quintiles: .56/.65/.68/.71/.82

Quietness:

M: .63; SD: .11; min/max: .37/1.00; %ile: .57/.64/.69; IQR: .12

Quintiles: .48/.57/.64/.69/.78

Overall Rating:

M: .73; SD: .11; min/max: .29/.90; %ile: .69/.75/.79; IQR: .10

Quintiles: .55/.70/.75/.79/.84

Recommend Hospital:

M: .80; SD: .14; min/max: .27/1.00; %ile: .76/.83/.88; IQR: .12

Quintiles: .57/.77/.83/.87/.92

Vendor A Data (2017):

Nurse-Parent Communication:

M: .83; SD: .06; min/max: .56/.95; %ile: .81/.84/.86; IQR: .06

Quintiles: .56/.80/.83/.85/.87

Doctor-Parent Communication:

M: .84; SD: .05; min/max: .60/.96; %ile: .81/.85/.87; IQR: .06

Quintiles: .60/.81/.83/.86/.88

Communication About Medicines:

M: .79; SD: .04; min/max: .57/.88; %ile: .77/.79/.81; IQR: .05

Quintiles: .57/.76/.79/.80/.82

Informed About Child's Care:

M: .75; SD: .07; min/max: .27/.96; %ile: .72/.75/.79; IQR: .07

Quintiles: .27/.71/.74/.76/.80

Privacy With Providers:

M: .86; SD: .06; min/max: .59/.97; %ile: .83/.87/.90; IQR: .07

Quintiles: .59/.82/.86/.87/.90

Preparing to Leave Hospital:

M: .80; SD: .05; min/max: .57/.90; %ile: .78/.81/.84; IQR: .06

Quintiles: .57/.77/.80/.82/.84

Informed in Emergency Room:

M: .84; SD: .08; min/max: .51/1.00; %ile: .81/.86/.89; IQR: .08

Quintiles: .51/.81/.83/.87/.90

Nurse-Child Communication:

M: .74; SD: .08; min/max: .41/1.00; %ile: .71/.75/.78; IQR: .08

Quintiles: .41/.70/.73/.76/.79

Doctor-Child Communication:

M: .71; SD: .09; min/max: .33/1.00; %ile: .67/.72/.76; IQR: .09

Quintiles: .33/.65/.70/.73/.77

Involving Teens in Care:

M: .72; SD: .10; min/max: .13/1.00; %ile: .69/.72/.77; IQR: .08

Quintiles: .13/.67/.71/.74/.79

Mistakes and Concerns:

M: .60; SD: .05; min/max: .36/.74; %ile: .57/.60/.63; IQR: .06

Quintiles: .36/.56/.59/.61/.64

Call Button:

M: .67; SD: .11; min/max: .00/.95; %ile: .63/.68/.73; IQR: .10

Quintiles: .00/.60/.66/.69/.74

Child Comfort:

M: .68; SD: .07; min/max: .42/.82; %ile: .64/.69/.72; IQR: .08

Quintiles: .42/.63/.67/.70/.73

Child Pain:

M: .77; SD: .08; min/max: .48/1.00; %ile: .74/.78/.82; IQR: .08

Quintiles: .48/.73/.76/.79/.83

Cleanliness:

M: .69; SD: .08; min/max: .46/.88; %ile: .64/.69/.75; IQR: .11

Quintiles: .46/.62/.67/.71/.76

Quietness:

M: .64; SD: .10; min/max: .23/.85; %ile: .58/.65/.71; IQR: .13

Quintiles: .23/.56/.62/.68/.73

Overall Rating:

M: .73; SD: .09; min/max: .42/.89; %ile: .68/.74/.78; IQR: .10

Quintiles: .42/.66/.72/.76/.79

Recommend Hospital:

M: .80; SD: .09; min/max: .47/.93; %ile: .76/.81/.86; IQR: .10

Quintiles: .47/.74/.79/.83/.87

Vender A Data (2018):

Nurse-Parent Communication:

M: .84; SD: .05; min/max: .68/.95; %ile: .81/.84/.87; IQR: .05

Quintiles: .68/.80/.83/.85/.87

Doctor-Parent Communication:

M: .84; SD: .05; min/max: .67/.94; %ile: .82/.85/.87; IQR: .05

Quintiles: .67/.81/.83/.86/.88

Communication About Medicines:

M: .79; SD: .05; min/max: .56/.89; %ile: .76/.80/.82; IQR: .06

Quintiles: .56/.75/.78/.80/.82

Informed About Child's Care:

M: .75; SD: .06; min/max: .55/.91; %ile: .72/.75/.78; IQR: .07

Quintiles: .55/.71/.74/.77/.79

Privacy With Providers:

M: .86; SD: .07; min/max: .48/1.0; %ile: .84/.87/.90; IQR: .07

Quintiles: .48/.82/.86/.88/.91

Preparing to Leave Hospital:

M: .81; SD: .04; min/max: .64/.93; %ile: .79/.81/.83; IQR: .05

Quintiles: .64/.78/.80/.82/.84

Informed in Emergency Room:

M: .84; SD: .09; min/max: .33/1.00; %ile: .81/.85/.89; IQR: .07

Quintiles: .33/.80/.84/.87/.89

Nurse-Child Communication:

M: .75; SD: .07; min/max: .43/1.00; %ile: .71/.76/.80; IQR: .08

Quintiles: .43/.70/.75/.77/.81

Doctor-Child Communication:

M: .72; SD: .08; min/max: .42/1.00; %ile: .67/.72/.77; IQR: .10

Quintiles: .42/.66/.71/.74/.78

Involving Teens in Care:

M: .72; SD: .12; min/max: .13/1.00; %ile: .68/.73/.77; IQR: .10

Quintiles: .13/.66/.71/.74/.79

Mistakes and Concerns:

M: .61; SD: .05; min/max: .40/.83; %ile: .58/.60/.64; IQR: .07

Quintiles: .40/.57/.59/.62/.65

Call Button:

M: .69; SD: .09; min/max: .35/.91; %ile: .64/.69/.74; IQR: .11

Quintiles: .35/.63/.67/.71/.76

Child Comfort:

M: .69; SD: .06; min/max: .47/.80; %ile: .65/.69/.72; IQR: .07

Quintiles: .47/.64/.68/.70/.73

Child Pain:

M: .77; SD: .08; min/max: .41/1.00; %ile: .73/.78/.81; IQR: .09

Quintiles: .41/.72/.77/.79/.83

Cleanliness:

M: .70; SD: .09; min/max: .44/.91; %ile: .64/.70/.75; IQR: .11

Quintiles: .44/.63/.68/.74/.77

Quietness:

M: .66; SD: .09; min/max: .39/.85; %ile: .59/.66/.73; IQR: .13

Quintiles: .39/.57/.63/.69/.74

Overall Rating:

M: .73; SD: .09; min/max: .30/.92; %ile: .69/.74/.79; IQR: .10

Quintiles: .30/.67/.72/.76/.79

Recommend Hospital:

M: .80; SD: .09; min/max: .35/.94; %ile: .77/.81/.85; IQR: .09

Quintiles: .35/.75/.80/.83/.86

Vendor B Data:

Nurse-Parent Communication:

M: .82; SD: .05; min/max: .60/1.00; %ile: .79/.83/.86; IQR: .06

Quintiles: .77/.81/.83/.84/.87

Doctor-Parent Communication:

M: .84; SD: .05; min/max: .67/1.00; %ile: .82/.85/.87; IQR: .05

Quintiles: .81/.83/.85/.87/.89

Communication About Medicines:

M: .74; SD: .12; min/max: .35/.93; %ile: .72/.78/.81; IQR: .09

Quintiles: .62/.74/.78/.80/.82

Informed About Child's Care:

M: .75; SD: .06; min/max: .54/1.00; %ile: .72/.76/.79; IQR: .06

Quintiles: .70/.74/.76/.78/.80

Privacy With Providers:

M: .85; SD: .05; min/max: .64/1.00; %ile: .83/.86/.89; IQR: .06

Quintiles: .81/.84/.86/.88/.90

Preparing to Leave Hospital:

M: .81; SD: .06; min/max: .51/.91; %ile: .78/.82/.84; IQR: .06

Quintiles: .76/.79/.82/.83/.85

Informed in Emergency Room:

M: .84; SD: .14; min/max: .00/1.00; %ile: .80/.85/.89; IQR: .09

Quintiles: .76/.82/.85/.87/.94

Nurse-Child Communication:

M: .72; SD: .10; min/max: .33/1.00; %ile: .68/.73/.77; IQR: .09

Quintiles: .67/.71/.73/.75/.79

Doctor-Child Communication:

M: .71; SD: .12; min/max: .00/1.00; %ile: .66/.71/.76; IQR: .10

Quintiles: .65/.67/.71/.74/.78

Involving Teens in Care:

M: .71; SD: .15; min/max: .00/1.00; %ile: .67/.72/.78; IQR: .11

Quintiles: .60/.70/.72/.76/.80

Mistakes and Concerns:

M: .59; SD: .06; min/max: .43/.74; %ile: .56/.59/.62; IQR: .06

Quintiles: .54/.56/.59/.61/.64

Call Button:

M: .69; SD: .11; min/max: .33/1.00; %ile: .64/.69/.75; IQR: .10

Quintiles: .60/.67/.69/.72/.77

Child Comfort:

M: .64; SD: .08; min/max: .36/.81; %ile: .59/.64/.70; IQR: .12

Quintiles: .56/.60/.64/.69/.72

Child Pain:

M: .76; SD: .12; min/max: .33/1.00; %ile: .73/.78/.82; IQR: .09

Quintiles: .69/.75/.78/.81/.83

Cleanliness:

M: .74; SD: .08; min/max: .53/1.00; %ile: .70/.74/.79; IQR: .09

Quintiles: .68/.71/.74/.77/.82

Quietness:

M: .68; SD: .09; min/max: .42/.93; %ile: .63/.68/.74; IQR: .11

Quintiles: .61/.65/.68/.72/.77

Overall Rating:

M: .74; SD: .10; min/max: .36/.97; %ile: .70/.76/.81; IQR: .11

Quintiles: .65/.72/.76/.79/.83

Recommend Hospital:

M: .79; SD: .11; min/max: .29/1.00; %ile: .75/.81/.86; IQR: .12

Quintiles: .70/.79/.81/.84/.89

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.*

RACE/ETHNICITY

We assessed differences in inpatient pediatric experience associated with race/ethnicity. Child race/ethnicity is determined from survey responses to two items that were devised based on recommendations from the Office of Minority Health: "Is your child of Hispanic, Latino, or Spanish origin?" and "How would you describe your child's race?"[1] For our analyses, we categorized responses into the following groups: American Indian/Alaskan Native, Asian/Pacific Islander, Black, Hispanic, White, and Multiracial.

In unadjusted results for the majority of the measures, we found that compared with hospital top-box scores for White patients, those for Black and Hispanic patients were higher and those for Asian/Pacific Islanders were lower. In multivariate analyses controlling for child global health status, child age, respondent relation to child, respondent age, and hospital, the results were similar across racial/ethnic groups. See Child HCAHPS Disparities Analysis (Appendix L) for data on differences in inpatient pediatric patient experience based on patient race/ethnicity.

Our findings are similar to those from other patient surveys in the inpatient setting. Higher patient experience scores for Black and Hispanic patients than for White patients have been reported in the adult literature, as have lower scores for Asian/Pacific Islander patients.[2-5] However, our findings and those for adult inpatients differ from what has been observed in outpatient and community settings. Because inpatient samples by definition have been hospitalized, they are a more homogeneous group with regard to access to care than a general community sample of children. In contrast, access to care in outpatient and community settings may vary among patients in different racial/ethnic groups, perhaps leading to corresponding racial/ethnic differences in patient experience. Furthermore, comparisons of reported patient experience by racial/ethnic group should be interpreted with caution. Parents' perceptions may be influenced by factors such as differences in culture and expectations rather than true differences in quality of care. In addition, it has been shown that responses to global rating items are particularly likely to be influenced by underlying response tendencies that vary across groups.[6,7]

In adults, racial/ethnic variation in patient experience has been found to be due more to between-hospital differences than within-hospital differences. In other words, hospitals that serve a larger proportion of non-White adult patients generally perform worse on patient experience measures for all racial/ethnic groups, not just for non-White patients, compared with hospitals that serve a smaller proportion of non-White patients. Thus, the main factor accounting for racial/ethnic variation in adult patient experience is that non-White patients tend to receive care at lower-performing hospitals, not that at a given hospital non-White patients tend to receive worse care than White patients.

The results from our multivariate analyses suggest that the situation is different for children. If the major explanation for racial/ethnic variation in inpatient pediatric experience were overall differences (for all racial/ethnic groups) in patient experience between hospitals serving high versus low proportions of non-White children, one would expect that controlling for hospital would decrease the racial/ethnic variation observed in unadjusted scores. We found, however, that controlling for hospital had only a small effect on racial/ethnic differences. The small effect on racial/ethnic differences of controlling for hospital suggests that in

our sample, these differences primarily exist within hospitals rather than primarily being due to variation in the average quality of the hospitals that different groups use.

One possible reason for the contrast between our findings and those in adults is that many of the hospitals in our dataset are children's hospitals. Because children´s hospitals provide unique services in a given geographic area, the relationship between the distribution of racial/ethnic groups across children´s hospitals and the quality of care these hospitals provide might not be the same as for non-children's hospitals. Our sample does not capture all hospitals within a given area, which limits our ability to assess whether patient experience tends to vary between non-children's hospitals serving high versus low proportions of children of a particular racial/ethnic group.

SOCIOECONOMIC STATUS

We assessed differences in inpatient pediatric experience associated with socioeconomic status. We used parent education as a proxy for socioeconomic status, measured using the following item: "What is the highest level of school that you have completed?" For our analysis, we categorized responses into the following groups: 8th grade or less or some high school, high school graduate or GED, some college or 2-year degree, 4-year college graduate, and more than 4-year college graduate.

In unadjusted results, we found a pattern for a majority of the measures such that top-box scores were highest for those who had not completed high school and decreased for each higher level of educational attainment. In multivariate analyses controlling for child global health status, child age, respondent relation to child, respondent age, and hospital, results were similar. The small effect on education-related differences of controlling for hospital suggests that in our sample, these differences primarily exist within hospitals rather than primarily being due to variation in the average quality of hospitals that are used by different groups. See Child HCAHPS Disparities Analysis (Appendix L) for data on differences in inpatient pediatric patient experience based on respondent education.

Our findings are similar to those from other patient surveys. Higher scores for less versus more educated individuals have been reported in both inpatient and outpatient settings in the adult patient experience literature.[8-13] The same trend has been observed when parents provide ratings of their child's health plan. In an analysis of Child CAHPS Health Plan survey scores, less educated adults generally provided higher ratings of their child's commercial health plan and received care.[8] These differences in scores may reflect differences in expectations of care or reporting styles associated with education level rather than actual differences in the quality of care received.[9-11] Such explanations might also be relevant to Child HCAHPS.

As is true for racial/ethnic differences in inpatient pediatric experience, our findings regarding differences associated with parent education level are specifically applicable to the inpatient setting. As noted previously, hospitalized children are a more homogeneous group with regard to access to care than a general community sample of children. In outpatient and community settings, children with less versus more educated parents may experience greater differences in access to care, possibly leading to even greater differences in patient experience.

GENDER

We assessed differences in inpatient pediatric experience associated with gender. Child gender is determined from hospital administrative data. For our analyses, we categorized gender into the following groups: male and female.

In unadjusted results, we found no significant differences in top-box scores for males and females for all but two measures. In multivariate analyses controlling for child global health status, child age, respondent relation to child, respondent age, and hospital, results were similar. Parents of female children gave slightly higher scores for the Communication about Medicines composite, and parents of male children gave slightly higher scores for the Quietness composite. See Child HCAHPS Disparities Analysis (Appendix L) for data on differences in inpatient pediatric patient experience based on patient gender.

REFERENCES

1. Office of Minority Health - OMH - Home Page. Available at: http://minorityhealth.hhs.gov/. Accessed February 6,

2014.

2. Goldstein E, Elliott MN, Lehrman WG, Hambarsoomian K, Giordano LA. Racial/Ethnic Differences in Patients' Perceptions of Inpatient Care Using the HCAHPS Survey. Med Care Res Rev. 2010;67(1):74-92. doi:10.1177/1077558709341066.

3. Zaslavsky AM, Zaborski LB, Ding L, Shaul JA, Cioffi MJ, Cleary PD. Adjusting Performance Measures to Ensure Equitable Plan Comparisons. Health Care Financ Rev. 2001;22(3):110-126.

4. Lurie N, Zhan C, Sangl J, Bierman AS, Sekscenski ES. Variation in racial and ethnic differences in consumer ssessments of health care. Am J Manag Care. 2003;9(7):502-509.

5. Morales LS, Elliott MN, Weech-Maldonado R, Spritzer KL, Hays RD. Differences in CAHPS adult survey reports and

ratings by race and ethnicity: an analysis of the National CAHPS benchmarking data 1.0. Health Serv Res. 2001;36(3):595.

6. Weech-Maldonado R, Elliott MN, Oluwole A, Schiller KC, Hays RD. Survey response style and differential use of

CAHPS rating scales by Hispanics. Med Care. 2008;46(9):963-968. doi:10.1097/MLR.0b013e3181791924.

7. Elliott MN, Haviland AM, Kanouse DE, Hambarsoomian K, Hays RD. Adjusting for Subgroup Differences in Extreme

Response Tendency in Ratings of Health Care: Impact on Disparity Estimates. Health Serv Res. 2009;44(2p1):542-

561. doi:10.1111/j.1475-6773.2008.00922.x.

8. Zhan C, Sangl JS, Meyer GS, Zaslavsky AM. How Do They Compare?: Consumer Assessments of Care for Children and

Adults in Health Plans. Med Care Febr 2002. 2002;40(2):145-154.

9. Cleary PD, Carlson MJ, Shaul JA, Eisen SV. The influence of patient characteristics on ratings of managed behavioral health care. J Behav Health Serv Res. 2002;29(4):481-489. doi:10.1007/BF02287354.

10. Roohan PJ, Franko SJ, Anarella JP, Dellehunt LK, Gesten FC. Do commercial managed care members rate their health

plans differently than Medicaid managed care members? Health Serv Res. 2003;38(4):1121-1134.

11. Carlson MJ, Blustein J, Fiorentino N, Prestianni F. Socioeconomic Status and Dissatisfaction Among HMO Enrollees.

Med Care May 2000. 2000;38(5):508-516.

12. O'Malley AJ, Zaslavsky AM, Elliott MN, Zaborski L, Cleary PD. Case-Mix Adjustment of the CAHPS(R) Hospital Survey.

Health Serv Res. 2005;40(6 Pt 2):2162-2181. doi:10.1111/j.1475-6773.2005.00470.x.

13. Elliott MN, Zaslavsky AM, Goldstein E, Lehrman W, Hambarsoomians K, Beckett MK, Giordano L. Effects of survey

mode, patient mix, and nonresponse on CAHPS hospital survey scores. Health Serv Res. 2009;44(2 Pt 1):501-518.

doi:10.1111/j.1475-6773.2008.00914.x.

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

Not applicable

2. Reliability and Validity—Scientific Acceptability of Measure Properties

Extent to which the measure, <u>as specified</u>, 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):*

Children, Populations at Risk : Individuals with multiple chronic conditions

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.)*

https://www.ahrq.gov/cahps/surveys-guidance/hospital/about/child_hp_survey.html

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)*

Attachment **Attachment:** Data_dictionary_UPDATE_04_09_18-636588797981265996.xlsx

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 **Attachment:** Appendix_revised_final_01_07_19.pdf

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.

We made no major changes to the measure specifications for this maintenance review.

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).

Using the top-box scoring method, the numerator of the top-box score for a measure consists of the number of respondents with a completed survey who gave the best possible answer for the item(s) in a measure.

For example, the top-box numerator for the communication between you and your child's nurses composite is the number of respondents who answered "Always" to questions about how well nurses communicated well with them.

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).

SURVEY

The numerator is the number of parents who return a completed survey. A survey is considered complete if responses are available for half of the key survey items. For more information about the key items in Child HCAHPS, see Survey Items in Domain-Level Composite and Single-Item Measures (Appendix I).

MEASURE 1: Communication between you and your child's nurses

The numerator is the percentage number of respondents who answered "Always" to questions about how well nurses communicated well with them.

MEASURE 2: Communication between you and your child's doctors

The numerator is the number of respondents who answered "Always" to questions about how well doctors communicated well with them.

MEASURE 3: Communication about your child's medicines

The numerator is the number of respondents who answered "Yes, Definitely" to questions about whether providers communicated well about their child's medicines.

MEASURE 4: Keeping you informed about your child's care

The numerator is the number of respondents who answered "Always" to questions about whether providers kept them informed about their child's care.

MEASURE 5: Privacy when talking with doctors, nurses, and other providers

This numerator is the number of respondents who answered "Always" to a question about whether they were given as much privacy as they wanted when discussing their child's care with providers.

MEASURE 6: Preparing you and your child to leave the hospital

The numerator is the number of respondents who answered "Yes, Definitely" to questions about whether providers prepared them and their child to leave the hospital.

MEASURE 7: Keeping you informed about your child's care in the Emergency Room

The numerator is the number of respondents who answered "Yes, Definitely" to a question about whether they were kept informed about their child's care in the Emergency Room.

MEASURE 8: How well nurses communicate with your child

The numerator is the number of respondents who answered "Always" to questions about whether nurses communicated well with their child.

MEASURE 9: How well doctors communicate with your child

The numerator is the number of respondents who answered "Always" to questions about whether doctors communicated well with their child.

MEASURE 10: Involving teens in their care

The numerator is the number of respondents who answered "Always" or "Yes, Definitely" to questions about whether providers involved teens in their care.

MEASURE 11: Preventing mistakes and helping you report concerns

The numerator is the number of respondents who answered "Always" or "Yes, Definitely" to questions about whether providers prevented mistakes and helped them report concerns.

MEASURE 12: Responsiveness to the call button

The numerator is the number of respondents who answered "Always" to a question about how often providers were responsive to the call button.

MEASURE 13: Helping your child feel comfortable

The numerator is the number of respondents who answered "Always" or "Yes, Definitely" to questions about whether providers helped their child feel comfortable.

MEASURE 14: Paying attention to your child's pain

The numerator is the number of respondents who answered "Yes, Definitely" to a question about whether providers and hospital staff paid attention to their child's pain.

MEASURE 15: Cleanliness of hospital room

The numerator is the number of respondents who answered "Always" to a question about how often their child's room and bathroom were kept clean.

MEASURE 16: Quietness of hospital room

The numerator is the number of respondents who answered "Always" to a question about how often their child's room was quiet at night.

MEASURE 17: Overall rating

The numerator is the number of respondents who gave their hospital a rating of 9 or 10 on a scale from 0 (worst hospital) to 10 (best hospital).

MEASURE 18: Recommend hospital

The numerator is the number of respondents who answered "Yes, Definitely" to a question about whether they would recommend the hospital.

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

The denominator for each single-item measure is the number of respondents with a completed survey who responded to the item. The denominator for each composite measure is the number of respondents with a completed survey who responded to at least one of the items within the measure. The target population for the survey is parents of children under 18 years old who have been discharged from the hospital during the target 12-month time frame.

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).

SURVEY

The denominator for the survey is all parents of patients who meet the following criteria:

1. Children under 18 years old
2. Admission includes at least one overnight stay in the hospital
3. Non-psychiatric MS-DRG/principal diagnosis at discharge
4. Alive at time of discharge

MEASURE 1: Communication between you and your child's nurses

The denominator is the total number of respondents with completed surveys who have given a response to at least one of the following items: Q13, Q14, and Q15.

MEASURE 2: Communication between you and your child's doctors

The denominator is the total number of respondents with completed surveys who have given a response to at least one of the following items: Q16, Q17, and Q18.

MEASURE 3: Communication about your child's medicines

The denominator is the total number of completed surveys with at least one response to any of the following items: Q4, Q5, Q38, and Q39.

MEASURE 4: Providers keep you informed about your child's care

The denominator is the total number of completed surveys with at least one response to either of the following items: Q22 and Q24.

MEASURE 5: Privacy when talking with providers

The denominator is the total number of surveys with a response to the following item: Q19.

MEASURE 6: Preparing you and your child to leave the hospital

The denominator is the total number of completed surveys with at least one response to any of the following items: Q35, Q36, Q40, Q41, and Q42.

MEASURE 7: Keeping you informed about your child's care in the Emergency Room

The denominator is the total number of completed surveys with a response to the following item: Q3.

MEASURE 8: How well nurses communicate with your child

The denominator is the total number of completed surveys with at least one response to any of the following items: Q7, Q8, and Q9.

MEASURE 9: How well doctors communicate with your child

The denominator is the total number of completed surveys with at least one response to any of the following items: Q10, Q11, and Q12.

MEASURE 10: Involving teens in their care

The denominator is the total number of completed surveys with at least one response to any of the following items: Q44, Q45, and Q46.

MEASURE 11: Preventing mistakes and helping you report concerns

The denominator is the total number of completed surveys with at least one response to either of the following items: Q28 and Q29.

MEASURE 12: Responsiveness to the call button

The denominator is the total number of completed surveys with a response to the following item: Q26.

MEASURE 13: Helping your child feel comfortable

The denominator is the total number of completed surveys with at least one response to any of the following items: Q20, Q21, and Q34.

MEASURE 14: Paying attention to your child's pain

The denominator is the total number of completed surveys with a response to the following item: Q31.

MEASURE 15: Cleanliness of hospital room

The denominator is the total number of completed surveys with a response to the following item: Q32.

MEASURE 16: Quietness of hospital room

The denominator is the total number of completed surveys with a response to the following item: Q33.

MEASURE 17: Overall rating

The denominator is the total number of completed surveys with a response to the following item: Q47.

MEASURE 18: Recommend hospital

The denominator is the total number of completed surveys with a response to the following item: Q48.

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

SURVEY AND MEASURES 1-18

Exclude parents of certain patients from the measure (numerator and denominator) based on clinical and non-clinical criteria:

1. "No-publicity" patients
2. Court/law enforcement patients
3. Patients with a foreign home addresses
4. Patients discharged to hospice care (hospice-home or hospice-medical facility)
5. Patients who are excluded because of state regulations
6. Patients who are wards of the state
7. Healthy newborns
8. Maternity-stay patients
9. Patients admitted for observation
10. Patients discharged to skilled nursing facilities
11. Patients who are emancipated minors

MEASURES 1-18

Exclude respondents from the numerator and denominator of a measure if they have completed survey items in the measure using multiple marks (i.e., they gave multiple answers to an individual question).

MEASURES 8-9

Exclude the following respondents from the numerator and denominator:

1. All those who answered "No" to screener question 6 (Is your child able to talk with nurses and doctors about his or her health care?)
2. All those whose child was under 3 years old at discharge as determined using administrative data

MEASURE 10

Exclude the following respondents from the numerator and denominator:

1. All those who answered "No" in screener question 43 (During this hospital stay, was your child 13 years old or older?)

2. All those whose child was under 13 years old at discharge as determined using administrative data

3. All those who answered "No" in screener question 6 (Is your child able to talk with nurses and doctors about his or her health care?)

MEASURE 12

Exclude the following respondents from the numerator and denominator:

1. All those who answered "No" in screener question 25 (During this hospital stay, did you or your child ever press the call button?)

MEASURE 14

Exclude the following respondents from the numerator and denominator:

1. All those who answered "No" in screener question 30 (During this hospital stay, did your child have pain that needed medicine or other treatment?)

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.)*

"No-publicity" patients are defined as those whose parents voluntarily sign a "no-publicity" request while hospitalized or directly request that a hospital or survey vendor not contact them ("Do Not Call List").

Court/law enforcement patients (i.e., prisoners) are excluded from the sample frame because of the logistical difficulties of administering the survey in a timely manner and regulations governing surveys of this population. These individuals can be identified by the admission source (UB-04 field location 15) "8 – Court/law enforcement" or patient discharge status code (UB-04 field location 17) "21 – Discharged/transferred to court/law enforcement." This exclusion does not include patients residing in halfway houses.

Patients with a foreign home address are excluded because of the logistical difficulty and added expense of calling or mailing outside of the United States. (The US territories—American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and Virgin Islands—are not considered foreign addresses and are not excluded.)

Patients discharged to hospice care are excluded because of the greater likelihood that they will die before the survey process can be completed. Patients with a discharge status code (UB-04 field location 17) of "50 – Hospice – home" or "51 – Hospice – medical facility" should not be included in the sample frame.

Some state regulations place further restrictions on which patients may be contacted after discharge. It is the responsibility of the hospital/survey vendor to identify any applicable laws or regulations and to exclude those patients as required in the state in which the hospital operates.

Patients who are wards of the state are excluded because they do not have parents to assess their experiences in the hospital.

Healthy newborns are excluded because their care may be closely associated with a mother's obstetric care and thus may not reflect a pediatric hospital's quality of care. Healthy newborns are identified based on administrative billing codes; see Codes to Identify Healthy Newborns for Exclusion in the Data Dictionary Code Table.

Maternity-stay patients are excluded because care related to pregnancy does not generally fall within the purview of pediatric providers.

Observation patients are excluded because their hospital stay is generally short and does not meet the criteria for an inpatient stay.

Patients discharged to skilled nursing facilities are excluded because of concerns that parents would not be able to adequately distinguish the care received at the two facilities and also might be more difficult to locate. Patients with a discharge status code (UB-04 field location 17) of "03 – Skilled Nursing Facility," "61 – SNF

Swing bed within Hospital," or "64 – Certified Medicaid Nursing Facility" should not be included in the sample frame.

Patients who are emancipated minors are excluded because they do not have parents/guardians to assess their experiences in the hospital.

Note: Patients should be included in the Child HCAHPS sample frame unless the hospital/survey vendor has positive evidence that they are ineligible or fall within an excluded category. If information is missing on ANY variable that affects survey eligibility when the sample frame is constructed, the patient should not be excluded in the sample frame because of that variable.

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.)*

Stratification is not required. However, users of the survey may choose to stratify scores. Variables commonly used to stratify inpatient patient experience of care measures include service (e.g., medical versus surgical) or condition (e.g., patients with the primary diagnosis of asthma).

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

Statistical risk model

If other:

S.12. Type of score:

Rate/proportion

If other:

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.*)

The Child HCAHPS survey includes three types of measures: global measures, domain-level composites, and domain-level single items. The production of unadjusted hospital scores for each measure and use of adjustments to better ensure the comparability of scores across hospitals are discussed below.

ASSIGN APPROPRIATE SAMPLING WEIGHT TO EACH CASE

Prior to calculating any of the measure scores, it may be necessary to calculate sampling weights that are applicable to all of the measures. Some hospitals will sample a constant proportion of patients for each month, in which case sampling weights are not needed. Alternatively, some hospitals will sample a fixed number of discharges each month to reach the annual target of 300 completed surveys. However, the monthly population of discharges from which these fixed-sized samples are drawn will vary throughout the year because there are more total discharges in some months than others in most hospitals. In such a case, sampling rates will vary from month to month. To make the combined monthly samples representative of the full population of discharges for the year, it is necessary to adjust for the different monthly sampling rates. Appropriate sampling weights can be assigned to each case to make the combined monthly samples representative of the total population of annual discharges. This is done using the approach below. For a more detailed description, see the production of hospital scores section of the Detailed Measure Specifications (Appendix A).

Step 1 – Calculate the expansion weight for each month

Expansion weight = (Population size for the month) / (Sample size for the month)

Step 2 – Calculate the mean expansion weight for the number of months covered by the score (e.g., 12 months)

Step 3 – Calculate the relative weight for each month as the expansion weight for the month divided by the mean expansion weight

Step 4 – Assign a sampling weight to each case based on the month in which the person was discharged and the corresponding value of the mean expansion weight

GLOBAL MEASURES

The global measures consist of an overall rating of the hospital and an item about willingness to recommend the hospital. The approach for producing scores for these items is below.

Overall Rating of the Hospital.

For this item, respondents are asked, "Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your child's stay?" The scoring on this item represents the proportion of respondents who gave ratings of 0-6, 7-8, or 9-10. The top-box score is the proportion of respondents who gave ratings of 9-10.

The steps to calculate a hospital's score, including the top-box score, are as follows:

Step 1 – Identify relevant cases

Include only cases with non-missing values on the overall rating question.

Step 2 – Calculate the proportion of cases in each response category

(1) Proportion of respondents who gave the hospital an overall rating of 0-6 (P1):

The numerator is the number of respondents for whom the overall rating is 0-6. Each case is

weighted by the appropriate sampling weight for the discharge month.

The denominator is the total number of respondents, each weighted by the appropriate sampling

weight for the discharge month.

(2) Proportion of respondents who gave the hospital an overall rating of 9 or 10 (P3):

The numerator is the number of respondents for whom the overall rating is 9 or 10. Each case is

weighted by the appropriate sampling weight for the discharge month.

The denominator is the total number of respondents, each weighted by the appropriate sampling

weight for the discharge month.

(3) Proportion of respondents who gave the hospital an overall rating of 7 or 8 (P2)

The proportion can be defined as follows:

P2 = 1 – P1 – P3

A hospital's top-box score on the overall rating item is equal to P3, the proportion of

respondents who gave ratings of 9-10 to the hospital. The proportion of cases in the other

categories may be informative for hospitals' quality improvement efforts.

Willingness to Recommend the Hospital

For this item, respondents are asked, "Would you recommend this hospital to your friends and family?" Response options are "definitely no," "probably no," "probably yes," or "definitely yes." A hospital's score is the proportion of cases in each response category. The hospital's top-box score is the proportion of cases in

which the response is "definitely yes." Production of a hospital's score on this item follows the same steps discussed above.

DOMAIN-LEVEL COMPOSITES

There are 10 domain-level composites included in Child HCAHPS; see the Data Dictionary Code Table for survey items in domain-level composite measures. Composite scores are generated by calculating top-box proportions—the proportion of responses in the most positive category. Production of composite scores is described below.

Composite example: Communication between you and your child's doctors

This composite is produced by combining responses to three questions:

- "During this hospital stay, how often did your child's doctors listen carefully to you?"
- "During this hospital stay, how often did your child's doctors explain things to you in a way that was easy to understand?"
- "During this hospital stay, how often did your child's doctors treat you with courtesy and respect?"

Response options for each question are "never," "sometimes," "usually," or "always." The basic steps to calculate a hospital's composite score are as follows:

Step 1 – Calculate the proportion of cases in the "always" response category for each question:

- $P11$ = Proportion of respondents who said "always" to the first question
- $P12$ = Proportion of respondents who said "always" to the second question
- $P13$ = Proportion of respondents who said "always" to the third question

Step 2 – Combine responses from the three questions to form the top-box proportion for the composite:

- $PC1$ = Composite proportion who said "always" = $(P11 + P12 + P13) / 3$

The most positive response categories for the composites are listed below:

1. Nurse-parent communication: Always
2. Doctor-parent communication: Always
3. Communication about medicines: Yes, definitely
4. Informed about child's care: Always
5. Preparing to leave hospital: Yes, definitely
6. Nurse-child communication: Always
7. Doctor-child communication: Always
8. Involving teens in care: Always/Yes, definitely
9. Mistakes and concerns: Always/Yes, definitely
2. 10.Child comfort: Always/Yes, definitely

Production of a hospital's scores on these composites follows the same steps discussed above; see Survey Items in the Data Dictionary Code Table for the list of items that comprise each composite.

DOMAIN-LEVEL SINGLE ITEMS

There are eight domain-level single items included in Child HCAHPS; see Survey Items in the Data Dictionary Code Table for single-item measures. Scores are generated by calculating top-box proportions. Production of item scores is described below.

Example of domain-level single item: "During this hospital stay, how often were you given as much privacy as you wanted when discussing your child's care with providers?"

Response options are "never," "sometimes," "usually," or "always". To determine a hospital's score, calculate the proportion of cases in the "always" response category for this question.

The most positive response categories for the single items are listed below:

1. Privacy with providers: Always

2. Informed in emergency room: Always

3. Call button: Always

4. Child pain: Always

5. Cleanliness: Always

6. Quietness: Always

Production of a hospital's scores on these items follows the same approach described above.

The discussion above describes the steps used to produce unadjusted hospital-level scores. Adjusted scores are used when comparing hospitals.

CASE-MIX ADJUSTMENT

One of the methodological issues associated with making comparisons across hospitals is the need to adjust appropriately for case-mix differences. Case-mix refers to patient characteristics, such as demographic characteristics and health status, that are not under the control of the hospital and may affect measures of outcomes or processes. Systematic effects of this sort create the potential for a hospital's ratings to be higher or lower because of the characteristics of its patient population, rather than because of the quality of care it provides, making comparisons of unadjusted scores misleading. The basic goal of adjusting for case-mix is to estimate how different hospitals would be rated if they all provided care to comparable groups of patients. Detailed instructions regarding how to use the case-mix adjustment model can be found in Case-Mix Adjustment Methodology (Appendix K).

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.

The sample will be drawn from a list of pediatric patients (children under 18 years old) who have been discharged from the hospital during the specified time interval. This list is called a sample frame. The respondents are the parents of the sampled children. No proxy respondents are allowed.

SAMPLE FRAME CREATION

Hospitals/survey vendors participating in Child HCAHPS are responsible for generating complete, accurate, and valid sample frame data files for each month that contain all administrative information on all patients who meet the eligible population criteria. See Administrative Items (Appendix D) for a list of these administrative items.

- It is recommended that hospitals contracting with a CAHPS-approved survey vendor submit the hospital's entire patient discharge list to the vendor, excluding no-publicity patients and patients excluded because of state regulations.

- If a hospital excludes any patients from the discharge list provided to the hospital's survey vendor, the hospital should also submit to the vendor a count of total ineligible and excluded patients and a count of patients by each exclusion category.

Hospitals/survey vendors use the information derived from the sample frame to administer the survey. Prior to generating the Child HCAHPS sample frame, hospitals/survey vendors should apply eligibility criteria, remove exclusions, and perform de-duplication. The following guidelines should be followed when creating the sample frame:

- Patients whose eligibility status is uncertain should be included in the sample frame.

- The sample frame for a particular month should include all eligible hospital discharges between the first and last days of the month (e.g., for January, any qualifying discharges between and including the 1st and 31st). All CAHPS survey items have been designed for the general population.

Appropriate screening items are included for items targeted to assess a specific experience. In order to ensure that results are comparable to those produced by vendors, targeted sampling, such as selecting only patients with particular conditions or experiences, is not recommended. Targeted sampling should only be used to supplement the general population sample, if desired.

- The patient address included in the sample frame is the address in the medical record.

- Patients with missing or incomplete addresses and/or telephone numbers should not be removed from the sample frame. Instead, every attempt should be made to find the correct address and/or telephone number. If the necessary contact information is not found, the "Final Survey Status" should be coded as "9 – Bad address" or as "10 – Bad/no telephone number".

After applying the above steps, the following data elements should be included in the sample frame that a hospital provides to the survey vendor: Unique ID, hospital name, facility state, population size, sample size, sample type, patient ID, discharge status, admit source, family preferred language, patient date of birth, patient sex, patient name, parent name, parent address, parent telephone number, admission date, discharge date.

RECOMMENDED NUMBER OF COMPLETES

Three hundred completed surveys per 12-month reporting period are required to achieve the desired statistical precision of survey results. This number was determined using a reliability criterion. Hospital-level unit reliability reflects item or composite score variation between or among hospitals relative to random variation in the mean response within hospitals. For example, if no true differences existed among hospitals, all of the variation in a measure would reflect random variation in the responses of patients who happened to answer the survey, and the hospital level unit reliability would be 0. Conversely, if all of the variation in scores were due to differences among hospitals (i.e., hospitals received different scores, but all of the patients within a given hospital gave the same score), the hospital-level unit reliability would be 1.0.

Achieving adequate reliability makes it reasonably likely that differences in hospital-level means of top-box scores represent true underlying differences rather than being due to chance. The minimum of 300 responses per hospital was calculated based on a goal that most composite and single-item measures have a reliability = .7, which is a standard target reliability, taking into account the rate at which each item was completed in the national field test. In addition, 300 responses per hospital is the minimum number that CMS requires for publicly reporting and comparing Adult HCAHPS results based on the hospital-level unit reliabilities of the Adult HCAHPS composites. For additional information on the unit item and composite reliabilities, see the Measuring Testing Form. Because response rates will vary among hospitals and cannot be predicted with complete certainty, a conservative approach of aiming for slightly more than 300 completed surveys is recommended.

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.

PREPARING SAMPLING FILES FOR DATA COLLECTION

Once the sample has been selected, the hospital/survey vendor assigns a unique identification (ID) number to each sampled patient. This unique ID number should not be based on an existing identifier, such as a Social Security Number or a patient ID number. This number will be used only to track the respondents during data collection.

The data elements that are most critical to the success of data collection are accurate and complete patient, parent, and hospital names and contact information appropriate for the mode of administration (i.e., addresses for mail surveys and telephone numbers for telephone administration). When address information is incomplete or there is reason to believe it may be inaccurate, sponsors and/or survey vendors may be able to use other sources, such as CD-ROM directories, Internet sources, or directory assistance, to clean the sample file.

SAMPLING PROCEDURE

The basic sampling procedure for Child HCAHPS entails drawing a random sample of all eligible discharges from a hospital on a monthly basis. Sampling may be conducted either continuously throughout the month or at the end of the month, as long as a random sample is generated for the entire month. If the hospital/survey vendor chooses to sample continuously, each sample should be drawn using the same sampling ratio (for instance, 25 percent of eligible discharges or every fourth eligible discharge) and the same sampling timeframe (for instance, every 24 hours, 48 hours, week, etc.) throughout the month. For details on random sampling methods, see Methods of Sampling below. Three hundred completed surveys per 12-month reporting period are required to achieve the desired statistical precision of survey results.

Consistent Monthly Sampling

For ease of sampling, hospitals/survey vendors should sample an approximately equal number of discharges each month unless adjustments are required. For example, for quarterly reporting, changes can be made only at the start of the quarter, not during the quarter. Hospitals/survey vendors have the option to allocate the yearly sample proportionately to each month according to the expected proportional distribution of total eligible discharges over the four rolling quarters (12-month reporting period).

Final Survey Sample

The final sample drawn each month should reflect a random sample of patients from the survey sample frame. Some small hospitals may not be able to obtain at least 300 completed surveys in a 12-month reporting period. In such cases, hospitals should sample all eligible discharges (that is, conduct a census) and attempt to obtain as many completed surveys as possible.

Methods of Sampling

Sampling for Child HCAHPS is based on the eligible discharges (Child HCAHPS sample frame) for a calendar month. If every eligible discharge for a given month has the same probability of being sampled, this constitutes an equiprobable approach.

There are three options for sampling patients for Child HCAHPS: Simple Random Sampling (SRS), Proportionate Stratified Random Sampling (PSRS), and Disproportionate Stratified Random Sampling (DSRS). In stratified sampling, eligible discharges are divided into non-overlapping subgroups, referred to as strata, before sampling.

- Simple Random Sampling (SRS) is the most basic sampling approach; patients are randomly selected from all eligible discharges for a month. Strata are not used, and each patient has equal opportunity of being selected into the sample, making SRS equiprobable.

- Proportionate Stratified Random Sampling (PSRS) uses strata definitions and random sample selection from all strata at equal rates. Since the sampling rates of the strata are equal (sample sizes from each stratum are proportionate to the stratum's size), PSRS is also considered equiprobable.

- Disproportionate Stratified Random Sampling (DSRS) involves sampling within strata at different rates; DSRS therefore requires information about the strata and must be weighted appropriately. By definition, DSRS is not an equiprobable approach as it allows for differing sampling rates across strata.

Additional details regarding sampling methods are provided in the sampling guidelines section of the Detailed Measure Specifications (Appendix A).

CALCULATING THE SAMPLE SIZE

The sample size goal for the survey should account for several factors:

- The anticipated response rate
- The accuracy of contact information
- The mode or modes of data collection
- Any prior surveys of the same or similar populations
- The number of individuals who may be identified as ineligible

Sample Size Calculation: Hospitals

As discussed previously, to have a sufficient number of responses for analysis and reporting, enough surveys should be administered to obtain at least 300 completed surveys per hospital. Because response rates will vary among hospitals and cannot be predicted with complete certainty, a conservative approach of aiming for slightly more than 300 completed surveys is recommended. The following example shows the sample size calculation for a goal of 325 surveys for a hospital that has a response rate of 30 percent:

Goal: 300 completed surveys annually

Target response rate: 30 percent (= 0.30)

Minimum annual sample size: (325/0.30) = 1085 per hospital

Minimum monthly sample size: 1085/12 = 91 per month

DATA COLLECTION MODES

Based on field test results, the CAHPS Consortium recommends the following modes:

- Mail-Only
- Telephone-Only
- Mixed (mail and telephone, email and mail, or email and telephone)

Results from CAHPS field tests, as well as the experiences of organizations that have fielded CAHPS surveys, indicate that the mail with telephone follow-up method is most effective; results from survey research literature indicate that follow-up by telephone often adds 10 to 15 percentage points to the response rate.

DATA COLLECTION PROTOCOLS

Mail and telephone protocols, each of which can be implemented alone, are described below. Alternatively, the mixed-mode protocol combines the mail and telephone protocols: the survey is first provided by mail, but if the parent does not respond within 21 calendar days, the telephone protocol is then initiated. The parent who spent the most time with the patient should be the one receiving the survey. This may not be the parent who is listed in the hospital system (e.g., the child may reside in more than one household).

The mixed email protocol is also described below. An email-only protocol is not recommended at this time. Regardless of the response rate achieved through email alone, the email protocol must be followed by a full mail or telephone protocol for non-respondents to ensure that all patients in the sample have an equal chance of completing the survey and that the respondents are representative of the patient population. For the same reason, the sample should not consist of only those with an email address.

Mail Protocol

This section lists the basic steps for administering the survey by mail and offers advice for making this process as effective as possible.

- Set up a toll-free number and include it in all correspondence with prospective respondents. Assign a trained project staff member to respond to questions on the line. Maintain a log of these calls and review them periodically.
- Mail the survey to prospective respondents with a cover letter and a postage-paid envelope. A well-written, persuasive letter authored by a recognizable organization will increase the likelihood that the

recipient will complete and return the survey by the stated deadline. The cover letter should include instructions for completing and returning the survey. For an example, see Child HCAHPS Mail Survey Materials – English (Appendix F) and Child HCAHPS Mail Survey Materials – Spanish (Appendix G).

- Tips for the cover letter:
    - Tailor the letter to include language that explains the purpose of the survey, the voluntary nature of participation, and the confidentiality of responses.
    - Note that a refusal to participate will not affect a patient's healthcare.
    - Personalize the letter with the name and address of the intended recipient.
    - Have the letter signed by a representative of the sponsoring organization.
    - Spend some time on the letter, checking it for brevity and clarity and ensuring that there are no grammatical or typographical errors.
- Tips for the outside envelope:
    - Make the envelope look "official" but not too bureaucratic; it should not look like junk mail.
    - Place a recognizable sponsor's name—such as the name of a government agency, where applicable—above the return address.
    - Mark the envelopes "change service requested" in order to update records for respondents who have moved and to increase the likelihood that the survey packet will reach the intended respondent.

- Send a postcard reminder to nonrespondents 10 days after sending the questionnaire. Some vendors prefer sending a reminder postcard to all respondents 3 to 5 days after mailing the survey instead of sending a postcard only to nonrespondents 10 days after the questionnaire is mailed. Their reminder postcards serve as a thank-you to those who have returned their questionnaires and as a reminder to those who have not. The reminder postcard is an inexpensive way to increase your response rate.

- Send a second survey with a reminder letter and a postage-paid envelope to those who have not responded by three weeks after the first mailing. For an example, see Child HCAHPS Mail Survey Materials – English (Appendix F) and Child HCAHPS Mail Survey Materials – Spanish (Appendix G).

Telephone Protocol

Child HCAHPS must be modified for telephone administration. See the Child HCAHPS Telephone Survey Materials (Appendix H) for an example.

When administering the survey by telephone, a hospital/survey vendor can use either a computer-assisted telephone interviewing (CATI) script or a paper-and-pencil method.

Tips for collecting data via telephone:

- Check telephone numbers – Check the telephone numbers of sample respondents for partial or unlikely telephone numbers. All survey vendors should have standard automated procedures for checking and updating telephone numbers before beginning data collection. After extensive tracking, some prospective respondents may remain for whom a working telephone number is not available or for whom only an address is available. If using a mixed-mode administration, these respondents can be moved to the mail mode administration.

- Train interviewers before they begin interviewing – The interviewer should be trained to avoid biasing survey responses or otherwise affecting the survey results.

- Begin contacting nonrespondents. If following up on a mailed questionnaire, initiate telephone contact with nonrespondents three weeks after sending the second questionnaire. You may want to send a letter to respondents in advance to let them know that you will be contacting them by telephone.

- Attempt to contact each prospective respondent at least five times – The survey vendor should make at least five attempts to reach prospective respondents unless they explicitly refuse to complete the survey. These attempts should be on different days of the week (both weekdays and weekends), at different times of the day, and during different weeks.

Email Protocol: At this time, an email-only mode is not recommended. For details on email mixed-mode administration, see https://www.ahrq.gov/cahps/surveys-guidance/hospital/about/child_hp_survey.html

SURVEY TIMING

Sampled patients should be surveyed between 48 hours and six weeks (42 calendar days) after discharge, regardless of the mode of survey administration. Distributing surveys to patients before they are discharged is not recommended. Data collection for sampled patients should be concluded no later than six weeks (42 calendar days) after the date the first survey is mailed (Mail-Only and Mixed modes) or six weeks (42 calendar days) after the first telephone attempt (Telephone-Only).

Mail-Only Survey Administration

The basic tasks and timing for conducting Child HCAHPS using the Mail-Only mode of survey administration are summarized below.

- Send first survey with initial cover letter to one parent of each sampled patient between 48 hours and six weeks (42 calendar days) after discharge.

- Send second survey with follow-up cover letter to non-respondents approximately 21 calendar days after the first survey mailing.

- Complete data collection within six weeks (42 calendar days) of the first survey mailing.

Telephone-Only Survey Administration

The basic tasks and timing for conducting Child HCAHPS using the Telephone-Only mode of survey administration are summarized below.

- Initiate systematic telephone contact with one parent of each sampled patient between 48 hours and six weeks (42 calendar days) after discharge.

- Complete telephone sequence so that a total of five telephone calls are attempted at different times of the day, on different days of the week, and during different weeks within the six weeks (42 calendar days) after initiation of the survey (initial contact). The five telephone call attempts should span more than one week (eight or more days) to account for parents who are temporarily unavailable. If it is known that a parent may be available in the latter part of the 42-calendar-day data collection time period (e.g., the parent is on vacation during the first two or three weeks of the 42-calendar-day data collection time period but could be reached closer to the end of the data collection time period), then hospitals/survey vendors should use the entire data collection time period to attempt telephone calls.

Mixed-Mode Survey Administration

The basic tasks and timing for conducting Child HCAHPS using the mail-telephone mode of survey administration are summarized below.

- Send mail survey with cover letter to one parent of each sampled patient between 48 hours and six weeks (42 calendar days) after discharge.

- Initiate systematic telephone contact for all non-respondents approximately 21 calendar days after mailing the survey.

- Over the next 21 calendar days, five telephone calls should be attempted at different times of the day, on different days of the week, and during different weeks. The five telephone call attempts should span more than one week (eight or more days) to account for parents who are temporarily unavailable. If it is known that a parent may be available in the latter part of the 21-calendar-day telephone component data collection time period (e.g., the parent is on vacation during the first two or three weeks of the 21-

calendar-day data telephone component collection time period but could be reached closer to the end of the data collection time period), then hospitals/survey vendors should use the entire data collection time period to attempt telephone calls.

The basic tasks and timing for conducting Child HCAHPS using the email-mail or email-telephone modes of survey administration are summarized below.

- Send e-mail survey with cover letter to one parent of each sampled patient between 48 hours and six weeks (42 calendar days) after discharge.

- Send an email reminder to nonrespondents 7-10 days after sending the initial email invitation.

- Send a second email reminder to those still not responding 2-3 weeks after the initial email invitation.

- Followup with nonrespondents by mail or telephone

TRACKING RETURNED SURVEYS

Most survey vendors have established methods for tracking the sample. A system should also be set up to track returned surveys by the unique ID number that is assigned to each prospective respondent in the sample. This ID number should be placed on every survey that is mailed and/or on the call record of each telephone case.

To maintain respondent confidentiality, the response tracking system should not contain any of the survey responses. The survey responses should be entered in a separate data file linked to the sample file by the unique ID number. (This system should be used to generate weekly progress reports that hospitals and survey vendors should review closely.)

Each prospective respondent in the response tracking system should be assigned a survey result code that indicates whether he or she completed and returned the survey, completed the telephone interview, responded to the online survey, was ineligible to participate in the study, could not be located, is deceased, or refused to respond. See Survey Status Codes for additional information on survey status codes and the Survey Codebook and Administrative Data Codebook for additional information on creating data files in the Data Dictionary Code Table. The tracking system should also include the date the survey was returned or the telephone interview completed. Typically, survey status codes are either interim (indicating the status of each respondent during the data collection period) or final (indicating the final outcome for each respondent at the end of data collection). These result codes are used to calculate response rates as shown in the next section.

CALCULATING THE RESPONSE RATE

In its simplest form, the response rate is the total number of completed surveys divided by the total number of individuals sampled. There is no minimum response rate however we do recommend that there should be 300 completed surveys within a 12-month period to maintain adequate reliability. For Child HCAHPS analyses and reports, this rate is adjusted as shown in the following formula:

(Number of completed returned surveys)/ (Total number of surveys fielded – Total number of ineligible surveys)

The response rate calculation should include survey recipients who refused to participate, those who could not be reached because of bad addresses or telephone numbers, those who could not complete the survey because of language barriers, those who were ineligible because they were institutionalized, or those who were ineligible because they had a developmental or cognitive disability. Listed below is an explanation of the categories included and excluded in the response rate calculation.

Numerator Inclusions

- Completed surveys – A survey is considered complete if responses are available for half of the key survey items. For more information about the key items in Child HCAHPS, see Survey Items in Domain-Level Composite and Single- Item Measures (Appendix I).

Denominator Inclusions

The total number in the denominator should include the following:

- Respondents – The parent or guardian of the sampled child returned a survey, whether complete, incomplete, or partially complete.
- Refusals – The individual refused in writing or by phone to participate.
- Non-response – The individual is presumed to be eligible but did not complete the survey for some reason (never responded, was unavailable at the time of the survey, was ill or incapable, had a language barrier, and so on).
- Bad addresses/telephone numbers – The parent is presumed to be eligible but was never located.
- Denominator Exclusions
- Deceased – In some cases, a household or family member may indicate that the parent of the sampled patient has died.
- Ineligible – The sampled patient did not have an inpatient stay at the participating hospital in the last six weeks or the patient met criteria for exclusion.

For a detailed explanation of the numerator and denominator inclusion and exclusion criteria, see S.4 – Numerator Statement, S.6 – Denominator Statement, S.8 – Denominator Exclusions, and S.10 – Denominator Exclusion Details.

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

If other, please describe in S.18.

Claims

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.

Child Hospital Consumer Assessment of Healthcare Providers and Systems (Child HCAHPS) Survey

The survey is available in English and Spanish. The recommended modes of administration are Mail-Only, Telephone-Only, and Mixed mode (mail and telephone, email and mail, or email and telephone).

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)*

Inpatient/Hospital

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

Child_HCAHPS_NQF_Measure_Submission_Measure_Testing_Form_Final_04_9_19.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.

Yes

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.

Yes - Updated information is included

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

Measure Number (*if previously endorsed*)**:** 2548
Measure Title: Consumer Assessment of Healthcare Providers and Systems Hospital Survey – Child Version (Child HCAHPS)
Date of Submission: 4/9/2019

Type of Measure:

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

1. DATA/SAMPLE USED FOR <u>ALL</u> 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. <u>If there are differences by aspect of testing,</u>(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 <u>all</u> 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: Child HCAHPS Survey	☒ other: Child HCAHPS National Field Test Dataset

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*).

Not applicable

1.3. What are the dates of the data used in testing? December 2012 – January 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:	☐ other:

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*)

During the national field test, the Child HCAHPS survey was used by 69 hospitals in 33 geographically distributed states. Hospitals included freestanding children's hospitals, children's hospitals within general hospitals, and pediatric wards within general hospitals. Both teaching and non-teaching hospitals were included. We categorized hospitals using the American Hospital Association and Children's Hospital Association member directories.

Table 1 – Hospital Characteristics

Hospital Characteristics	Hospitals (Total N=69)	Survey Respondents (Total N=17,727)
Hospital Type		
Freestanding children's hospital	28 (40.6%)	10,240 (57.8%)
Children's hospital within general hospital	28 (40.6%)	5,712 (32.2%)
Pediatric ward within general hospital	13 (18.8%)	1,775 (10.0%)
Teaching Status		
Teaching	49 (71.0%)	13,575 (76.6%)
Non-Teaching	20 (29.0%)	4,152 (23.4%)
Regions		
Northeast	14 (20.3%)	3,374 (19.0%)
Midwest	11 (15.9%)	3,589 (20.3%)
South	30 (43.5%)	7,543 (42.5%)
West	14 (20.3%)	3,221 (18.2%)

1.6 How many and which patients 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*)

The target population for the Child HCAHPS survey is one parent or guardian (henceforth referred to as parent) per child for all children (under 18 years old) with a recent overnight hospital stay. An overnight stay is defined as an inpatient admission for which the admission date is different from the discharge date. The admission need not be 24 hours in length. In addition, parents are eligible to participate only if their child was alive at discharge and had a non-psychiatric MS-DRG/principal diagnosis at discharge.

Patients who meet the eligible population criteria outlined above are generally included in the Child

HCAHPS sample frame. However, a few categories of otherwise eligible parents are excluded from the sample frame. These are parents of (1) "no-publicity" patients, or patients who request that they not be contacted, (2) court/law enforcement patients (i.e., prisoners); this category does not include patients residing in halfway houses, (3) patients with a foreign home address (the US territories—American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and Virgin Islands—are not considered foreign addresses and therefore are not excluded), (4) patients discharged to hospice care (hospice-home or hospice-medical facility), (5) patients who are excluded because of state regulations, (6) patients who are wards of the state, (7) healthy newborns, (8) patients admitted for obstetric care, (9) observation patients, and (10) patients discharged to skilled nursing facilities.

The hospital should de-duplicate eligible patients based on household and multiple discharges within the same calendar month. The final Child HCAHPS sample must contain only one child member per household for a given month. Additionally, while patients are eligible to be included in the Child HCAHPS sample in consecutive months, if a patient is discharged more than once within a given calendar month, only one discharge date is included in the sample frame. The fielding guidelines provide additional details on de-duplication. Fielding guidelines can be found in **Detailed Measure Specifications (Appendix A)**.

For the national field test, CAHPS-approved survey vendors administered the survey for participating hospitals to parents and caregivers of children (under 18 years old) with a recent hospital stay. The survey was fielded in both English and Spanish and by either mail or telephone. We received a total of 17,727 surveys. Table 2 shows descriptive characteristics of the respondents included in our analysis and their children.

Table 2: Characteristics of the Child HCAHPS National Field Test Sample

Variable	%	Variable	%
Child Age (N=17,727)		**Respondent Age (N=17,261)**	
0	20.9	< 25	8.3
1 to 4	25.9	25 to 34	33.7
5 to 8	16.0	35 to 44	37.0
9 to 12	14.7	45+	21.0
13 to 17	22.5		
Child Gender (N=17,725)		**Respondent Education (N=16,857)**	
Female	45.9	8th grade or less	3.0
Male	54.1	Some high school	4.8
Child Race/Ethnicity (N=17,168)		High school graduate or GED	17.9
American Indian or Alaskan Native	0.5	Some college or 2-year degree	32.1
Asian/Pacific Islander	3.6	4-year college graduate	22.6
Black/Non-Hispanic	10.4	More than 4-year college degree	19.6
Hispanic	17.8	**Respondent Relationship to Child (N=17,128)**	
Multiracial	3.9	Father	11.0
White/Non-Hispanic	63.8	Mother	85.1
Child Global Health Status (N=17,253)		Other	3.9
Excellent	40.7	**Respondent Language Preference (N=16,915)**	
Very Good	32.4	English	91.7
Good	18.2	Spanish	7.0
Fair	7.2	Other/Missing	1.3
Poor	1.5		

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.

Not applicable

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.

Language preference

Respondent education

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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_)

There are multiple ways of estimating reliability. Similar to the other CAHPS submissions, we used three approaches.

Internal consistency reliability: Internal consistency reliability, commonly assessed with Cronbach's coefficient, α, is a measure of how well a scale calculated from a set of items reflects an underlying construct. Although not all of our composites are designed to measure a single underlying construct and so not all are considered scales, α is informative in development of those composites that do reflect an underlying construct. An α value of at least .70 is considered acceptable, but the value of α is highly dependent on the number of items in a composite, with more items leading to higher values of α.[1]

To calculate α, we used the following equation:

$$\alpha = K \times r \mathbin{/} (1 + (K-1)\, r)$$

K = the number of items

r = the average correlation among the items

Intraclass correlation coefficients: To assess the proportion of total variance in Child HCAHPS scores explained by hospital-level effects, we calculated intraclass correlation coefficients (ICC) using the ratio of between-hospital variance to the sum of between-hospital and within-hospital variance components. We calculated ICCs to assess the ratio of between practice variance to within practice variation. The ICC provides the basis for determining the number of survey responses needed to obtain target-levels of reliability. Measures with lower ICCs at the unit of interest indicate that to attain a desired level of reliability, a larger sample size of patient surveys are needed than for measures with higher ICCs. In other words, lower ICC implies that for a given sample size the scale does not discriminate as well among units.

Hospital-level unit reliability: Each of the measures within the Child HCAHPS survey is intended to serve as a hospital-level measure of hospital performance. Analyses of the scientific soundness of each measure focus on its properties as a hospital-level measure.[2] Hospital-level unit reliability reflects item or composite variation <u>between</u> or among hospitals relative to random variation in the mean response <u>within</u> hospitals. For example,

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if no true differences existed among hospitals, all of the variation in a measure would reflect random variation in the responses of patients who happened to answer the survey, and the hospital-level unit reliability would be 0. Conversely, if all of the variation in scores were due to differences among hospitals (i.e., hospitals received different scores, but all of the patients within a given hospital gave the same score), the hospital-level unit reliability would be 1.0. We measure site reliability on multi-item composite scores and global one-item scores, which partition within- and between-site variance. Higher levels of site reliability correspond to more accurate measurement of performance and better ability to distinguish performance among plans.

A reliability of at least .70 is considered acceptable.[1, 3] In addition, 300 responses per hospital is the minimum number that CMS requires for publicly reporting and comparing Adult HCAHPS results based on the hospital-level unit reliabilities of the Adult HCAHPS composites.

To calculate hospital-level unit reliability, we used the following equation:[4]

$$\tau^2/(\tau^2 + \sigma^2/n)$$

τ^2 = between-hospital variance of population means

σ^2 = within-hospital patient-level variance of responses

n = number of responses for the hospital

The CAHPS grantees have reported the reliability of the CAHPS measures at the appropriate unit of comparison since the beginning of the project 23 years ago and for measure development throughout the project.[5, 6]

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*)

Table 3: Hospital-Level Internal Consistency Reliability of Child HCAHPS Composites

Composites	# Items	Cronbach's coefficient*
Nurse-parent communication	3	.94
Doctor-parent communication	3	.94
Communication about medicines	4	.43
Informed about child's care	2	.85
Preparing to leave hospital	5	.92
Nurse-child communication	3	.90
Doctor-child communication	3	.92
Involving teens in care	3	.75
Mistakes and concerns	2	.26
Child comfort	3	.63

*For each composite, Cronbach's coefficient, α, was calculated from case-mix-adjusted hospital-level means for each hospital for each item in the composite.

Table 4: Interclass Correlation Coefficients of Child HCAHPS Composite and Single Item Measures

Composite and Single Item Measures	n	Response rate	Variance: between	Variance: within	ICC
Nurse-parent communication	17,427	98%	.0009	.1020	0.9%
Doctor-parent communication	17,414	98%	.0009	.1009	0.9%
Communication about medicines	17,000	96%	.0013	.0874	1.5%
Informed about child's care	17,415	98%	.0018	.1530	1.2%
Privacy with providers	17,337	98%	.0024	.1424	1.6%
Preparing to leave hospital	17,390	98%	.0018	.0811	2.1%
Informed in emergency room	8,692	86%	.0014	.1358	1.0%
Nurse-child communication	8,421	94%	.0021	.1214	1.7%
Doctor-child communication	8,393	94%	.0024	.1474	1.6%
Involving teens in care	3,534	97%	.0031	.1202	2.5%
Mistakes and concerns	17,293	98%	.0030	.0946	3.1%
Call button	11,511	95%	.0040	.2312	1.7%
Child comfort	17,481	99%	.0031	.1006	3.0%
Child pain	11,039	94%	.0021	.1827	1.1%
Cleanliness	17,120	97%	.0031	.2107	1.5%
Quietness	17,041	96%	.0064	.2221	2.8%
Overall rating	17,333	98%	.0049	.1687	2.8%
Recommend hospital	17,284	98%	.0056	.1244	4.3%

Table 5: Hospital-Level Unit Reliability Estimates of Child HCAHPS Composites and Single Items

Composite and Single Item Measures	Hospital-Level Unit Reliability at N=300
Nurse-parent communication	.73
Doctor-parent communication	.73
Communication about medicines	.86
Informed about child's care	.78
Privacy with providers	.83
Preparing to leave hospital	.87
Informed in emergency room	.71
Nurse-child communication	.75
Doctor-child communication	.78
Involving teens in care	.62
Mistakes and concerns	.90
Call button	.77
Child comfort	.90
Child pain	.73
Cleanliness	.86
Quietness	.89
Overall rating	.90
Recommend hospital	.93

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 general, our results indicate that internal consistency reliabilities for our composite measures at the hospital level are good to excellent. Only three composites had an internal consistency reliability < .7. One composite had an internal consistency reliability of .7 to < .8. One composite had an internal consistency reliability of .8 to < .9. Five composites had an internal consistency reliability of .9 or greater.

Composites are created largely to permit reporting of results in a form that is more parsimonious and intelligible to consumers. For this reason, the composites combine items that are conceptually related. Although psychometric testing is used to inform the groupings of items, it is not the sole basis for developing composites. It should also be noted that a high α, especially for a two- or three-item composite, could be consistent with redundant items (multiple items that capture the same information). As minimizing survey length is critical for reducing the burden of data collection for respondents, it might be preferable in some instances to decrease survey length rather than to improve α by adding items.

Internal consistency reliability was not used as a primary criterion in devising item groupings for composites that measure aspects of care that patients do not experience as a single construct. Although the two items in the "Mistakes and concerns" composite—preventing mistakes by checking a patient's wristband before giving medications and informing parents how to report potential mistakes in care—are related conceptually, they are not strongly correlated, leading to a relatively low coefficient α. Nevertheless, we support reporting the two items as a composite measure because they were perceived to be related in end-user cognitive testing.

Intraclass correlation coefficients ranges from 0.9% (Nurse-parent communication, Doctor-parent communication) to 4.3% (Recommend hospital). Overall, our composite and single-item measures have good to excellent hospital-level reliability. Only one measure had a hospital-level reliability of < .7 for 300 responses per hospital. Eight had a reliability of .7 to < .8. Five had a reliability of .8 to < .9. Four had a reliability of .9 or greater.

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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** <u>performance measure score</u> **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 contrast with some types of quality measures, a "gold standard" does not exist for validating survey measures of patient experience. In order for survey measures to provide valid comparisons across hospitals, it is important to use standardized surveys, data collection methods, and scoring methods.[7] To ensure the validity of the survey results, Child HCAHPS has followed standard rigorous CAHPS development processes and adhered to all CAHPS design principles. Qualitative methods used in CAHPS development include focus groups and cognitive interviews. Quantitative methods include exploratory factor analysis, internal consistency reliability, item-to-composite correlations, composite-to-composite correlations, and correlations of items and composites with overall ratings. All analyses were considered when developing the Child HCAHPS items and

composites.

Child HCAHPS scores, as well as their relationships to each other, are a function of both respondents' and their child's individual characteristics (such as demographics) and hospitals' quality of care. Therefore, comparing scores among hospitals, as well as determining how to construct composites that are relevant for comparing hospitals, requires methods that distinguish variation arising from individual characteristics—that is, the patient case-mix in a hospital—from variation arising from the hospital's care. Our goal in assessing hospital quality is to assess variation among hospital mean scores rather than variation among individual respondents' scores within a given hospital. We therefore focus on the psychometric performance of the items and composites calculated at the hospital level.

Focus groups and cognitive interviews: We carried out focus groups and cognitive interviews to ensure the relevance of Child HCAHPS to pediatric patients and their families and evaluate its understandability. See **Measure Submission Form 1c.5** for a description of methods used for focus groups on survey domains, cognitive interviews on draft survey items, and cognitive interviews on measure concepts and labels.

Factor analysis: We investigated the structure underlying the covariance matrices of hospital-level item scores to identify groups of items that were empirically related at the hospital level. For this analysis, we used a Bayesian hierarchical model that estimated a hospital-level correlation structure net of sampling variation due to individual variability in responses [8, 9].

Internal consistency reliability: Internal consistency reliability, Cronbach's coefficient, α, is often thought of as a measure of construct validity as it measures how well a scale calculated from a set of items reflects an underlying construct.

Item-to-composite correlations: Item-to-composite correlations indicate how each item within a composite correlates with the overall composite. We estimated the Pearson correlation of each item with a version of its composite with that item omitted.

Composite-to-composite correlations: Composite-to-composite correlations indicate the correlations of each composite with the other composites and are used to determine whether composites are measuring distinct aspects of patient experience. Thus, composite-to-composite correlations should ideally be low. We estimated composite-to-composite correlations using Pearson correlations.

Composite and single-item correlations with overall rating: Convergent construct validity refers to the extent to which a measure relates to other measures in a way that theoretically would be expected. We evaluated the criterion validity of the composites by examining whether composite or single-item scores correlated with overall hospital scores.

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

Focus Groups and Cognitive Interviews: Qualitative findings from focus groups and cognitive interviews are discussed in **Measure Submission Form 1c.5**.

Exploratory Factor Analysis: Hospital-level Bayesian Exploratory Factor Analysis (EFA) [7] of the core composites is presented in **Factor Analysis (Appendix N)**, which shows an 8-factor solution with a Varimax rotation, where each factor represents a certain construct.

Internal Consistency Reliability: See **2a2.3** Table 3 for a summary of internal consistency reliability findings.

Table 5: Hospital-Level Item-to-Composite Correlations

Composite		Item	Correlation
Nurse-parent communication	Q14	Nurses listened carefully to parent	.89
	Q15	Nurses explained to parent in easy-to-understand way	.88
	Q16	Nurses treated parent with courtesy and respect	.84
Doctor-parent communication	Q17	Doctors listened carefully to parent	.89
	Q18	Doctors explained to parent in easy-to-understand way	.87
	Q19	Doctors treated parent with courtesy and respect	.85
Communication about medicines	Q5	Asked about child's prescription medicines	-.23
	Q6	Asked about child's vitamins, herbal medicines, and over-the-counter medicines	.32
	Q39	Provider explained how to take discharge medicines	.39
	Q40	Provider explained side effects of discharge medicines	.67
Informed about child's care	Q23	Providers kept parent informed	.74
	Q25	Providers gave parent enough information about test results	.74
Preparing to leave hospital	Q36	Provider asked parent about concerns about readiness to leave	.75
	Q37	Provider talked with parent about care after discharge	.81
	Q41	Provider explained when child can resume regular activities	.85
	Q42	Provider explained symptoms or problems to look for after discharge	.87
	Q43	Parent given written information about symptoms or problems to look for after discharge	.73
Nurse-child communication	Q8	Nurses listened carefully to child	.84
	Q9	Nurses explained to child in easy- to-understand way	.84
	Q10	Nurses encouraged child to ask questions	.77
Doctor-child communication	Q11	Doctors listened carefully to child	.76
	Q12	Doctors explained to child in easy-to-understand way	.91
	Q13	Doctors encouraged child to ask questions	.86
Involving teens in care	Q45	Providers involved teen in care	.53
	Q46	Provider asked teen questions about readiness to leave	.66
	Q47	Provider talked with teen about care after discharge	.55
Mistakes and concerns	Q29	Providers checked child's identity before giving medicines	.15
	Q30	Providers told parents how to report mistakes	.15
Child comfort	Q21	Providers asked about things a family knows best about child	.47
	Q22	Providers talked and acted age-appropriately	.45
	Q35	Hospital had things available that were right for child's age	.23

Table 6: Hospital-Level Composite-to-Composite Correlations

	Composites	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1)	Nurse-parent communication										

	Composites	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(2)	Doctor-parent communication	.84									
(3)	Communication about medicines	.78	.76								
(4)	Informed about child's care	.88	.86	.74							
(5)	Preparing to leave hospital	.75	.81	.82	.74						
(6)	Nurse-child communication	.83	.77	.72	.77	.74					
(7)	Doctor-child communication	.71	.80	.67	.76	.76	.78				
(8)	Involving teens in care	.62	.66	.65	.64	.72	.61	.64			
(9)	Mistakes and concerns	.71	.58	.64	.67	.50	.60	.49	.50		
(10)	Child comfort	.40	.53	.52	.45	.53	.47	.47	.43	.33	

Table 7: Hospital-Level Composite and Single Item Correlation with Overall Rating

Composite and Single Item Measures	Correlation of Hospital-Level Composite Score With Overall Rating
Nurse-parent communication	.69
Doctor-parent communication	.71
Communication about medicines	.66
Informed about child's care	.67
Privacy with providers	.51
Preparing to leave hospital	.69
Informed in emergency room	.16
Nurse-child communication	.51
Doctor-child communication	.50
Involving teens in care	.53
Mistakes and concerns	.49
Call button	.19
Child comfort	.56
Child pain	.57
Cleanliness	-.07
Quietness	.02
Recommend hospital	.90

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?*)

Focus groups and cognitive interviews: Interpretations of qualitative findings from focus groups and cognitive interviews are discussed in **Measure Submission Form 1c.5**.

Exploratory factor analysis: Almost all items could be assigned to a single factor on which its loading was largest. We also explored analyses with different numbers of factors and with both Varimax and Promax rotations, but these did not lead to substantially different conclusions about item groupings. See **Child HCAHPS Factor Analysis (Appendix N)** for the Varimax rotation results. These analyses generally confirmed that items that we would group together on conceptual grounds were also empirically related. We found that doctor and nurse communication items were substantially related to each other and to other items about provision of information, but on conceptual grounds, we organized these items into several composites for reporting

purposes.

Item-to-composite correlations: If an item has been grouped with other items that are conceptually related, it is generally expected to correlate more strongly with the composite in which it was placed than with other composites. The item-to-composite correlations ranged from -.23 to .91. The low item-to-composite correlations for the "Mistakes and concerns" composite can be explained by the fact that it consists of only two items that are conceptually related but deal with fairly distinct processes of care (both about patient safety, but one about adherence to safety protocol while the other is about communication). Similarly, the "misfit" item with the lowest item-to-composite correlation in the child comfort composite was about items provided in the rooms while the other items were about communication.

Composite-to-composite correlations: The composite-to-composite correlations ranged from .33 to .88. Although some of the composites are fairly strongly correlated, we did not combine them into a single composite because of conceptual reasons and findings from end-user cognitive interviews. However, we grouped composites and items into five categories for reporting purposes based on these conceptual relationships as well as findings from end-user cognitive interviews.

Composite and single-item correlations with overall rating: A positive correlation suggests that the domain addressed by a composite or single item is an important factor in quality for consumer choice. All of the correlations were positive except for "Cleanliness," which had a slight negative correlation of -.07 (p > .05). The other correlations ranged from .02 to .90. The relatively low correlation between "Quietness" and the overall rating is consistent with findings for many patient experience surveys, including Adult HCAHPS, as well as with end-user interviews for Child HCAHPS. The overall rating is strongly correlated with aspects of care such as "Doctor-parent communication" (.71) and "Nurse-parent communication" (.69), which is consistent with parents' reported priorities during end-user cognitive interviews. No one measure stood out as the single best predictor of overall rating.

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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*)

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*)

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*)

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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 6 risk factors**

☐ **Stratification by _risk categories**

☐ **Other,**

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.

Analyses of the Child HCAHPS pilot data were conducted to examine the effects of adjusting for patients' characteristics on parent report of hospital care. Child HCAHPS includes adjustment of hospital scores for patient characteristics that are associated with Child HCAHPS measures and are differentially distributed across hospitals. The case-mix data are obtained from items in the "About You" section of the survey and from hospital administrative records. Based on findings from the pilot data analyses and consistent with previous studies of case-mix adjustment in CAHPS and other hospital patient surveys, Child HCAHPS uses the following categorical variables in the case-mix adjustment model:

- Child age
- Child global health status
- Respondent age
- Respondent education
- Respondent relationship to child
- Language preference

The case-mix adjustment uses a regression methodology that is also referred to as covariance adjustment or regression-based direct standardization; see **Appendix K** for details on this methodology.

2b3.2. If an outcome or resource use component measure is <u>not risk adjusted or stratified</u>, provide <u>rationale and analyses</u> to demonstrate that controlling for differences in patient characteristics (case mix) is not needed to achieve fair comparisons across measured entities.

Not applicable

2b3.3a. Describe the conceptual/clinical <u>and</u> 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?

When comparing hospitals, it is necessary to adjust appropriately for case-mix differences.

Case-mix refers to patient characteristics, such as demographic characteristics and health

status, that are not under the control of the hospital and may affect scores on performance

measures.[10] Systematic effects of this sort create the potential for a hospital's unadjusted score to be higher or lower because of characteristics of its patient population rather than the quality of care it provides. Comparisons of unadjusted scores may therefore be misleading. The basic goal of adjusting for case mix is to estimate how different hospitals would score if they all provided care to the same mix of patients.

To evaluate potential variables for case-mix adjustment of Child HCAHPS, we started with Adult HCAHPS case-mix variables and also considered additional variables that are relevant to the pediatric population. We evaluated an initial core set of all available possibly relevant variables (whether admitted through the emergency department; length of stay; child's age, gender, and health status; and respondent's age, relationship to child, education, and language preference), obtained from the "About You" section of the survey and from hospital administrative records, in a series of multivariate linear regression models predicting various outcomes. These models controlled for hospital to isolate which characteristics affect care within hospitals rather than simply being more concentrated in certain hospitals of higher or lower quality.

Each of 39 Child HCAHPS items was modeled with the core set of adjusters; a summary of the strength of association of each adjuster with each outcome was compiled. Adjusters that had stronger associations with a greater number of outcomes were interpreted as having a more substantial impact on patient experience.

Next, we used a series of linear regression models to determine the relative impact of each adjustor in the

presence of all the others. For adjusters we had already selected, we dropped one of the case-mix adjusters at a time. We also evaluated other variables that we had not yet chosen as case-mix adjusters by adding one at a time. Adjusted hospital scores from these models were then compared to hospital scores which were adjusted for the final set of adjusters to determine how closely the two sets of scores correlated according to a Kendall correlation coefficient; lower correlations suggested a greater impact for an adjuster. From this same analysis, we also noted the largest single change in scores across hospitals, in case the inclusion or exclusion of an adjuster had a large impact on only one or a few hospitals.

Results from all three types of evaluation (strength of association with outcomes; correlation of adjusted scores with vs. without the adjuster; largest single change in scores) were combined to determine whether an adjuster had sufficient impact to be retained for a final set of case-mix adjusters. Child HCAHPS used the following categorical variables in the case-mix adjustment model: child age, child global health status, respondent age, respondent education, respondent relationship to child, and language preference.

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?

Table 8: Effects of Included and Excluded Case-Mix Adjusters (CMA)

	Patient Health	Parent + Patient Age	Parent Education	Patient Age	Language Preference	Relation to Patient	Parent Age	Service Line	Patient Gender
% Missing	2.7%	2.6%	4.9%	0.0%	0.0%	3.4%	2.6%	41.9%	0.0%
Strength of association: # of outcomes where CMA is significant									
p<.001	39	26	33	22	10	14	3	4	1
.001<p<.01	0	2	3	2	6	10	5	1	0
.01<p<.05	0	2	1	1	4	10	8	5	2
p>.05	0	6	2	11	19	5	23	29	36
Correlations of hospital estimates when CMA is dropped or added									
.8 - <.85	4	0	0	0	0	0	0	0	0
.85 - <.9	24	4	1	1	0	0	0	0	0
.9 - <.95	6	11	14	4	5	0	0	3	0
.95 - <.98	5	16	21	14	22	13	5	13	0
>.98	0	8	3	20	12	26	34	23	39
Largest absolute change in hospital estimate when CMA is dropped or added									
0 - <.01	1	12	4	23	9	22	19	24	39
.01 - <.02	2	14	15	7	9	11	16	11	0
.02 - <.05	27	9	14	6	19	5	4	4	0
.05 - <.10	6	4	6	4	2	1	0	0	0
>.10	3	0	0	0	0	0	0	0	0

Two adjusters (patient gender, service line) not in our current case-mix model were included here as examples of adjusters that were considered but rejected. For regression results in this table, missing categories were added where appropriate. Service line missingness is clustered on hospital; the analysis is

restricted to records where the information is present. Language preference combines information from the survey (preference missing 4.7%) with actual survey language (missing 0%).

P-values are included for overall (Type III) association of the adjuster with each of 39 outcomes in multivariate models that included all current case-mix adjusters. Adjusters not in our current model (patient gender, service line, and race) were added to the current case-mix model for results in those columns.

The strength of association for patient age (and the combination of patient and caregiver age) is not evaluated for the 3 teen items because there is only one category for patient age (all responses are for those aged 13+).

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.**

Parent education and language preference are the two social risk factors included in our case-mix adjustment model. As demonstrated in the analysis above (2b3.4b), parent education was included based on the strength of association with experience outcomes. Language preference was included largely based on published literature demonstrating the association.

Due to low numbers of non-English respondents, our analysis on language preference and the association with experience outcomes is limited. However, studies have shown that individuals who have limited English proficiency or report a language other than English as their primary household language tend to have less education than English-proficient individuals.[11, 12] Patients with less education have been found to report better patient experience than their more educated counterparts.[13-18] It is therefore possible that education-related differences in reported patient experience may in part explain our findings. We did not adjust for education in our analysis of limited English proficiency. As in the analyses of race/ethnicity and socioeconomic status, we chose to report total differences associated with membership in a potentially disadvantaged group rather than controlling away one component of that disadvantage. Education, other aspects of socioeconomic status, cultural and linguistic response differences, and provider skills in culturally competent communication may all influence reported experience for children whose parents have limited English proficiency. Further studies with more comprehensively representative populations may parse out the various contributions of these factors to language-related variation in reported patient experience.

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*)

R-squared values were calculated for the fit of the final case-mix model on each of the 39 evaluation items.

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*)**:**

We determined R-squared values from the macro across the 39 evaluation items in the survey (adjusting for the number of predictors). The median adjusted R-squared was .032. The minimum was .010 and the maximum was .061. The 25th percentile was .021 and the 75th percentile was .040.

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*)

In many analyses the goal is to explain as much of the variance as possible, in which case a high R-squared is desired. But in this case, the value of the R-squared represents the extent to which case-mix adjustment affected hospital scores. For example, if the case-mix adjusters had no effect (e.g., age) were not predictive of survey responses), then the R-squared value would be zero. Overall, case-mix adjustments had only modest effects on hospital rankings.

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*)

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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)*

Statistically significant differences in performance are assessed for the case-mix adjusted scores for individual items, composites, and global ratings by examining whether a hospital's mean is statistically different from the mean results for all hospitals. A t-test of means is used with $p < .05$ as the criterion for significance. Meaningful differences in performance are assessed by evaluating for substantive significance, which refers to achievement of a specified absolute difference in scores.

The CAHPS analysis program allows users to perform testing for both statistical and substantive significance. Users specify the size of the difference required for substantive significance in terms of an absolute size difference or a specified fraction of the distance between the hospital and the nearer of upper and lower bounds on the measure. More information on these methods is provided in "Instructions for Analyzing Data from CAHPS Surveys," pp. 4-5, available at: https://cahps.ahrq.gov/surveys-guidance/docs/2015_instructions_for_analyzing_data.pdf.

In addition, for hospitals with at least 300 completed surveys, we calculated the overall mean across all hospitals, i.e., the mean of unadjusted hospital rates, weighting all hospitals equally. We then calculated the adjusted mean and standard error for each hospital and tested to determine whether the mean and standard error for each hospital is significantly different from the overall mean.

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*)

Table 9: Number of Hospitals Significantly Above or Below the Average (Total N=69*)

Composite	Number of Hospitals Significantly Above the Average	Number of Hospitals Significantly Below the Average	% Statistically Different from the Average
Nurse-parent communication	6	4	58.8
Doctor-parent communication	6	4	58.8
Communication about medicines	6	5	64.7
Informed about child's care	6	6	70.6
Privacy with providers	7	7	82.4
Preparing to leave hospital	5	3	47.1
Informed in emergency room	4	2	35.3
Nurse-child communication	4	3	41.2
Doctor-child communication	4	4	47.1
Involving teens in care	2	4	35.3
Mistakes and concerns	4	5	52.9
Call button	5	4	52.9
Child comfort	4	3	41.2
Child pain	1	2	17.6
Cleanliness	5	2	41.2
Quietness	7	7	82.4
Hospital Rating	7	3	58.8
Recommend hospital	7	4	64.7

* One of the 70 hospitals had too few respondents to be considered in this analysis.

See ***Hospital Performance –Above, Below, or Not Significantly Different From the Mean (Appendix O)*** for comparisons of individual hospital mean scores with overall mean scores for each hospital with at least 300 complete surveys.

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 percentage of hospitals whose mean scores fell statistically above or below the average hospital mean score for a given ranged from 17.6% to 82.4%. Some hospitals had mean scores above the average hospital mean score for most of the composite- and single-item measures whereas others had mean scores below the average hospital mean scores for most of them. See ***Hospital Performance –Above, Below, or Not Significantly Different From the Mean (Appendix O***) for results. Our findings show that as specified, the composite and single-item measures discriminate sufficiently among hospitals with regard to the quality of patient experience they provide.

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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*)

 Child HCAHPS optimizes the quality of responses by using several screening questions to direct respondents through survey skip patterns. The screening questions result in a high percentage of appropriately missing data due to appropriate skips, as some respondents have not used the services about which the survey asks. Survey item screeners have been found to reduce noise by ensuring that respondents who are not "qualified" to answer a question are screened out instead of providing unreliable responses.[6]

 We calculated the percentage of surveys with truly missing responses (i.e., missing for reasons other than being left blank appropriately because of screener items) for each hospital for each key item. See **Survey Items in Domain-Level Composite and Single-Item Measures (Appendix I)** for further information about key items. The mean, median, and inter-quartile range for each item across hospitals is reported in Table 10.

 In addition, we performed a unit-level non-response analysis, shown in Table 11, on the 103,561 surveys given to eligible recipients of the Child HCAHPS national field test dataset. We used the chi-square test to evaluate the overall bivariate association of hospital and patient characteristics with non-response. We also conducted bivariate analyses using mixed logistic regression to predict within-hospital associations between hospital or patient characteristics and unit non-response, incorporating hospital as a random effect and each hospital or patient characteristic as a fixed effect. We then performed the corresponding multivariate analysis, again using mixed logistic regression and including hospital as a random effect but assessing all characteristics that were significant (p < .05) in bivariate mixed logistic regression as fixed effects. We specified eligible discharges per month as a categorical variable for the chi-square test and as a continuous variable for the mixed logistic regression models.

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; <u>if no empirical sensitivity analysis</u>, identify the approaches for handling missing data that were considered and pros and cons of each*)

Table 10: Hospital-Level Non-Response for Each Item

Composite	Item	Mean	Median	25th Pctl	75th Pctl
Nurse-parent communication	Nurses listened carefully to parent	1.7	1.0	.4	1.7
	Nurses explained to parent in easy-to-understand way	1.8	1.0	0.0	1.9
	Nurses treated parent with courtesy and respect	1.9	.9	.5	1.7
Doctor-parent communication	Doctors listened carefully to parent	1.9	.9	0.0	1.6
	Doctors explained to parent in easy-to-understand way	1.8	1.0	0.0	1.9
	Doctors treated parent with courtesy and respect	2.0	1.0	.3	1.7
Communication about medicines	Asked about child's prescription medicines	2.6	1.8	.8	3.3
	Asked about child's vitamins, herbal medicines, and over-the-counter medicines	3.0	2.4	1.0	3.7
	Provider explained how to take discharge medicines	4.9	2.6	.9	4.1
	Provider explained side effects of discharge medicines	5.0	2.7	1.1	4.3
Informed about child's care	Providers kept parent informed	2.0	.9	0.0	2.0
	Providers gave parent enough information about test results	3.3	2.6	1.4	3.7
Privacy with providers	Privacy with providers when discussing child's care	2.2	1.0	0.0	2.3
Preparing to leave hospital	Provider asked parent about concerns about readiness to leave	3.3	1.9	1.3	3.3
	Provider talked with parent about care after discharge	3.1	1.8	.9	3.3
	Provider explained when child can resume regular activities	4.8	3.4	1.6	5.9
	Provider explained symptoms or problems to look for after discharge	3.2	1.5	.7	3.7
	Parent given written information about symptoms or problems to look for after discharge	3.9	2.4	1.4	5.1
Informed in emergency room	Parent kept informed in emergency room	2.2	1.4	.4	2.3
Nurse-child communication	Nurses listened carefully to child	2.4	.9	0.0	2.8
	Nurses explained to child in easy- to-understand way	2.3	1.0	0.0	2.7
	Nurses encouraged child to ask questions	2.5	1.3	.4	2.9
Doctor-child communication	Doctors listened carefully to child	2.4	1.0	.3	2.9
	Doctors explained to child in easy-to-understand way	2.9	1.0	.3	3.0
	Doctors encouraged child to ask questions	2.7	1.4	.5	3.3

Composite	Item	Mean	Median	25th Pctl	75th Pctl
Involving teens in care	Providers involved teen in care	.7	.3	0.0	.9
	Provider asked teen questions about readiness to leave	.7	.4	0.0	1.0
	Provider talked with teen about care after discharge	.6	.4	0.0	.9
Mistakes and concerns	Providers checked child's identity before giving medicines	3.2	2.4	1.7	4.0
	Providers told parents how to report mistakes	4.4	3.8	2.4	5.1
Call button	Responsiveness to call button	2.9	2.4	1.2	3.3
Child comfort	Providers asked about things a family knows best about child	3.0	1.8	.9	3.4
	Providers talked and acted age-appropriately	2.3	1.0	.3	2.4
	Hospital had things available that were right for child's age	5.2	3.6	2.8	5.8
Child pain	Providers asked about child's pain	3.3	2.1	1.4	3.7
Cleanliness	Room and bath kept clean	3.3	2.4	1.3	3.5
Quietness	Room quiet at night	3.5	2.3	1.3	3.8
Overall rating	Global hospital rating	2.3	1.1	0.0	2.0
Recommend hospital	Recommend hospital to family and friends	2.5	1.3	.4	2.2

Table 11: Unit-Level Non-Response Analysis For Child HCAHPS Data

Characteristic	Frequency (%)	Response rate (%)	p-value for Difference in Response Rate Among All Levels of Characteristic		
			Overall, bivariate	Within hospital, bivariate	Within hospital, multivariate[*]
Overall (N=103,561)	100	17.1	---	---	---
Hospital characteristics					
Hospital Type					
Free-standing children's hospital	56	17.7	**< .001**	**.04**	.06
Children's hospital within general	30	18.3			
Pediatric ward within general	14	12.0			
Teaching Status					
Teaching	73	18.0	**< .001**	**.05**	.56
Non-Teaching	27	14.6			
Admission characteristics					
Patient Age					
0	23	15.8	**< .001**	**< .001**	**< .001**
1 – 4	28	15.6			
5 – 8	16	17.0			
9 – 12	13	18.6			
13 - 17	20	19.6			
Family Preferred Language					
English	79	17.0	**< .001**	**< .001**	**< .001**
Other	5	13.0			
Missing	16	18.5			
Patient Gender					
Male	54	17.0	.58	.27	---
Female	46	17.1			

[*] Multivariate results are adjusted for other characteristics for which data were available on nonrespondents, including number of eligible discharges in each month of data collection, length of stay, geographic region, medical vs. surgical admission, survey mode (phone vs. mail), whether the patient used the ICU, and whether the patient was admitted through the ED.

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*)

The average hospital had less than 5% of cases are truly missing on most items, which suggests that item-level results are unlikely to be biased by systematic missing data due to item non-response. The median hospital-level percentage missing ranged from .3% (IQR .0 – .9%) for involving teens in discussion about care to 3.8% (IQR 2.4 – 5.1%) for discussing how to report concerns about mistakes in the child's healthcare.

In the bivariate analysis for unit-level nonresponse, non-respondents were more likely to be from pediatric wards and non-teaching facilities, and to be a parent of a child of younger age and with a preferred language other than English. This was true both across hospitals and within hospitals. In a multivariate analysis with all

tabled characteristics included and controlling for hospital and other covariates (See Table 11 footnote), hospital type and teaching status were no longer significantly associated with nonresponse.

REFERENCES

1. Nunnally JC, Bernstein IH. Psychometric Theory. New York: McGraw Hill; 1994.
2. Hays R, Shaul J, William V, et al. (1999) Psychometric Properties of the CAHPS™ 1.0 Survey Measures. *Medical Care.* Volume 37(3) SUPPLEMENT, March 1999, pp MS22-MS31.
3. Zaslavsky AM. (2001) Statistical issues in reporting quality data: Small samples and casemix variation. Int J Qual Health Care, 13(6):481-488.
4. Raudenbush S, Bryk A. *Hierarchical Linear Models*. 2nd ed. Thousand Oaks, CA: Sage; 2002.
5. Hays RD, Martino S, Brown J, Cui M, Cleary P, Gaillot S, Elliott M. (2014). Evaluation of a care coordination measure for the Consumer Assessment of Healthcare Providers and System (CAHPS®) Medicare Survey. *Medical Care Research and Review*, 71, 192-202.
6. Price RA, Stucky B, Parast L, Elliott MN, Haas A, Bradley M, Teno JM. (2018). Development of valid and reliable measures of patient and family experiences of hospice care for public reporting. *Journal of Pallative Medicine*, 21, 924-932
7. Goldstein E, Farquhar M, Crofton C, Darby C, Garfinkel S. (2005) Measuring Hospital Care from the Patients' Perspective: An Overview of the CAHPS® Hospital Survey Development Process. *Health Serv Res*., 40(6p2):1977–1995.
8. O'Malley A, Zaslavsky A. (2008) Domain-level covariance analysis for multilevel survey data with structured nonresponse. *J Am Stat Assoc*., 103(484):1405-1418.
9. O'Malley AJ, Zaslavsky AM, Hays RD, Hepner KA, Keller S, Cleary PD. (2005) Exploratory factor analyses of the CAHPS(c) hospital pilot survey responses across and within medical, surgical and obstetric services. Health Services Res., 40(6(II)):2078-2095.
10. O'Malley AJ, Zaslavsky AM, Elliott MN, Zaborski L, Cleary PD. (2005) Case-Mix Adjustment of the CAHPS(R) Hospital Survey. *Health Serv Res*., 40(6 Pt 2):2162–2181. doi:10.1111/j.1475-6773.2005.00470.x.
11. Rodriguez HP, Glahn T von, Li A, Rogers WH, Safran DG. (2009) The effect of item screeners on the quality of patient survey data: a randomized experiment of ambulatory care experience measures. *The patient*, 2(2):135-141.
12. Flores G, Abreu M, Tomany-Korman SC. (2005) Limited English proficiency, primary language at home, and disparities in children's health care: how language barriers are measured matters. *Public Health Rep*., 120(4):418.
13. Wilson E, Chen AH, Grumbach K, Wang F, Fernandez A. (2005) Effects of Limited English Proficiency and Physician Language on Health Care Comprehension. *J Gen Intern Med*., 20(9):800–806. doi:10.1111/j.1525-1497.2005.0174.x
14. Elliott MN, Zaslavsky AM, Goldstein E, Lehrman W, Hambarsoomians K, Beckett MK, Giordano L. (2009) Effects of survey mode, patient mix, and nonresponse on CAHPS hospital survey scores. *Health Serv Res*., 44(2 Pt 1):501–518. doi:10.1111/j.1475-6773.2008.00914.x
15. Zhan C, Sangl JS, Meyer GS, Zaslavsky AM. How Do They Compare?: Consumer Assessments of Care for Children and Adults in Health Plans. (2002) *Med Care Febr 2002*, 40(2):145–154.
16. Cleary PD, Carlson MJ, Shaul JA, Eisen SV. (2002) The influence of patient characteristics on ratings of managed behavioral health care. *J Behav Health Serv Res*., 29(4):481–489. doi:10.1007/BF02287354.
17. Roohan PJ, Franko SJ, Anarella JP, Dellehunt LK, Gesten FC. Do commercial managed care members rate their health plans differently than Medicaid managed care members? (2003) *Health Serv Res*, 38(4):1121–1134.

18. Carlson MJ, Blustein J, Fiorentino N, Prestianni F. Socioeconomic Status and Dissatisfaction Among HMO Enrollees. (2000) *Med Care May 2000*, 38(5):508–516.

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: Collected via survey completed by parents.

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**.

No data elements are in defined fields in 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).

Though multiple modes of data collection, as well as mixed-mode types of administration, are possible and have been tested, CAHPS surveys are primarily administered by mail. Electronic databases are created after surveys are returned. The rationale for not using electronic sources more broadly is that mail and telephone administration are the best ways to obtain representative samples of patients based on the contact information that is available for sampling and data collection. Mixed mode email administration (email-mail, email-phone) can also be used, although use of an email only mode is not currently recommended.

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.

ADMINISTRATIVE DATA AVAILABILTY

CAHPS surveys use administrative data to develop the sampling frame for survey administration. Administrative data are commonly used for quality measurement due to high levels of completeness and ready availability. For the Child HCAHPS survey, hospitals will use discharge data to identify patients by discharge date. Discharge data are the most reliable and complete source of information necessary for the sampling frame. Moreover, discharge data are easily accessible to hospitals given that they are derived from administrative and billing data.

SURVEY DATA COLLECTION

As previously mentioned, we have gone through an iterative process to ensure that the survey will be understandable to patients and their families. Additionally, the survey can easily be completed within a short period of time (approximately 15 minutes), and is therefore minimally burdensome to respondents.

Inpatient pediatric patient experience is widely measured using a variety of survey instruments developed by a number of survey vendors and hospitals. Although reporting across hospitals is not done nationally, survey vendors uniformly compare hospital scores among the hospitals that contract with them. Most survey vendors are CAHPS-approved and currently field Adult HCAHPS. Survey vendors are capable of administering Child HCAHPS, as demonstrated by our national field test, in which they administered the survey for 69 participating hospitals. CMS maintains the CAHPS database for Adult HCAHPS reporting, and AHRQ maintains the CAHPS database for voluntary reporting of the health plan and clinician and group surveys. Were Child HCAHPS to become a core measure, it would be possible for data to be collected in either of these databases. A national pediatric database would be valuable in permitting national comparisons with case-mix adjusted data.

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)*.

The Child HCAHPS survey is available to users free of charge. In addition to the survey instrument, SAS programming code for analysis of Child CAHPS will be available with the other CAHPS surveys at: https://cahps.ahrq.gov/surveys-guidance/hp/instructions/index.html. Requirements for using the CAHPS name on an instrument include:

• All core items must be present on the user's questionnaire.

• No changes to core item wording are permitted.

• Instruments must not omit any of the survey items related to respondent characteristics.

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)
	Public Reporting
	Leapfrog Hospital Survey, The Leapfrog Group
	http://www.leapfroggroup.org/ratings-reports/new-2017-leapfrog-hospital-survey
	Regulatory and Accreditation Programs
	Magnet Recognition Program, American Nurses' Credentialing Center (ANCC)
	http://www.clinicalmanagementconsultants.com/ancc-list-of-magnet-recognized-hospitals--cid-4457.html
	Quality Improvement (external benchmarking to organizations)
	Massachusetts Standard Quality Measure Set, Statewide Quality Advisory Committee, Massachusetts Center for Health Information and Analysis
	http://www.chiamass.gov/sqms/
	Quality Improvement (Internal to the specific organization)
	The 69 national field test hospitals have received, and can track their Child HCAHPS scores for quality improvement efforts.
	Not applicable
	Two large survey vendors have administered Child HCAHPS in 347+ hospitals since completion of the national field test and measure endorsement.
	Not applicable

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

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

1) Public Reporting
Name of program and sponsor: The Leapfrog Group
Purpose: The Leapfrog Group is a national nonprofit organization that publicly reports hospital performance and safety via two primary initiatives: The Leapfrog Hospital Survey and the Leapfrog Hospital Safety Grade are known nationally as a gold standard for evaluating hospitals on facility level quality, safety, and resource use. Child HCAHPS was added to the Leapfrog Hospital Survey in 2017. Leapfrog scores help purchasers and consumers identify high quality hospitals and help individual hospitals benchmark their own progress.
Geographic area and number and percentage of accountable entities and patients included: The Leapfrog Hospital Survey is administered nationally to evaluate individual facilities.
Level of measurement and setting: Leapfrog evaluates performance at the individual facility level.
2) Quality Improvement (external benchmarking to organizations)
Name of program and sponsor: Massachusetts Standard Quality Measure Set, Statewide Quality Advisory Committee, Massachusetts Center for Health Information and Analysis
Purpose: The Standard Quality Measure Set (SQMS) is an annually-updated measure set created to guide statewide quality priorities in Massachusetts. The SQMS is managed by the Statewide Quality Advisory Committee (SQAC), a stakeholder advisory group of consumer advocates, providers, and insurers. The SQAC is chaired by the Executive Director of the Massachusetts Center for Health Information and Analysis. SQMS measures are also used by state agencies for evaluating innovative care delivery models and by payers for establishing payment structures.
Geographic area and number and percentage of accountable entities and patients included: The SQMS guides statewide quality priorities in Massachusetts.

Level of measurement and setting: The SQMS guides statewide quality priorities in Massachusetts.

3a) Quality Improvement with Benchmarking (external benchmarking to multiple organizations) and Quality Improvement (Internal to the specific organization)

NOTE: We estimated the number of patients using the HCUP Kids' Inpatient Database (KID) 2009 for the participating hospitals we were able to identify in the database. The number of patients is the total annual admissions for the 43 hospitals out of the 69 hospitals in the national field test that were identified in KID (excluding healthy newborns and patients with a primary psychiatric diagnosis).

Annual admissions represent the patients who may be affected by Child HCAHPS quality improvement efforts.

Name of program and sponsor: 69 hospitals participating in the Child HCAHPS national field test.

Purpose: Child HCAHPS scores are available for use for benchmarking purposes (e.g., reference points such as average scores for hospitals contracting with the same vendor) and for local quality improvement efforts. Each hospital received a report of their case-mix adjusted Child HCAHPS scores with benchmarks from the national field test.

Geographic area and number of patients included: Hospitals from the following 33 states participated in the Child HCAHPS national field test: AZ, CA, CO, CT, DE, FL, GA, IA, ID, IL, IN, KY, MA, ME, MI, MO, MS, NC, NJ, NV, NY, OH, OK, OR, PA, SD, TN, TX, UT, VA, WA, WI, WV. We estimate a total of 309,389 admissions for the 43 out of the 69 hospitals that were identified in KID.

Level of measurement and setting: The Child HCAHPS national field test evaluated performance at the individual facility level.

3b) Quality Improvement with Benchmarking (external benchmarking to multiple organizations) and Quality Improvement (Internal to the specific organization)

Name of program and sponsor: 2347+ hospitals currently fielding the Child HCAHPS measure through two large national survey vendors.

Purpose: Child HCAHPS scores are available for use for benchmarking purposes (e.g., reference points such as average scores for hospitals contracting with the same vendor) and for local quality improvement efforts through systems maintained by the survey administrators.

Geographic area and number of patients included: We do not have access to information on the specific geographic region or number of impacted patients. However, we believe it is safe to assume Child HCAHPS administration impacts a large number of pediatric admissions nationally given the high number of hospitals currently fielding the measure with survey vendors.

Level of measurement and setting: Survey vendors administer the Child HCAHPS measure to evaluate performance at the individual facility level.

4) Regulatory and Accreditation Programs

Name of program and sponsor: Magnet Recognition Program, American Nurses' Credentialing Center (ANCC)

Purpose: The Magnet Recognition Program, run by the American Nurses' Credentialing Center, is a hospital-level recognition of excellence in nursing practice. In order to achieve Magnet Recognition, hospitals must submit unit-level measure outcomes across a variety of care quality domains for comparison with national benchmarks. The Magnet Recognition Program recognizes Child HCAHPS as a measure of patient experience for their certification program.

Geographic area and number and percentage of accountable entities and patients included: Hospitals nationwide are using Child HCAHPS data for similar credentialing purposes.

Level of measurement and setting: Magnet status is awarded at the facility level.

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?*)

N/A

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.)

N/A

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.

A core principle of all CAHPS surveys is to assess aspects of care for which the patient is generally the only or best source of information. Information is obtained directly from the patient, or in the case of Child HCAHPS, from the patient´s parents. Understandability of the surveys is thus especially critical. To ensure the relevance of the Child HCAHPS measure to pediatric patients and their families and evaluate its understandability, we conducted focus groups and cognitive interviews. In addition, we conducted end-user interviews with parents to test preliminary composite measure concepts and labels and further gauge understandability and validity.

Following its development, the Child HCAHPS measure was piloted among 69 hospitals from across the country that were part of the Child HCAHPS national field test. All 69 hospitals were provided with a summary of their specific hospital data and the aggregate national field test data in an individualized one page report. Data for both the hospital level and national field test data were presented as case-mix adjusted top-box scores for each single and composite item within Child HCAHPS.

Child HCAHPS is currently administered by national survey vendors. These vendors provide systems to allow for detailed reporting and benchmarking against other hospitals using the same vendor. Two of the largest survey vendors report that that they have received no major negative feedback regarding administration of Child HCAHPS at the hospital level.

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.

Hospitals administering the Child HCAHPS through survey vendors have access to systems (e.g., web-based portals) that provide results on demand and additional supports for making improvements.

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.

Child HCAHPS was originally piloted in 69 hospitals from across the country in the Child HCAHPS national field test. The development team encountered no notable difficulties during administration of Child HCAHPS during the national field test.

In addition to the hospitals from the national field test, Child HCAHPS is currently being fielded by large national survey vendors across the country. We are aware of at least 347 hospitals that are currently fielding Child HCAHPS, which is a significant number of institutions given environmental factors that impede uptake. For example, unlike other CAHPS surveys, there is at this time no federal mandate to field Child HCAHPS. In addition, there are far fewer facilities that have a significant number of pediatric admissions to support fielding Child HCAHPS. Given these impediments, we are very encouraged by Child HCAHPS dissemination to date. These survey vendors solicit hospitals directly for feedback on measure performance, implementation, and content. For the vendors from whom we received data, feedback received by hospitals using Child HCAHPS has been generally positive. Survey vendors have received no negative feedback regarding performance or implementation of the Child HCAHPS measure and limited feedback from fielding hospitals on possible ways to improve some measure domains and specific items.

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

We received a variety of reactions and feedback from patients/families and hospitals via one of the largest survey vendors currently administering Child HCAHPS. We were encouraged by the generally positive feedback

on the content and usability of the measure. Critical reactions from patients/families and hospitals were limited and are generally representative of common reactions to all patient experience measures that are not specific to Child HCAHPS. Please find a brief description of this feedback below:

-A few hospitals reported that the survey is too long and the response rates are low. Apart from these limited concerns, feedback on survey length and response rates was generally positive. One vendor indicated that response rates for Child HCAHPS were comparable to other pediatric inpatient surveys it administers.

-Vendors received feedback from a few patients/families indicating they found certain questions to be complex or confusing in their wording. A few other patients/families said they found the term "provider" to be confusing, although feedback from the measure development (e.g., focus groups, cognitive interviews, end-user testing etc.) indicated patients/families generally preferred the term "provider" to alternatives.

-Some hospitals that do not have emergency departments expressed concerns regarding inclusion of the emergency department questions. We have clarified with the survey vendors and applicable hospitals that if a hospital does not have an emergency department, the emergency department questions are not required to be asked or completed.

-A few hospitals questioned how applicable Child HCAHPS is to the NICU patient population. The NICU population was included throughout the development of Child HCAHPS, and parents of NICU patients were included in cognitive testing of the survey.

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

The Child HCAHPS development team has received a variety of feedback from other Child HCAHPS users. We have received technical assistance questions related to accessing survey materials, specifications, and guidelines, fielding the survey, and accurately analyzing results. We have received other questions regarding current use, including whether or not the survey is currently mandated or will be in the future. Additionally, various researchers, quality improvement specialists, and other stakeholders have asked about the availability of data for the purposes of benchmarking and research. We have also received limited feedback on adapting/improving the content of the survey, including changing the wording of questions around pain assessment and adding new items around surgery and anesthesia induction.

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.

As a patient experience measure, Child HCAHPS is meant specifically to evaluate experiences that families and patients value and find meaningful. The Child HCAHPS development process relied heavily on patient and family input in order to ensure we were measuring outcomes important to patients and families. We conducted focus groups, cognitive interviews, and end-user interviews with adolescents and parents of recently hospitalized children across the U.S. to gauge understandability, validity, and meaningfulness of the Child HCAHPS measure. Eight focus groups were held in Boston, Los Angeles, and St. Louis, 109 cognitive interviews were performed in Boston, Los Angeles, Miami, and St. Louis, and an additional 23 end-user interviews were conducted in Atlanta and Washington, D.C. Parent participants across all parts of the Child HCAHPS development process constituted a diverse spectrum with regard to gender, race, ethnicity, insurance status, marital status, child's age, and child's reason for and length of hospitalization. In addition, two focus groups were comprised of recently hospitalized adolescent patients while four others targeted specific populations: Spanish speakers, Medicaid-insured patients, and parents of children with special health care needs. Patient and family feedback from each step in the development process helped shaped and define Child HCAHPS items to be meaningful and useful for patients, families, providers, hospitals, and other stakeholders.

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 are gratified by the number of hospitals that have been adopting Child HCHAPS since NQF endorsement in 2015 and further encouraged as the number of hospitals continues to grow. However, we do not have access to a longitudinal national database that would allow us to demonstrate change over time in a meaningful way.

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.

No unexpected findings were identified during measure implementation.

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

No unexpected benefits were identified during measure implementation.

5. Comparison to Related or Competing Measures

If a measure meets the above criteria <u>and</u> 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)

0005 : CAHPS Clinician & Group Surveys (CG-CAHPS) Version 3.0 -Adult, Child

0166 : HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) Survey

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

Not applicable

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?
Yes

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

NOTE: THE SUBMISSION FORM WOULD NOT ALLOW FOR FORMATTING. FOR THE FORMATTED VERSION, SEE MEASURE HARMONIZATION (APPENDIX P).

Our candidate survey fills a gap in pediatric quality measurement by addressing the current dearth of quality measures that assess inpatient care. Child HCAHPS addresses the need for a pediatric inpatient patient experience of care survey. We have harmonized our survey with the Consumer Assessment of Healthcare Providers and Systems Hospital Survey – Adult Version (Adult HCAHPS) (NQF # 0166), which was endorsed by NQF in 2005, and the Consumer Assessment of Healthcare Providers and Systems Clinician & Group Survey – Child Version (Child CG CAHPS) (NQF # 0005), which was endorsed by NQF in 2007. The Centers for Medicare & Medicaid Services (CMS) uses Adult HCAHPS results to inform consumer choice through public reporting on the Hospital Compare website and to calculate incentive payments for the CMS Hospital Value-based Purchasing Program.[1] Like the Adult HCAHPS survey, Child HCAHPS could be used as a national standard for collecting or publicly reporting information on patients´ perspectives of care that would enable valid comparisons to be made across all hospitals.[2] In developing Child HCAHPS, we followed the same rigorous survey development methodology that other CAHPS survey development teams have employed, including, but not limited to, conducting focus groups, cognitive interviews and end-user testing. We also built upon CAHPS patient experience domains and items when developing our survey. Additionally, the CAHPS Consortium collaborated with us on the development of Child HCAHPS.

Child HCAHPS covers the pediatric population, with an age eligibility criterion that is identical to that of Child CG CAHPS (under 18 years old) and complementary to that of the Adult HCAHPS survey (18 years or older). While Child HCAHPS and Child CG CAHPS have the same age eligibility criterion, Child HCAHPS has been developed for inpatient pediatric populations, while Child CG CAHPS is targeted to the outpatient pediatric population. Like the Adult HCAHPS and Child CG CAHPS surveys, Child HCAHPS also uses a statistical model to case-mix adjust scores, but our model was specifically developed for inpatient pediatric patients. Various aspects of the Child HCAHPS survey, such as item wording and response categories, have been harmonized with the Adult HCAHPS and Child CG CAHPS surveys. The Child HCAHPS survey assesses many of the same domains as the Adult HCAHPS survey, and where appropriate, also addresses similar domains to those found in the Child CG CAHPS survey, such as communication with providers. Additional domains shared by the Adult and Child HCAHPS surveys include experiences with nurses, experiences with doctors, pain management, the hospital environment, discharge planning from the hospital, and overall hospital rating. Furthermore, the Child HCAHPS survey assesses aspects of care that are particularly relevant to children. For example, Child HCAHPS assesses whether providers talk and interact with the child in a way that is age-appropriate. Child HCAHPS also gathers information from parents on their teenagers who have experienced a hospitalization. These items are not included in the Adult HCAHPS survey but are valuable to the Child HCAHPS survey because they assess the unique experiences of adolescents, an important population that previously has not been heavily targeted for quality improvement initiatives.[3,4] Lastly, the Child HCAHPS survey assesses new domains not mentioned above that are not found in the other CAHPS surveys include communication in the emergency room, family involvement, privacy, and safety.

The Child HCAHPS survey is a parent-reported survey, a notable difference from the self-reported Adult HCAHPS survey. While most items are of the parent's experience of their child's care, similar to Child CG CAHPS, Child HCAHPS also assesses the experiences of the child for a subset of items by relying on a parent's assessment of the child's experience of care. In pediatrics, parents' assessment of their child's care is commonly accepted for a variety of methodological and logistical reasons.[5] We do not anticipate that differences between the Child HCAHPS survey and the Adult HCAHPS or Child CG CAHPS survey would affect the interpretability or data collection burden of Child HCAHPS.

REFERENCES   1. Centers for Medicare & Medicaid. HospitalHCAHPS. 2013. Available at: http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/HospitalHCAHPS.html. Accessed November 29, 2013. 2. HCAHPS - Hospital Survey. Available at: http://www.hcahpsonline.org/home.aspx. Accessed February 12, 2014. 3. Van Staa A,

Jedeloo S, van der Stege H, On Your Own Feet Research Group. "What we want": chronically ill adolescents' preferences and priorities for improving health care. Patient Prefer Adherence. 2011;5:291-305. doi:10.2147/PPA.S17184. 4. Chesney M, Lindeke L, Johnson L, Jukkala A, Lynch S. Comparison of child and parent satisfaction ratings of ambulatory pediatric subspecialty care. J Pediatr Health Care Off Publ Natl Assoc Pediatr Nurse Assoc Pract. 2005;19(4):221-229. doi:10.1016/j.pedhc.2005.02.003. 5. Shaul JA, Fowler FJ Jr, Zaslavsky AM, Homer CJ, Gallagher PM, Cleary PD. The impact of having parents report about both their own and their children's experiences with health insurance plans. Med Care. 1999;37(3 Suppl):MS59-68.

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.)

NA

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:

Contact Information

Co.1 Measure Steward (Intellectual Property Owner): Agency for Healthcare Research and Quality

Co.2 Point of Contact: Caren, Ginsberg, caren.ginsberg@ahrq.hhs.gov, 301-427-1894-

Co.3 Measure Developer if different from Measure Steward: Center of Excellence for Pediatric Quality Measurement

Co.4 Point of Contact: Sara, Toomey, cepqm@childrens.harvard.edu, 617-919-3550-

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 following people participated in the development and maintenance of the Child HCAHPS survey:

THE CORE TEAM:

Marc N. Elliott, PhD

Mark A. Schuster, MD, PhD (Measure Co-Leader)

Sara L. Toomey, MD, MPhil, MPH, MSc (Measure Co-Leader)

Alan M. Zaslavsky, PhD

The DEVELOPMENT TEAM:

Julie A. Brown, BA

Paul D. Cleary, PhD

Marc N. Elliott, PhD

Floyd J. Fowler, Jr. PhD

Patricia M. Gallagher, PhD

Ron D. Hays, PhD

David E. Kanouse, PhD

Lise Rybowski, MBA

Mark A. Schuster, MD, PhD (Measure Co-Leader)

Dale Shaller, MPA

Sara L. Toomey, MD, MPhil, MPH, MSc (Measure Co-Leader)

Alan M. Zaslavsky, PhD

Carla L. Zema, PhD

SUPPORT STAFF

Shanshan Liu, MS, MPH

Marisa Howard-Karp, MS

Paul Holden, BS

Staff of the Center of Excellence for Pediatric Quality Measurement (CEPQM) at Boston Children's Hospital and members of CEPQM's National Advisory Board provided guidance and feedback on the measure.

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: 01, 2015

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

Ad.5 When is the next scheduled review/update for this measure? 04, 2019

Ad.6 Copyright statement:

Ad.7 Disclaimers:

Ad.8 Additional Information/Comments: