NATIONAL QUALITY FORUM

Measure Evaluation 4.1
January 2010

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The sub-criteria and most of the footnotes from the evaluation criteria are provided in Word comments and will appear if your cursor is over the highlighted area (or in the margin if your Word program is set to show revisions in balloons). Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all yellow highlighted areas of the form. Evaluate the extent to which each sub-criterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the* sub-criteria *(yellow highlighted areas)*.

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the sub-criterion, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few sub-criteria as indicated)

(for NQF staff use) **NQF Review** #: OT3-033-10 **NQF Project:** Patient Outcomes Measures: Child Health and Mental Health (Phase III)
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** National Survey of Children's Health 2007--Quality Measures
De.2 **Brief description of measure***:* The National Survey of Children's Health (NSCH) is a population-based survey designed to assess how children nationally and in each state (plus the District of Columbia) are performing on key quality measures put forth by the Maternal and Child Health Bureau's strategic plan goals and national performance measures. The questions address a variety of physical, emotional, and behavioral health indicators and measures of children's health experiences with the health care system, and 22 of these measures are directly focused on children's healthcare quality.
1.1-2 **Type of Measure:** outcome De.3 **If included in a composite or paired with another measure, please identify composite or paired measure**
De.4 **National Priority Partners Priority Area:** population health De.5 **IOM Quality Domain**: effectiveness De.6 **Consumer Care Need:** Staying Healthy

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* A.1 **Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes A.2 **Indicate if Proprietary Measure** (*as defined in measure steward agreement*)**:**	**A** **Y**☐ **N**☐

A.3 Measure Steward Agreement: agreement signed and submitted **A.4 Measure Steward Agreement attached:** 2-2-2010 NQF Agreement Form for new measures-634006394666999401.pdf	
B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every 3 years. Yes, information provided in contact section	**B** **Y**☐ **N**☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** public reporting, quality improvement 0,0,0,	**C** **Y**☐ **N**☐
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 12 months of endorsement. **D.1Testing:** Yes, fully developed and tested **D.2 Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** **Y**☐ **N**☐
(for NQF staff use) **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	**Met** **Y**☐ **N**☐
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. *Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	Eval Rating
(for NQF staff use) Specific NPP goal:	
1a.1 Demonstrated High Impact Aspect of Healthcare: patient/societal consequences of poor quality, affects large numbers **1a.2** **1a.3 Summary of Evidence of High Impact:** These quality measures help the Maternal and Child Health Bureau (MCHB) to provide national leadership for maternal and child health; promote an environment that supports maternal and child health; eliminate health barriers and disparities; improve the health infrastructure and systems of care; assure quality care; work with states and communities to plan and implement policies and programs to improve the social, emotional, and physical environments; and acquire the best available evidence to develop and promote guidelines and practices to assure social, emotional, and physical environments that support the health and well-being of women and children. The results from the NSCH support these goals by providing an objective basis for Federal and state program planning and evaluation efforts. **1a.4 Citations for Evidence of High Impact:** Blumberg SJ, Foster EB, Frasier AM, et al. Design and Operation of the National Survey of Children's Health, 2007. National Center for Health Statistics. Vital Health Stat 1. Forthcoming. ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/slaits/nsch07/2_Methodology_Report/NSCH_Design_and_Ope	**1a** **C**☐ **P**☐ **M**☐ **N**☐

rations_052109.pdf.

U.S. Department of Health and Human Services. Healthy People 2010. Conference Edition. Washington, DC. 2000.

1b. Opportunity for Improvement

1b.1 Benefits (improvements in quality) envisioned by use of this measure: The use of these quality measures from the National Survey of Children's Health helps the MCHB achieve its vision statement "for a society where children are wanted and born with optimal health, receive quality care, and are nurtured lovingly and sensitively as they mature into healthy, productive adults." MCHB also seeks to ensure that ''there is equal access for all to quality health care in a supportive, culturally competent, family and community setting''.

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
Numerous quality indicators in the survey show performance gaps across states and between population groups.

1b.3 Citations for data on performance gap:
Child and Adolescent Health Measurement Initiative. 2007 National Survey of Children's Health, Data Resource Center for Child and Adolescent Health website. www.nschdata.org

1b.4 Summary of Data on disparities by population group:
Numerous indicators in the survey show disparities and gaps in quality among various sociodemographic groups.

1b.5 Citations for data on Disparities:
Child and Adolescent Health Measurement Initiative. 2007 National Survey of Children's Health, Data Resource Center for Child and Adolescent Health website. www.nschdata.org

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1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*)**:** Outcomes are relevant to the target population for purposes of quality improvement. Measurement and receipt of high quality care can only be strenghtened with expansion of evidence based quality indicators.

1c.2-3. Type of Evidence: other (specify) Population based research

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**
All items included in the measure are report of patient experience with healthcare services.
Numerous quality indicators included in the survey are directly related to patient care. Evidence on patient attitude and satisfaction with care can be used within healthcare services to improve the quality of care delivery.

1c.5 Rating of strength/quality of evidence (*also provide narrative description of the rating and by whom***):**

1c.6 Method for rating evidence:

1c.7 Summary of Controversy/Contradictory Evidence:

1c.8 Citations for Evidence (*other than guidelines***):**

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number***):**

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1c.10 Clinical Practice Guideline Citation: **1c.11 National Guideline Clearinghouse or other URL:** **1c.12 Rating of strength of recommendation (***also provide narrative description of the rating and by whom***):** **1c.13 Method for rating strength of recommendation** (*If different from* USPSTF system*, also describe rating and how it relates to USPSTF)*: **1c.14 Rationale for using this guideline over others:**	
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Importance to Measure and Report?*	**1**
Steering Committee: Was the threshold criterion, *Importance to Measure and Report*, **met?** **Rationale:**	**1** **Y☐** **N☐**
2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	Eval Rating
2a. MEASURE SPECIFICATIONS	
S.1 Do you have a web page where current detailed measure specifications can be obtained? **S.2 If yes, provide web page URL:** **2a. Precisely Specified**	
2a.1 Numerator Statement (*Brief, text description of the numerator - what is being measured about the target population, e.g. target condition, event, or outcome***):** The 2007 National Survey of Children's Health includes 22 individual quality health measure numerators. These measures include questions about the child's health status, family, neighborhood, and experience with the child's health care providers. **2a.2 Numerator Time Window (***The time period in which cases are eligible for inclusion in the numerator***):** Encounter or point in time. **2a.3 Numerator Details (***All information required to collect/calculate the numerator, including all codes, logic, and definitions***):** Numerators comprised of 22 individual quality health measures within the 2007 National Survey of Children's Health. -Number of school days missed due to illness -Proportion of children who have inadequate insurance coverage -Proportion of children who have unmet health needs -Proportion of children who have a medical home -Proportion of children who have a personal doctor or nurse -Proportion of children who have a usual source for sick and well care -Proportion of children who have no problems obtaining referrals when needed -Proportion of children who have family-centered care -Proportion of children who have effective care coordination when needed	**2a-specs** **C☐** **P☐** **M☐** **N☐**

-Proportion of children who are overweight or obese (based on parent report of BMI status)
-Proportion of children who have received preventive medical visits
-Proportion of children who have received preventive dental visits
-Proportion of children who have received needed mental health care
-Proportion of children who have a provider who engages parent around child health concerns
-Proportion of children who have received a standardized developmental and behavioral screening
-Proportion of children who have experienced exposure to secondhand smoke inside home
-proportion of chidlren who are engaged in regular physical activity
-Proportion of children who live in supportive neighborhoods
-Proportion of children who live in safe communities
-Proportion of children who attend safe schools
-Proportion of children who live in neighborhoods with certain essential amenities
-Proportion of children who have special health care needs

2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured***):**
Children age 0-17 years living in the United States

2a.5 Target population gender: Female, Male
2a.6 Target population age range: Children age 0-17 years

2a.7 Denominator Time Window (*The time period in which cases are eligible for inclusion in the denominator***):**
Time window is a fixed period of time but can vary by item. For example, many important items related to health care access and usage are anchored to the past 12 months from time of survey. Other items in the survey are not anchored to any specific time frame, such as "Does your neighborhood contain sidewalks?"

2a.8 Denominator Details (*All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions***):**
Children age 0-17 years living in the United States, with numerous domain-specific denominator skip patterns based on age and/or use of services. See the SPSS Codebook for the NSCH for more details- http://nschdata.org/Viewdocument.aspx?item=519.

2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** Main denominator exclusion: if child is not between 0 and 17 years of age and/or is not currently living in the United States.

2a.10 Denominator Exclusion Details (*All information required to collect exclusions to the denominator, including all codes, logic, and definitions***):**
Main denominator exclusions (parent will not be given survey):
-If child is not between 0 and 17 years of age.
-If child is not currently living in the United States.

Domain-specific denominator exclusions: vary based on age and/or use of services.

2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions***):**
No stratification is required.

The 2007 NSCH included a number of child demographic variables that allow for stratification of the findings by possible vulnerability:

- Age
- Gender
- Geographic location- State, HRSA Region, National level Rural Urban Commuter Areas (RUCA)
- Race/ethnicity
- Health insurance- status, type, consistency, adequacy
- Primary household language
- Household income
- Special Health Care Needs- status and type

2a.12-13 Risk Adjustment Type: no risk adjustment necessary

2a.14 Risk Adjustment Methodology/Variables (*List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method***):**

2a.15-17 Detailed risk model available Web page URL or attachment:

2a.18-19 Type of Score: rate/proportion
2a.20 Interpretation of Score: better quality = higher score
2a.21 Calculation Algorithm (*Describe the calculation of the measure as a flowchart or series of steps***):**
Numerators comprised of 22 individual quality health measures within the 2007 National Survey of Children's Health. For more documentation on the coding used to score these measures, please refer to the SPSS Codebook http://nschdata.org/Viewdocument.aspx?item=519.

-Number of school days missed due to illness (K7Q02)
-Proportion of children who have inadequate insurance coverage (K3Q01, K3Q20, K3Q21a, K3Q21b, K3Q22)
-Proportion of children who have unmet health needs (K4Q27, K4Q28X01, K4Q28X02, K4Q28X03, K4Q28X04)
-Proportion of children who have a medical home (K4Q01, K4Q02R, K4Q04, K4Q22, K4Q24, K5Q10, K5Q11, K5Q20, K5Q21, K5Q22, K5Q30, K5Q31, K5Q32,
K5Q40, K5Q41, K5Q42, K5Q43, K5Q44, K5Q46)
-Proportion of children who have a personal doctor or nurse (K4Q04)
-Proportion of children who have a usual source for sick and well care (K4Q01, K4Q02)
-Proportion of children who have no problems obtaining referrals when needed (K5Q10, K5Q11)
-Proportion of children who have family-centered care (K5Q40, K5Q41, K5Q42, K5Q43, K5Q44, K5Q46)
-Proportion of children who have effective care coordination when needed (K4Q22, K4Q24, K5Q20, K5Q21, K5Q30, K5Q31, K5Q32)
-Parent report of BMI status (K2Q02, K2Q03)
-Proportion of children who have received one or more preventive medical visits (K4Q20)
-Proportion of children who have received one or more preventive dental visits (K4Q21)
-Proportion of children who have received needed mental health care (K2Q22, K4Q22)
-Proportion of children who have a provider who engages parent around child health concerns (K4Q20, K4Q21, K4Q22, K4Q24, K4Q25, K6Q10)
-Proportion of children who have received a standardized developmental and behavioral screening (K6Q12, K6Q13A, K6Q13B, K6Q14A, K6Q14B)
-Proportion of children who have experienced exposure to secondhand smoke inside home (K9Q40, K9Q41)
-Child's physical activity (K7Q41)
-Proportion of children who live in supportive neighborhoods (K10Q30, K10Q31, K10Q32, K10Q34)
-Proportion of children who live in safe communities (K10Q40)
-Proportion of children who attend safe schools (K10Q41)
-Proportion of children who live in neighborhoods with certain essential amenities (K10Q11, K10Q12, K10Q13, K10Q14)
-Proportion of children who have special health care needs (K2Q10, K2Q11, K2Q12, K2Q13, K2Q14, K2Q15, K2Q16, K2Q17, K2Q18, K2Q19, K2Q20, K2Q21, K2Q22, K2Q23)

2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**

2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*:
The goal of the NSCH sample design was to generate samples representative of populations of children within each state. An additional goal of the NSCH was to obtain state-specific sample sizes that were sufficiently large to permit reasonably precise estimates of the health characteristics of children in each state.
To achieve these goals, state samples were designed to obtain a minimum of 1,700 completed interviews. The number of children to be selected in each National Immunization Survey (NIS) estimation area was determined by allocating the total of 1,700 children in the state to each NIS estimation area within the state in proportion to the total estimated number of households with children in the NIS estimation area.

Given this allocation, the number of households that needed to be screened in each NIS estimation area was calculated using the expected proportion of households with children under 18 years of age in the area. Then, the number of telephone numbers that needed to be called was computed using the expected working residential number rate, adjusted for expected nonresponse.

A total of 91,642 interviews were completed from April 2007 to July 2008 for the 2007 National Survey of Children's Health. A random-digit-dialed sample of households with children less than 18 years of age was selected from each of the 50 states and the District of Columbia. One child was randomly selected from all children in each identified household to be the subject of the survey. The respondent was a parent or guardian who knew about the child's health and health care.

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
Survey: Patient

2a.25 Data source/data collection instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):**
2007 National Survey of Children's Health

2a.26-28 Data source/data collection instrument reference web page URL or attachment: URL
ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/slaits/nsch07/1a_Survey_Instrument_English/NSCH_Questionnaire_052109.pdf

2a.29-31 Data dictionary/code table web page URL or attachment: URL
http://nschdata.org/Viewdocument.aspx?item=519

2a.32-35 Level of Measurement/Analysis (*Check the level(s) for which the measure is specified and tested)*
Population: national, Population: regional/network, Population: states

2a.36-37 Care Settings (*Check the setting(s) for which the measure is specified and tested)*
Other (specify) Survey was conducted over a telephone

2a.38-41 Clinical Services (*Healthcare services being measured, check all that apply*)
Other Patient experience

TESTING/ANALYSIS

2b. Reliability testing

2b.1 Data/sample *(description of data/sample and size)***:** Qualitative testing of the entire 2007 National Survey of Children's Health was conducted by the National Center for Health Statistics. They conducted cognitive interviews with the 2007 NSCH Computer-Assisted Telephone Interview (CATI) to make sure the entire survey instrument was functioning properly. N=640 interviews were completed over 3 days in December 2006. The questionnaire was then revised and finalized based on feedback from participants in these interviews.

2b.2 Analytic Method *(type of reliability & rationale, method for testing)***:**
Cognitive testing was conducted to test reliability and interpretability of questions across population.

2b.3 Testing Results *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)***:**
The Maternal and Child Health Bureau leads the development of the NSCH and NS-CSHCN survey and indicators, in collaboration with the National Center for Health Statistics (NCHS) and a national technical expert panel. The expert panel includes representatives from other federal agencies, state Title V leaders, family organizations, and child health researchers, and experts in all fields related to the surveys (adolescent health, family and neighborhoods, early childhood and development etc.). Previously validated questions and scales are used when available. Extensive literature reviewing and expert reviewing of items is conducted for all aspects of the survey. Respondents' cognitive understanding of the survey questions is assessed during the pretest phase and revisions made as required. All final data components are verified by

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NCHS and DRC/CAHMI staff prior to public release. Face validity is conducted in comparing results with prior years of the survey and/or results from other implementations of items. No specific reliability results are available for this measure. Please contact the CAHMI if quantitative measures are needed.	
2c. Validity testing **2c.1 Data/sample** *(description of data/sample and size)*: 640 interviews were completed over 3 days in December 2006 **2c.2 Analytic Method** *(type of validity & rationale, method for testing)*: Cognitive testing was conducted with parents of children ages 0-17 years (interviews conducted over the phone with residential households). **2c.3 Testing Results** *(statistical results, assessment of adequacy in the context of norms for the test conducted)*: Parents who participated in the pretest interview completed the entire questionnaire and provided feedback with any issues they encountered with individual survey items. Interviewers added their own observations of the parents' reactions during the interview. Face validity is conducted in comparing results with prior years of the survey and/or results from other implementations of items. Please see the references section for peer-reviewed articles which have used these items. Peer-reviewed papers generally undertake their own validity testing in order to meet strict peer review standards.	**2c** C☐ P☐ M☐ N☐
2d. Exclusions Justified **2d.1 Summary of Evidence supporting exclusion(s):** **2d.2 Citations for Evidence:** **2d.3 Data/sample** *(description of data/sample and size)*: **2d.4 Analytic Method** *(type analysis & rationale)*: **2d.5 Testing Results** *(e.g., frequency, variability, sensitivity analyses)*:	**2d** C☐ P☐ M☐ N☐ NA☐
2e. Risk Adjustment for Outcomes/ Resource Use Measures **2e.1 Data/sample** *(description of data/sample and size)*: **2e.2 Analytic Method** *(type of risk adjustment, analysis, & rationale)*: **2e.3 Testing Results** *(risk model performance metrics)*: **2e.4 If outcome or resource use measure is not risk adjusted, provide rationale:**	**2e** C☐ P☐ M☐ N☐ NA☐
2f. Identification of Meaningful Differences in Performance **2f.1 Data/sample from Testing or Current Use** *(description of data/sample and size)*: **2f.2 Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)*: **2f.3 Provide Measure Scores from Testing or Current Use** *(description of scores, e.g., distribution by*	**2f** C☐ P☐ M☐ N☐

quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance):	
2g. Comparability of Multiple Data Sources/Methods 2g.1 **Data/sample** *(description of data/sample and size)*: Some items based off the 2003 National Survey of Children's Health. 2g.2 **Analytic Method** *(type of analysis & rationale)*: 2g.3 **Testing Results** *(e.g., correlation statistics, comparison of rankings)*: The following items are comparable to the 2003 National Survey of Children's Health: -Number of school days missed due to illness -Proportion of children who have a personal doctor or nurse -Proportion of children who are overweight or obese (based on parent report of BMI status) -Proportion of children who have received preventive medical visits -Proportion of chidlren who are engaged in regular physical activity -Proportion of children who have special health care needs	**2g** C☐ P☐ M☐ N☐ NA☐
2h. Disparities in Care 2h.**1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)*: 2h.2 **If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:**	**2h** C☐ P☐ M☐ N☐ NA☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Scientific Acceptability of Measure Properties*?	**2**
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties*, **met?** **Rationale:**	*2* C☐ P☐ M☐ N☐
3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)	Eval Rating
3a. Meaningful, Understandable, and Useful Information 3a.1 **Current Use:** in use 3a.2 **Use in a public reporting initiative (disclosure of performance results to the public at large)** (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*): U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. The Health and Well-Being of Children: A Portrait of States and the Nation 2007. Chartbook based on data from the 2007 National Survey of Children's Health. 3a.3 **If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years*): U.S. Department of Health and Human Services. Healthy People 2010. Conference Edition. Washington, DC. 2000. U.S. Department of Health and Human Services. Healthy People 2020.	**3a** C☐ P☐ M☐ N☐

http://www.healthypeople.gov/HP2020/. **Testing of Interpretability** (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*) 3a.4 **Data/sample** *(description of data/sample and size)*: Focus groups were held with numerous stakeholder groups—family advocates, clinicians, Title V leaders, researchers—to obtain feedback on report formats. The Child and Adolescent Health Measurement Initiative led the focus groups and developed reports in accordance with a general consumer information framework. Additional focus groups were held when preparing data and reports for display on the Data Resource Center website. The Data Resource Center executive committee also reviewed report formats for interpretability and applicability. 3a.5 **Methods** *(e.g., focus group, survey, QI project)*: Focus groups 3a.6 **Results** *(qualitative and/or quantitative results and conclusions)*: The Data Resource Center websites have been accessed more than 18 million times since 2006. Thousands of state and national researchers, MCH providers and analysts use the data to report valid children's health data. Healthy People 2010 uses items from the national surveys, and several more are slated to be added into Healthy People 2020.	
3b/3c. Relation to other NQF-endorsed measures 3b.1 **NQF # and Title of similar or related measures:**	
(for NQF staff use) **Notes on similar/related** endorsed **or submitted measures:**	
3b. Harmonization If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population): 3b.2 **Are the measure specifications harmonized? If not, why?**	**3b** C☐ P☐ M☐ N☐ NA☐
3c. Distinctive or Additive Value 3c.1 **Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:** 5.1 **Competing Measures If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), describe why it is a more valid or efficient way to measure quality:**	**3c** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Usability*?	**3**
Steering Committee: Overall, to what extent was the criterion, *Usability*, **met?** **Rationale:**	**3** C☐ P☐ M☐ N☐
4. FEASIBILITY	
Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	Eval Ratin

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4a. Data Generated as a Byproduct of Care Processes 4a.1-2 **How are the data elements that are needed to compute measure scores generated?** Survey,	**4a** C☐ P☐ M☐ N☐
4b. Electronic Sources 4b.1 **Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*) Yes 4b.2 **If not, specify the near-term path to achieve electronic capture by most providers.**	**4b** C☐ P☐ M☐ N☐
4c. Exclusions 4c.1 **Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** No 4c.2 **If yes, provide justification.**	**4c** C☐ P☐ M☐ N☐ NA☐
4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences 4d.1 **Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.**	**4d** C☐ P☐ M☐ N☐
4e. Data Collection Strategy/Implementation 4e.1 **Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues:** 4e.2 **Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** All items are public domain. Costs of implementing survey items will vary depending on sample size, population and sampling frame. 4e.3 **Evidence for costs:** 4e.4 **Business case documentation:**	**4e** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Feasibility*?	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility*, **met?** **Rationale:**	**4** C☐ P☐ M☐ N☐
RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited** ☐

Steering Committee: Do you recommend for endorsement? **Comments:**	**Y☐** **N☐** **A☐**

CONTACT INFORMATION

Co.1 Measure Steward (Intellectual Property Owner)
Co.1 Organization
Child and Adolescent Health Measurement Initiative on behalf of the Maternal and Child Health Bureau | Oregon Health & Science University , 707 SW Gaines Street | Portland | Oregon | 97239

Co.2 Point of Contact
Christina | Bethell , Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892

Measure Developer If different from Measure Steward
Co.3 Organization
Maternal and Child Health Bureau | Parklawn Building Room 18-05, 5600 Fishers Lane | Rockville | Maryland | 20857

Co.4 Point of Contact
Christina | Bethell, Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892

Co.5 Submitter If different from Measure Steward POC
Christina | Bethell , Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892- |Child and Adolescent Health Measurement Initiative on behalf of the Maternal and Child Health Bureau

Co.6 Additional organizations that sponsored/participated in measure development
The Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Dept of Health & Human Services.
The National Center of Health Statistics, Centers for Disease Control and Prevention.

ADDITIONAL INFORMATION

Workgroup/Expert Panel involved in measure development
Ad.1 Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.

Ad.2 If adapted, provide name of original measure:
Ad.3-5 If adapted, provide original specifications URL or attachment

Measure Developer/Steward Updates and Ongoing Maintenance
Ad.6 Year the measure was first released: 2007
Ad.7 Month and Year of most recent revision: 2007-04
Ad.8 What is your frequency for review/update of this measure? Every 4 years when a new National Survey of Children's Health is administered
Ad.9 When is the next scheduled review/update for this measure? 2011-01

Ad.10 Copyright statement/disclaimers: CAHMI- The Child and Adolescent Health Measurement Initiative.

Ad.11 -13 Additional Information web page URL or attachment:

Date of Submission (*MM/DD/YY*)**:** 04/06/2010

NATIONAL QUALITY FORUM

Measure Evaluation 4.1
January 2010

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The sub-criteria and most of the footnotes from the evaluation criteria are provided in Word comments and will appear if your cursor is over the highlighted area (or in the margin if your Word program is set to show revisions in balloons). Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all yellow highlighted areas of the form. Evaluate the extent to which each sub-criterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the* sub-criteria *(yellow highlighted areas)*.

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the sub-criterion, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few sub-criteria as indicated)

(for NQF staff use) **NQF Review** #: OT3-034-10 **NQF Project:** Patient Outcomes Measures: Child Health and Mental Health (Phase III)
MEASURE DESCRIPTIVE INFORMATION
De.1 Measure Title: National Survey of Children with Special Health Care Needs 2005/2006--Quality Measures
De.2 Brief description of measure*:* The National Survey of Children with Special Health Care Needs (NS-CSHCN) is a population-based survey designed to assess how well the nation and each state (plus the District of Columbia) meet the Maternal and Child Health Bureau's strategic plan goals and national performance measures specifically for children with special health care needs (CSHCN). The questions address a variety of physical, emotional, and behavioral health indicators and measures of children's health experiences with the health care system, and 10 of these measures are directly focused on children's healthcare quality.
1.1-2 Type of Measure: outcome **De.3 If included in a composite or paired with another measure, please identify composite or paired measure**
De.4 National Priority Partners Priority Area: population health **De.5 IOM Quality Domain**: effectiveness **De.6 Consumer Care Need:** Living With Illness

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* **A.1 Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes **A.2 Indicate if Proprietary Measure** (*as defined in measure steward agreement*)**:**	**A** **Y☐** **N☐**

A.3 Measure Steward Agreement: agreement signed and submitted **A.4 Measure Steward Agreement attached:** 2-2-2010 NQF Agreement Form for new measures-634006394965591240.pdf	
B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every 3 years. Yes, information provided in contact section	**B** **Y☐** **N☐**
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** public reporting, quality improvement 0,0,0,	**C** **Y☐** **N☐**
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 12 months of endorsement. **D.1Testing:** Yes, fully developed and tested **D.2 Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** **Y☐** **N☐**
(for NQF staff use) **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	**Met** **Y☐** **N☐**
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. *Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	Eval Rating
(for NQF staff use) Specific NPP goal:	
1a.1 Demonstrated High Impact Aspect of Healthcare: affects large numbers, patient/societal consequences of poor quality **1a.2** **1a.3 Summary of Evidence of High Impact:** These quality measures help the Maternal and Child Health Bureau (MCHB) to provide national leadership for maternal and child health and the data are used to: promote an environment that supports maternal and child health; eliminate health barriers and disparities; improve the health infrastructure and systems of care; assure quality care; work with states and communities to plan and implement policies and programs to improve the social, emotional, and physical environments; and acquire the best available evidence to develop and promote guidelines and practices to assure social, emotional, and physical environments that support the health and well-being of women and CSHCN. The results from the NS-CSHCN support these goals by providing an objective basis for Federal and state program planning and evaluation efforts. **1a.4 Citations for Evidence of High Impact:** Blumberg SJ, Welch EM, Chowdhury SR, Upchurch HL, Parker EK, Skalland BJ. Design and operation of the National Survey of Children with Special Health Care Needs, 2005–2006. National Center for Health Statistics. Vital Health Stat 1(45). 2008.	**1a** **C☐** **P☐** **M☐** **N☐**

U.S. Department of Health and Human Services. Healthy People 2010. Conference Edition. Washington, DC. 2000.

1b. Opportunity for Improvement

1b.1 Benefits (improvements in quality) envisioned by use of this measure: The use of these quality measures from the National Survey of Children with Special Health Care Needs helps the MCHB achieve its vision statement "for a society where children are wanted and born with optimal health, receive quality care, and are nurtured lovingly and sensitively as they mature into healthy, productive adults." MCHB also seeks to ensure that ''there is equal access for all to quality health care in a supportive, culturally competent, family and community setting''.

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
Across all states there is a broad range of performance on each of these quality indicators.

1b.3 Citations for data on performance gap:
Child and Adolescent Health Measurement Initiative. 2005/2006 National Survey of Children with Special Health Care Needs, Data Resource Center for Child and Adolescent Health website. www.cshcnhdata.org

1b.4 Summary of Data on disparities by population group:
Numerous indicators in the survey show disparities in quality and system performance for a wide variety of sociodemographic groups.

1b.5 Citations for data on Disparities:
Child and Adolescent Health Measurement Initiative. 2005/2006 National Survey of Children with Special Health Care Needs, Data Resource Center for Child and Adolescent Health website. www.cshcnhdata.org

1b
C☐
P☐
M☐
N☐

1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*)**:** Outcomes are relevant to the target population for purposes of quality improvement. Measurement and receipt of high quality care can only be strenghtened with expansion of evidence based quality indicators.

1c.2-3. Type of Evidence: other (specify) Population based research

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**
All items included in the measure are report of patient experience with healthcare services.

1c.5 Rating of strength/quality of evidence (*also provide narrative description of the rating and by whom***):**

1c.6 Method for rating evidence:

1c.7 Summary of Controversy/Contradictory Evidence:

1c.8 Citations for Evidence (*other than guidelines***):**

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number***):**

1c.10 Clinical Practice Guideline Citation:
1c.11 National Guideline Clearinghouse or other URL:

1c.12 Rating of strength of recommendation (*also provide narrative description of the rating and by whom***):**

1c
C☐
P☐
M☐
N☐

1c.13 Method for rating strength of recommendation (*If different from* USPSTF system*, also describe rating and how it relates to USPSTF)***:** **1c.14 Rationale for using this guideline over others:**	
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Importance to Measure and Report?*	**1**
Steering Committee: Was the threshold criterion, *Importance to Measure and Report***, met?** **Rationale:**	**1** **Y☐** **N☐**
2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	Eval Rating
2a. MEASURE SPECIFICATIONS	
S.1 Do you have a web page where current detailed measure specifications can be obtained? **S.2 If yes, provide web page URL:** **2a. Precisely Specified**	
2a.1 Numerator Statement (*Brief, text description of the numerator - what is being measured about the target population, e.g. target condition, event, or outcome***):** Numerators comprised of 15 individual quality health measures within the 2005/2006 National Survey of Children with Special Health Care Needs. Includes questions about the child's health status, family, and experience with the child's health care providers. **2a.2 Numerator Time Window (***The time period in which cases are eligible for inclusion in the numerator***):** Encounter or point in time. **2a.3 Numerator Details (***All information required to collect/calculate the numerator, including all codes, logic, and definitions***):** Numerators comprised of 15 individual quality health measures within the 2005/2006 National Survey of Children with Special Health Care Needs. -Effects of CSHCN's condition on daily life -Number of school days missed due to illness (CSHCN) -Proportion of CSHCN who have a medical home -Proportion of CSHCN who have a personal doctor or nurse -Proportion of CSHCN who have a usual source for sick and well care -Proportion of CSHCN who have no problems obtaining referrals when needed -Proportion of CSHCN who have family-centered care -Proportion of CSHCN who have effective care coordination when needed -Proportion of CSHCN who have care provided by family -Proportion of CSHCN who have shared decision making in care -Proportion of CSHCN who have adequate insurance -Proportion of CSHCN who are screened early and continuously -Proportion of CSHCN who can easily access services -Proportion of CSHCN who received services for transition to adulthood -Proportion of CSHCN who have unmet healthcare needs	**2a-specs** **C☐** **P☐** **M☐** **N☐**
2a.4 Denominator Statement (*Brief, text description of the denominator - target population being*	

measured):
Children with special health care needs age 0-17 years living in the United States

2a.5 **Target population gender:** Female, Male
2a.6 **Target population age range:** Children age 0-17 years

2a.7 **Denominator Time Window (***The time period in which cases are eligible for inclusion in the denominator***):**
Time window is a fixed period of time.

2a.8 **Denominator Details (***All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions***):**
Main denominator: children with special health care needs age 0-17 years living in the United States. Children are categorized as having special health care needs if they met the minimum criteria of the CSHCN Screener questions (CSHCN1, CSHCN1_A, CSHCN1_B, CSHCN2, CSHCN2_A, CSHCN2_B, CSHCN3, CSHCN3_A, CSHCN3_B, CSHCN4, CSHCN4_A, CSHCN4_B, CSHCN5, CSHCN5_A; see questionnaire for more details).

Numerous domain-specific denominator skip patterns based on age and/or use of services. See the SPSS Codebook for the NS-CSHCN for more details- http://cshcndata.org/ViewDocument.aspx?item=260.

2a.9 **Denominator Exclusions (***Brief text description of exclusions from the target population***):** Main denominator exclusions: if child is not between 0 and 17 years of age and/or does not have special health care needs and/or is not currently living in the United States.
Whether or not child has an ongoing health condition is determined by the copyrighted CSHCN screener.

2a.10 **Denominator Exclusion Details (***All information required to collect exclusions to the denominator, including all codes, logic, and definitions***):**
Main denominator exclusions (parent will not be given survey):
-If child is not between 0 and 17 years of age.
-If child does not meet minimum criteria of the CSHCN Screener questions (and therefore does not qualify as having special health care needs).
-If child is not currently living in the United States.

Domain-specific denominator exclusions: vary based on age and/or use of services.

2a.11 **Stratification Details/Variables (***All information required to stratify the measure including the stratification variables, all codes, logic, and definitions***):**
No stratification is required.

The 2005/2006 NS-CSHCN included a number of child demographic variables that allow for stratification of the findings by possible vulnerability:

- Age
- Gender
- Geographic location- State, HRSA Region, National level Rural Urban Commuter Areas (RUCA)
- Race/ethnicity
- Health insurance- status, type, consistency, adequacy
- Primary household language
- Household income
- Special Health Care Needs- specific types
- Presence of a medical home

2a.12-13 **Risk Adjustment Type:** no risk adjustment necessary

2a.14 **Risk Adjustment Methodology/Variables (***List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method***):**

2a.15-17 **Detailed risk model available Web page URL or attachment:**

2a.18-19 Type of Score: rate/proportion
2a.20 Interpretation of Score: better quality = higher score
2a.21 Calculation Algorithm (*Describe the calculation of the measure as a flowchart or series of steps***):**
Numerators comprised of 15 individual quality health measures within the 2005/2006 National Survey of Children with Special Health Care Needs.
-Effects of CSHCN's condition on daily life (C3Q02, C3Q03)
-Number of school days missed due to illness (C3Q14)
-Proportion of CSHCN who have a medical home (C4Q02a, C6Q02 – C6Q06, S5Q13, S5Q13a, C5Q11, C4Q07, C4Q0a, C4Q0b, C4Q0d, C4Q01, C4Q02, C5Q12, C5Q17, C5Q09, C5Q10, C5Q05, C5Q06)
-Proportion of CSHCN who have a personal doctor or nurse (C4Q02A)
-Proportion of CSHCN who have a usual source for sick and well care (C4Q0A, C4Q0B)
-Proportion of CSHCN who have no problems obtaining referrals when needed (C4Q07, C5Q11)
-Proportion of CSHCN who have family-centered care (C6Q02, C6Q03, C6Q04, C6Q05, C6Q06, S5Q13a)
-Proportion of CSHCN who have effective care coordination when needed (C5Q17, C5Q09, C5Q12)
-Proportion of CSHCN who have care provided by family (C9Q02, C9Q03, C9Q04)
-Proportion of CSHCN who have special health care needs (SHCN1, CSHCN1_A, CSHCN1_B, CSHCN2, CSHCN2_A, CSHCN2_B, CSHCN3, CSHCN3_A, CSHCN3_B, CSHCN4, CSHCN4_A, CSHCN4_B, CSHCN5, CSHCN5_A)
-Proportion of CSHCN who have shared decision making in care (C6Q06 and C6Q0C)
-Proportion of CSHCN who have adequate insurance (C8Q01_A, C8Q01_B, C8Q01_C, UNINS, and UNINS_YR)
-Proportion of CSHCN who are screened early and continuously (C4Q05_X01, C4Q05X01a, C4Q05X01c and C4Q05_X031, C4Q05X031a, C4Q05X031c)
-Proportion of CSHCN who can easily access services (C6Q0D)
-Proportion of CSHCN who received services for transition to adulthood (C6Q07, C6Q0A_B, C6Q0A_C, C6Q0A, C6Q0A_D, C6Q0A_E, C6Q0A_F, C6Q08)
-Proportion of CSHCN who have unmet healthcare needs (C4Q05_01a - C4Q05_14a)

2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**

2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*:
The sample design of the National Survey of CSHCN necessitated two distinct sample types: the state-based main sample and the national referent sample. The main sample was designed to screen all children in the household for special needs, and the interview was conducted only if a child with special health care needs was present in the household. The referent sample was designed as a comparison sample, with the full special needs interview administered whether or not the selected child had special needs.

To accomplish the goal of 750 completed main sample special-needs interviews in each state and the District of Columbia and 6,000 completed referent sample interviews (special needs or nonspecial needs) nationally, telephone numbers were initially selected randomly from the telephone numbers generated for the NIS screening effort.

See the NS-CSHCN Design and Operations Manual for more details:
http://www.cdc.gov/nchs/data/series/sr_01/sr01_045.pdf.

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
Survey: Patient

2a.25 Data source/data collection instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):**
2005/2006 National Survey of Children with Special Health Care Needs

2a.26-28 Data source/data collection instrument reference web page URL or attachment: URL
http://www.cdc.gov/nchs/data/slaits/NSCSHCNIIEnglishQuest.pdf

2a.29-31 Data dictionary/code table web page URL or attachment: URL
http://cshcndata.org/ViewDocument.aspx?item=260

2a.32-35 Level of Measurement/Analysis (*Check the level(s) for which the measure is specified and*

tested) Population: national, Population: regional/network, Population: states **2a.36-37 Care Settings (***Check the setting(s) for which the measure is specified and tested)* Other (specify) Survey was conducted over a telephone **2a.38-41 Clinical Services** (*Healthcare services being measured, check all that apply*) Other Patient experience	
TESTING/ANALYSIS	
2b. Reliability testing **2b.1 Data/sample** *(description of data/sample and size)***:** Qualitative testing of the entire 2005/2006 National Survey of Children with Special Health Care Needs was conducted by the National Center for Health Statistics. They conducted cognitive interviews with the 2005/2006 NS-CSHCN Computer-Assisted Telephone Interview (CATI) to make sure the entire survey instrument was functioning properly. They conducted 590 interviews with CSHCN and 195 referent interviews in the fall of 2004. The questionnaire was then revised and finalized based on feedback from participants in these interviews. **2b.2 Analytic Method** *(type of reliability & rationale, method for testing)***:** Cognitive testing was conducted to test reliability and interpretability of questions across population. **2b.3 Testing Results** *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)***:** The Maternal and Child Health Bureau leads the development of the NSCH and NS-CSHCN survey and indicators, in collaboration with the National Center for Health Statistics (NCHS) and a national technical expert panel. The expert panel includes representatives from other federal agencies, state Title V leaders, family organizations, and child health researchers, and experts in all fields related to the surveys (adolescent health, family and neighborhoods, early childhood and development etc.). Previously validated questions and scales are used when available. Extensive literature reviewing and expert reviewing of items is conducted for all aspects of the survey. Respondents' cognitive understanding of the survey questions is assessed during the pretest phase and revisions made as required. All final data components are verified by NCHS and DRC/CAHMI staff prior to public release. Face validity is conducted in comparing results with prior years of the survey and/or results from other implementations of items. No specific reliability results are available for this measure. Please contact the CAHMI if quantitative measures are needed.	**2b** C☐ P☐ M☐ N☐
2c. Validity testing **2c.1 Data/sample** *(description of data/sample and size)***:** 590 interviews with CSHCN and 195 referant interviews were conducted in the fall of 2004 **2c.2 Analytic Method** *(type of validity & rationale, method for testing)***:** Cognitive testing was conducted with 590 parents of children with special health care needs, ages 0-17 years (interviews conducted over the phone with residential households). An additional 195 referant interviews were conducted with parents who did not have a child with special health care needs. **2c.3 Testing Results** *(statistical results, assessment of adequacy in the context of norms for the test conducted)***:** Parents who participated in the pretest interview completed the entire questionnaire and provided feedback with any issues they encountered with individual survey items. Interviewers added their own observations of the parents' reactions during the interview. Face validity is conducted in comparing results with prior years of the survey and/or results from other implementations of items. Please see the references section for peer-reviewed articles which have used these items. Peer-reviewed papers generally undertake their own validity testing in order to meet strict peer review standards.	**2c** C☐ P☐ M☐ N☐
2d. Exclusions Justified **2d.1 Summary of Evidence supporting exclusion(s):**	**2d** C☐ P☐

2d.2 Citations for Evidence: **2d.3 Data/sample** *(description of data/sample and size)*: **2d.4 Analytic Method** *(type analysis & rationale)*: **2d.5 Testing Results** *(e.g., frequency, variability, sensitivity analyses)*:	**M☐** **N☐** **NA☐**
2e. Risk Adjustment for Outcomes/ Resource Use Measures **2e.1 Data/sample** *(description of data/sample and size)*: **2e.2 Analytic Method** *(type of risk adjustment, analysis, & rationale)*: **2e.3 Testing Results** *(risk model performance metrics)*: **2e.4 If outcome or resource use measure is not risk adjusted, provide rationale:**	**2e** **C☐** **P☐** **M☐** **N☐** **NA☐**
2f. Identification of Meaningful Differences in Performance **2f.1 Data/sample from Testing or Current Use** *(description of data/sample and size)*: **2f.2 Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)*: **2f.3 Provide Measure Scores from Testing or Current Use** *(description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)*:	**2f** **C☐** **P☐** **M☐** **N☐**
2g. Comparability of Multiple Data Sources/Methods **2g.1 Data/sample** *(description of data/sample and size)*: Some items based off the 2001 National Survey of Children with Special Health Care Needs. **2g.2 Analytic Method** *(type of analysis & rationale)*: **2g.3 Testing Results** *(e.g., correlation statistics, comparison of rankings)*:	**2g** **C☐** **P☐** **M☐** **N☐** **NA☐**
2h. Disparities in Care **2h.1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)*: **2h.2 If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:**	**2h** **C☐** **P☐** **M☐** **N☐** **NA☐**
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Scientific Acceptability of Measure Properties*?	**2**
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties*, **met?**	*2* **C☐**

Rationale:	**P☐ M☐ N☐**
3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)	Eval Rating
3a. Meaningful, Understandable, and Useful Information 3a.1 **Current Use:** in use 3a.2 **Use in a public reporting initiative (disclosure of performance results to the public at large)** (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*)**:** U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. The 2006/2006 National Survey of Children with Special Health Care Needs Chartbook. Information at http://mchb.hrsa.gov/cshcn05/. 3a.3 **If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years***):** U.S. Department of Health and Human Services. Healthy People 2010. Conference Edition. Washington, DC. 2000. U.S. Department of Health and Human Services. Healthy People 2020. http://www.healthypeople.gov/HP2020/. **Testing of Interpretability** (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*) 3a.4 **Data/sample** *(description of data/sample and size)***:** Focus groups were held with numerous stakeholder groups—family advocates, clinicians, Title V leaders, researchers—to obtain feedback on report formats. The Child and Adolescent Health Measurement Initiative led the focus groups and developed reports in accordance with a general consumer information framework. Additional focus groups were held when preparing data and reports for display on the Data Resource Center website. The Data Resource Center executive committee also reviewed report formats for interpretability and applicability. 3a.5 **Methods** *(e.g., focus group, survey, QI project)***:** Focus groups 3a.6 **Results** *(qualitative and/or quantitative results and conclusions)***:** The Data Resource Center websites have been accessed more than 18 million times since 2006. Thousands of state and national researchers, MCH providers and analysts use the data to report valid children's health data. Healthy People 2010 uses items from the national surveys, and several more are slated to be added into Healthy People 2020.	**3a C☐ P☐ M☐ N☐**
3b/3c. Relation to other NQF-endorsed measures 3b.1 **NQF # and Title of similar or related measures:**	
(for NQF staff use) **Notes on similar/related** endorsed **or submitted measures:**	
3b. Harmonization If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population):	**3b C☐ P☐**

3b.2 **Are the measure specifications harmonized? If not, why?**	**M☐ N☐ NA☐**
3c. Distinctive or Additive Value 3c.1 **Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:** 5.1 **Competing Measures If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), describe why it is a more valid or efficient way to measure quality:**	**3c C☐ P☐ M☐ N☐**
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Usability?*	**3**
Steering Committee: Overall, to what extent was the criterion, *Usability*, **met?** **Rationale:**	**3 C☐ P☐ M☐ N☐**
4. FEASIBILITY	
Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	Eval Rating
4a. Data Generated as a Byproduct of Care Processes 4a.1-2 **How are the data elements that are needed to compute measure scores generated?** Survey,	**4a C☐ P☐ M☐ N☐**
4b. Electronic Sources 4b.1 **Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*) Yes 4b.2 **If not, specify the near-term path to achieve electronic capture by most providers.**	**4b C☐ P☐ M☐ N☐**
4c. Exclusions 4c.1 **Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** No 4c.2 **If yes, provide justification.**	**4c C☐ P☐ M☐ N☐ NA☐**
4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences 4d.1 **Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.**	**4d C☐ P☐ M☐ N☐**
4e. Data Collection Strategy/Implementation 4e.1 **Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation**	**4e C☐ P☐ M☐ N☐**

issues: 4e.2 **Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** All items are public domain. Costs of implementing survey items will vary depending on sample size, population and sampling frame. 4e.3 **Evidence for costs:** 4e.4 **Business case documentation:**	
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Feasibility*?	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility*, **met?** **Rationale:**	**4** **C☐** **P☐** **M☐** **N☐**
RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited ☐**
Steering Committee: Do you recommend for endorsement? **Comments:**	**Y☐** **N☐** **A☐**

CONTACT INFORMATION

Co.1 **Measure Steward (Intellectual Property Owner)**
Co.1 **Organization**
Child and Adolescent Health Measurement Initiative on behalf of the Maternal and Child Health Bureau | Oregon Health & Science University, 707 SW Gaines Street | Portland | Oregon | 97239

Co.2 **Point of Contact**
Christina | Bethell, Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892

Measure Developer If different from Measure Steward
Co.3 **Organization**
Maternal and Child Health Bureau | Parklawn Building Room 18-05, 5600 Fishers Lane | Rockville | Maryland | 20857

Co.4 **Point of Contact**
Christina | Bethell, Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892

Co.5 **Submitter If different from Measure Steward POC**
Christina | Bethell, Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892- |Child and Adolescent Health Measurement Initiative on behalf of the Maternal and Child Health Bureau

Co.6 **Additional organizations that sponsored/participated in measure development**
The Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Dept of Health & Human Services.
The National Center of Health Statistics, Centers for Disease Control and Prevention.

ADDITIONAL INFORMATION

Workgroup/Expert Panel involved in measure development
Ad.1 **Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.**

Ad.2 **If adapted, provide name of original measure:** Ad.3-5 **If adapted, provide original specifications URL or attachment**
Measure Developer/Steward Updates and Ongoing Maintenance Ad.6 **Year the measure was first released:** 2005 Ad.7 **Month and Year of most recent revision:** 2005-04 Ad.8 **What is your frequency for review/update of this measure?** Every 4 years when a new National Survey of Children with Special Health Care needs is implemented Ad.9 **When is the next scheduled review/update for this measure?** 2009-10
Ad.10 **Copyright statement/disclaimers:** CAHMI- The Child and Adolescent Health Measurement Initiative.
Ad.11 -13 **Additional Information web page URL or attachment:**
Date of Submission (*MM/DD/YY*)**:** 04/06/2010

NATIONAL QUALITY FORUM

Measure Evaluation 4.1
January 2010

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The sub-criteria and most of the footnotes from the evaluation criteria are provided in Word comments and will appear if your cursor is over the highlighted area (or in the margin if your Word program is set to show revisions in balloons). Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all yellow highlighted areas of the form. Evaluate the extent to which each sub-criterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the* sub-criteria *(yellow highlighted areas)*.

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the sub-criterion, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few sub-criteria as indicated)

(for NQF staff use) **NQF Review** #: OT3-035-10 **NQF Project:** Patient Outcomes Measures: Child Health and Mental Health (Phase III)
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Children Who Take Medication for ADHD, Emotional, or Behavioral Issues
De.2 **Brief description of measure***:* Children age 2-17 who take medication(s) for ADHD, emotional or other behavioral issues
1.1-2 **Type of Measure:** outcome De.3 **If included in a composite or paired with another measure, please identify composite or paired measure**
De.4 **National Priority Partners Priority Area:** population health De.5 **IOM Quality Domain**: effectiveness De.6 **Consumer Care Need:** Living With Illness

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* A.1 **Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes A.2 **Indicate if Proprietary Measure** (*as defined in measure steward agreement*)**:** A.3 **Measure Steward Agreement:** agreement signed and submitted A.4 **Measure Steward Agreement attached:** 2-2-2010 NQF Agreement Form for new measures-634006395910428943.pdf	**A** **Y**☐ **N**☐

B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every 3 years. Yes, information provided in contact section	**B** Y☐ N☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** public reporting, quality improvement 0,0,0,	**C** Y☐ N☐
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 12 months of endorsement. D.1**Testing:** Yes, fully developed and tested D.2 **Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** Y☐ N☐
(for NQF staff use**)** **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	**Met** Y☐ N☐
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. *Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	Eval Rating
(for NQF staff use) Specific NPP goal:	
1a.1 **Demonstrated High Impact Aspect of Healthcare:** severity of illness 1a.2 1a.3 **Summary of Evidence of High Impact:** ADHD and other emotional/behavioral issues are prevalent among children--nationally, 6.4% of children 2-17 years old currently have ADD or ADHD, and 5.9% of children 0-17 years old qualify as having an ongoing emotional, developmental and/or behavioral health special need. For some, medication is a viable alternative for treatment. 6.2% of children age 2-17 years currently take medication for ADHD, emotional, or behavioral issues. 1a.4 **Citations for Evidence of High Impact:** Child and Adolescent Health Measurement Initiative. 2007 National Survey of Children's Health, Data Resource Center for Child and Adolescent Health website. www.nschdata.org	**1a** C☐ P☐ M☐ N☐
1b. Opportunity for Improvement 1b.1 **Benefits (improvements in quality) envisioned by use of this measure:** Prevalence of ADD and AHDD has increased over the years. Knowing how many children who have been told that they have ADHD and who are currently being managed with medications will help to know at the population level if children who are being managed with medications are performing better in activities or are in better health generally compared with children with ADHD who are not being managed by medications. 1b.2 **Summary of data demonstrating performance gap (variation or overall poor performance) across**	**1b** C☐ P☐ M☐ N☐

providers:
There is a broad range in the proportion of children who currently take medication for ADHD, emotional, or behavioral issues. The range across states is 2.0% of children in Nevada to 10.3% of children living in North Carolina.

1b.3 Citations for data on performance gap:
1. Child and Adolescent Health Measurement Initiative. 2007 National Survey of Children's Health, Data Resource Center for Child and Adolescent Health website. www.nschdata.org
2. Blackman JA, Gurka MJ. Developmental and behavioral comorbidities of asthma in children. Journal of Developmental and Behavioral Pediatrics. 2007;28(2):92-99.
3. Centers for Disease Control and Prevention (CDC). Mental health in the United States: health care and well being of children with chronic emotional, behavioral, or developmental problems--United States, 2001. MMWR Morb Mortal Wkly Rep. 2005;54(39):985-989.
4. Centers for Disease Control and, Prevention. Mental health in the United States. Prevalence of diagnosis and medication treatment for attention-deficit/hyperactivity disorder--United States, 2003. MMWR Morb Mortal Wkly Rep. 2005;54(34):842-847.
5. Gurney JG, McPheeters ML, Davis MM. Parental report of health conditions and health care use among children with and without autism: National Survey of Children's Health. Arch Pediatr Adolesc Med. 2006;160(8):825-830.
6. Visser SN, Lesesne CA, Perou R. National estimates and factors associated with medication treatment for childhood attention-deficit/hyperactivity disorder. Pediatrics. 2007;119 Suppl 1:S99-106.
7. Waring ME, Lapane KL. Overweight in children and adolescents in relation to attention-deficit/hyperactivity disorder: results from a national sample. Pediatrics. 2008;122(1):e1-6.

1b.4 Summary of Data on disparities by population group:

1b.5 Citations for data on Disparities:
1. Child and Adolescent Health Measurement Initiative. 2007 National Survey of Children's Health, Data Resource Center for Child and Adolescent Health website. www.nschdata.org
2. Blackman JA, Gurka MJ. Developmental and behavioral comorbidities of asthma in children. Journal of Developmental and Behavioral Pediatrics. 2007;28(2):92-99.
3. Centers for Disease Control and Prevention (CDC). Mental health in the United States: health care and well being of children with chronic emotional, behavioral, or developmental problems--United States, 2001. MMWR Morb Mortal Wkly Rep. 2005;54(39):985-989.
4. Centers for Disease Control and, Prevention. Mental health in the United States. Prevalence of diagnosis and medication treatment for attention-deficit/hyperactivity disorder--United States, 2003. MMWR Morb Mortal Wkly Rep. 2005;54(34):842-847.
5. Gurney JG, McPheeters ML, Davis MM. Parental report of health conditions and health care use among children with and without autism: National Survey of Children's Health. Arch Pediatr Adolesc Med. 2006;160(8):825-830.
6. Visser SN, Lesesne CA, Perou R. National estimates and factors associated with medication treatment for childhood attention-deficit/hyperactivity disorder. Pediatrics. 2007;119 Suppl 1:S99-106.
7. Waring ME, Lapane KL. Overweight in children and adolescents in relation to attention-deficit/hyperactivity disorder: results from a national sample. Pediatrics. 2008;122(1):e1-6.

1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*)**:** Prevalence of ADD and AHDD has increased over the years. Knowing how many children who have been told that they have ADHD and who are currently being managed with medications will help to know at the population level if children who are being managed with medications are performing better in activities or are in better health generally compared with children with ADHD who are not being managed by medications.

1c.2-3. Type of Evidence: systematic synthesis of research

1c
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1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:** More children who have ADHD and are currently taking medication report being in overall excellent or very good health compared with children who have ADHD and are not currently taking medication (75% vs. 70%). **1c.5 Rating of strength/quality of evidence (***also provide narrative description of the rating and by whom***):** **1c.6 Method for rating evidence:** **1c.7 Summary of Controversy/Contradictory Evidence:** **1c.8 Citations for Evidence (***other than guidelines***):** **1c.9 Quote the Specific guideline recommendation (***including guideline number and/or page number***):** **1c.10 Clinical Practice Guideline Citation:** **1c.11 National Guideline Clearinghouse or other URL:** **1c.12 Rating of strength of recommendation (***also provide narrative description of the rating and by whom***):** **1c.13 Method for rating strength of recommendation** (*If different from* USPSTF system*, also describe rating and how it relates to USPSTF)***:** **1c.14 Rationale for using this guideline over others:**	
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Importance to Measure and Report?*	**1**
Steering Committee: Was the threshold criterion, *Importance to Measure and Report***, met?** **Rationale:**	**1** **Y☐** **N☐**
2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	Eval Rating
2a. MEASURE SPECIFICATIONS	
S.1 Do you have a web page where current detailed measure specifications can be obtained? **S.2 If yes, provide web page URL:** **2a. Precisely Specified**	
2a.1 Numerator Statement (*Brief, text description of the numerator - what is being measured about the target population, e.g. target condition, event, or outcome***):** This measure determines the prevalence of children who currently have ADD/ADHD or other emotional/behavioral condition(s) and are taking medication for that condition. **2a.2 Numerator Time Window (***The time period in which cases are eligible for inclusion in the numerator***):** Encounter or point in time.	**2a-specs** **C☐** **P☐** **M☐** **N☐**

2a.3 Numerator Details (*All information required to collect/calculate the numerator, including all codes, logic, and definitions***):**
All children age 2-17 who in the past 12 months have taken medication for ADHD or other emotional or behavioral issues

2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured***):**
Children age 2-17 years

2a.5 Target population gender: Female, Male
2a.6 Target population age range: Children age 2-17 years

2a.7 Denominator Time Window (*The time period in which cases are eligible for inclusion in the denominator***):**
Denominator window is a fixed point in time.

2a.8 Denominator Details (*All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions***):**
Denominator draws from all children age 2-17 years old. Those who currently have ADHD or other emotional issue are in the final denominator.

2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** Excluded from denominator if
-Child does not fall in target population age range of 2-17 years
-Child has not been told by a doctor that he/she has ADD/ADHD or other emotional/behavioral condition

2a.10 Denominator Exclusion Details (*All information required to collect exclusions to the denominator, including all codes, logic, and definitions***):**

2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions***):**
No stratification is required.

2a.12-13 Risk Adjustment Type: no risk adjustment necessary

2a.14 Risk Adjustment Methodology/Variables (*List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method***):**

2a.15-17 Detailed risk model available Web page URL or attachment:

2a.18-19 Type of Score: rate/proportion
2a.20 Interpretation of Score: better quality = higher score
2a.21 Calculation Algorithm (*Describe the calculation of the measure as a flowchart or series of steps***):**
To receive the numerator of children who currently have ADD/ADHD or other emotional/behavioral condition and are taking medication for that condition, children must take medication for ADD/ADHD (K2Q31D=1) or children must take medications for any other emotional/behavioral condition (K4Q23=1).

2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**

2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*:
Best guideline to follow is the survey methodology used in the 2007 National Survey of Children's Health.

The goal of the NSCH sample design was to generate samples representative of populations of children within each state. An additional goal of the NSCH was to obtain state-specific sample sizes that were sufficiently large to permit reasonably precise estimates of the health characteristics of children in each state.
To achieve these goals, state samples were designed to obtain a minimum of 1,700 completed interviews.

The number of children to be selected in each National Immunization Survey (NIS) estimation area was determined by allocating the total of 1,700 children in the state to each National Immunization Survey (NIS) estimation area within the state in proportion to the total estimated number of households with children in the NIS estimation area. Given this allocation, the number of households that needed to be screened in each NIS estimation area was calculated using the expected proportion of households with children under 18 years of age in the area. Then, the number of telephone numbers that needed to be called was computed using the expected working residential number rate, adjusted for expected nonresponse.

A total of 91,642 interviews were completed from April 2007 to July 2008 for the 2007 National Survey of Children's Health. A random-digit-dialed sample of households with children less than 18 years of age was selected from each of the 50 states and the District of Columbia. One child was randomly selected from all children in each identified household to be the subject of the survey. The respondent was a parent or guardian who knew about the child's health and health care.

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
Survey: Patient

2a.25 Data source/data collection instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):**
2007 National Survey of Children's Health

2a.26-28 Data source/data collection instrument reference web page URL or attachment: URL
ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/slaits/nsch07/1a_Survey_Instrument_English/NSCH_Questionnaire_052109.pdf

2a.29-31 Data dictionary/code table web page URL or attachment: URL
http://nschdata.org/Viewdocument.aspx?item=519

2a.32-35 Level of Measurement/Analysis (*Check the level(s) for which the measure is specified and tested)*
Population: states, Population: national, Population: regional/network

2a.36-37 Care Settings (*Check the setting(s) for which the measure is specified and tested)*
Other (specify) Survey was conducted over a telephone

2a.38-41 Clinical Services (*Healthcare services being measured, check all that apply*)
Other, Behavorial Health: Mental Health Patient report

TESTING/ANALYSIS

2b. Reliability testing

2b.1 Data/sample *(description of data/sample and size)***:** Qualitative testing of the entire 2007 National Survey of Children's Health was conducted by the National Center for Health Statistics. They conducted cognitive interviews with the 2007 NSCH Computer-Assisted Telephone Interview (CATI) to make sure the entire survey instrument was functioning properly. N=640 interviews were completed over 3 days in December 2006. The questionnaire was then revised and finalized based on feedback from participants in these interviews.

2b.2 Analytic Method *(type of reliability & rationale, method for testing)***:**
Cognitive testing was conducted to test reliability and interpretability of questions across population.

2b.3 Testing Results *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)***:**
The Maternal and Child Health Bureau leads the development of the NSCH and NS-CSHCN survey and indicators, in collaboration with the National Center for Health Statistics (NCHS) and a national technical expert panel. The expert panel includes representatives from other federal agencies, state Title V leaders, family organizations, and child health researchers, and experts in all fields related to the surveys (adolescent health, family and neighborhoods, early childhood and development etc.). Previously validated

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questions and scales are used when available. Extensive literature reviewing and expert reviewing of items is conducted for all aspects of the survey. Respondents' cognitive understanding of the survey questions is assessed during the pretest phase and revisions made as required. All final data components are verified by NCHS and DRC/CAHMI staff prior to public release. Face validity is conducted in comparing results with prior years of the survey and/or results from other implementations of items. No specific reliability results are available for this measure. Please contact the CAHMI if quantitative measures are needed.	
2c. Validity testing 2c.1 **Data/sample** *(description of data/sample and size)*: 640 interviews were completed over 3 days in December 2006 2c.2 **Analytic Method** *(type of validity & rationale, method for testing)*: Cognitive testing was conducted with parents of children ages 0-17 years (interviews conducted over the phone with residential households). 2c.3 **Testing Results** *(statistical results, assessment of adequacy in the context of norms for the test conducted)*: Face validity is conducted in comparing results with prior years of the survey and/or results from other implementations of items. Please see the references section for peer-reviewed articles which have used these items. Peer-reviewed papers generally undertake their own validity testing in order to meet strict peer review standards. No issues were noted by parents for the particular "Children who take medication for ADHD, Emotional, or Behavioral Issues" item.	**2c** C☐ P☐ M☐ N☐
2d. Exclusions Justified 2d.1 **Summary of Evidence supporting exclusion(s):** 2d.2 **Citations for Evidence:** 2d.3 **Data/sample** *(description of data/sample and size)*: 2d.4 **Analytic Method** *(type analysis & rationale)*: 2d.5 **Testing Results** *(e.g., frequency, variability, sensitivity analyses)*:	**2d** C☐ P☐ M☐ N☐ NA☐
2e. Risk Adjustment for Outcomes/ Resource Use Measures 2e.1 **Data/sample** *(description of data/sample and size)*: 2e.2 **Analytic Method** *(type of risk adjustment, analysis, & rationale)*: 2e.3 **Testing Results** *(risk model performance metrics)*: 2e.4 **If outcome or resource use measure is not risk adjusted, provide rationale:**	**2e** C☐ P☐ M☐ N☐ NA☐
2f. Identification of Meaningful Differences in Performance 2f.1 **Data/sample from Testing or Current Use** *(description of data/sample and size)*: 2f.2 **Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)*:	**2f** C☐ P☐ M☐ N☐

2f.3 Provide Measure Scores from Testing or Current Use *(description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)***:**	
2g. Comparability of Multiple Data Sources/Methods **2g.1 Data/sample** *(description of data/sample and size)***:** **2g.2 Analytic Method** *(type of analysis & rationale)***:** **2g.3 Testing Results** *(e.g., correlation statistics, comparison of rankings)***:**	**2g** **C☐** **P☐** **M☐** **N☐** **NA☐**
2h. Disparities in Care **2h.1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)***:** **2h.2 If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:**	**2h** **C☐** **P☐** **M☐** **N☐** **NA☐**
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Scientific Acceptability of Measure Properties*?	**2**
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties***, met?** **Rationale:**	*2* **C☐** **P☐** **M☐** **N☐**
3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)	Eval Rating
3a. Meaningful, Understandable, and Useful Information **3a.1 Current Use:** in use **3a.2 Use in a public reporting initiative (disclosure of performance results to the public at large)** (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*)**:** U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. The Health and Well-Being of Children: A Portrait of States and the Nation 2007. Chartbook based on data from the 2007 National Survey of Children's Health. http://mchb.hrsa.gov/nsch07/index.html. **3a.3 If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years***):** The Data Resource Center websites have been accessed more than 18 million times since 2006. Thousands of state and national researchers, MCH providers and analysts use the data to report valid children's health data. **Testing of Interpretability** (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*) **3a.4 Data/sample** *(description of data/sample and size)***:** Focus groups were held with numerous stakeholder groups—family advocates, clinicians, Title V leaders, researchers—to obtain feedback on report	**3a** **C☐** **P☐** **M☐** **N☐**

formats. The Child and Adolescent Health Measurement Initiative led the focus groups and developed reports in accordance with a general consumer information framework. Additional focus groups were held when preparing data and reports for display on the Data Resource Center website. The Data Resource Center executive committee also reviewed report formats for interpretability and applicability. 3a.5 **Methods** *(e.g., focus group, survey, QI project)*: Focus groups 3a.6 **Results** *(qualitative and/or quantitative results and conclusions)*: The Data Resource Center websites have been accessed more than 18 million times since 2006. Thousands of state and national researchers, MCH providers and analysts use the data to report valid children's health data.	
3b/3c. Relation to other NQF-endorsed measures 3b.1 **NQF # and Title of similar or related measures:**	
(for NQF staff use) **Notes on similar/related** endorsed **or submitted measures:**	
3b. Harmonization If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population): 3b.2 **Are the measure specifications harmonized? If not, why?**	**3b** C☐ P☐ M☐ N☐ NA☐
3c. Distinctive or Additive Value 3c.1 **Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:** 5.1 **Competing Measures If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), describe why it is a more valid or efficient way to measure quality:**	**3c** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Usability?*	**3**
Steering Committee: Overall, to what extent was the criterion, *Usability***, met?** **Rationale:**	**3** C☐ P☐ M☐ N☐
4. FEASIBILITY	
Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	Eval Rating
4a. Data Generated as a Byproduct of Care Processes 4a.1-2 **How are the data elements that are needed to compute measure scores generated?** Survey,	**4a** C☐ P☐ M☐ N☐
4b. Electronic Sources 4b.1 **Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*)	**4b** C☐ P☐ M☐

Yes 4b.2 **If not, specify the near-term path to achieve electronic capture by most providers.**	**N☐**
4c. Exclusions 4c.1 **Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** No 4c.2 **If yes, provide justification.**	**4c** **C☐** **P☐** **M☐** **N☐** **NA☐**
4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences 4d.1 **Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.**	**4d** **C☐** **P☐** **M☐** **N☐**
4e. Data Collection Strategy/Implementation 4e.1 **Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues:** Items are well understood and easy to implement. Items yield very low levels of missing values, don't know or refused answers. 4e.2 **Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** All items are public domain. Costs of implementing survey items will vary depending on sample size, population and sampling frame. 4e.3 **Evidence for costs:** 4e.4 **Business case documentation:**	**4e** **C☐** **P☐** **M☐** **N☐**
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Feasibility?*	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility***, met?** **Rationale:**	**4** **C☐** **P☐** **M☐** **N☐**
RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited ☐**
Steering Committee: Do you recommend for endorsement? **Comments:**	**Y☐** **N☐** **A☐**
CONTACT INFORMATION	
Co.1 **Measure Steward (Intellectual Property Owner)** Co.1 **Organization** Child and Adolescent Health Measurement Initiative on behalf of the Maternal and Child Health Bureau | Oregon	

Health & Science University, 707 SW Gaines Street | Portland | Oregon | 97239

Co.2 **Point of Contact**
Christina | Bethell, Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892

Measure Developer If different from Measure Steward
Co.3 **Organization**
Maternal Health and Child Bureau | Parklawn Building Room 18-05, 5600 Fishers Lane | Rockville | Maryland | 20857

Co.4 **Point of Contact**
Christina | Bethell, Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892

Co.5 **Submitter If different from Measure Steward POC**
Christina | Bethell, Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892- |Maternal Health and Child Bureau

Co.6 **Additional organizations that sponsored/participated in measure development**
The Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Dept of Health & Human Services.
The National Center of Health Statistics, Centers for Disease Control and Prevention.

ADDITIONAL INFORMATION

Workgroup/Expert Panel involved in measure development
Ad.1 **Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.**

Ad.2 **If adapted, provide name of original measure:**
Ad.3-5 **If adapted, provide original specifications URL or attachment**

Measure Developer/Steward Updates and Ongoing Maintenance
Ad.6 **Year the measure was first released:** 2007
Ad.7 **Month and Year of most recent revision:** 2007-04
Ad.8 **What is your frequency for review/update of this measure?** Updated every 4 years when a new National Survey of Children's Health is developed
Ad.9 **When is the next scheduled review/update for this measure?** 2011-01

Ad.10 **Copyright statement/disclaimers:** CAHMI- The Child and Adolescent Health Measurement Initiative.

Ad.11 -13 **Additional Information web page URL or attachment:**

Date of Submission (*MM/DD/YY*)**:** 04/06/2010

NATIONAL QUALITY FORUM

Measure Evaluation 4.1
January 2010

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The sub-criteria and most of the footnotes from the evaluation criteria are provided in Word comments and will appear if your cursor is over the highlighted area (or in the margin if your Word program is set to show revisions in balloons). Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all yellow highlighted areas of the form. Evaluate the extent to which each sub-criterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the* sub-criteria *(yellow highlighted areas)*.

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the sub-criterion, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few sub-criteria as indicated)

(for NQF staff use) **NQF Review** #: OT3-037-10 **NQF Project:** Patient Outcomes Measures: Child Health and Mental Health (Phase III)
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Children Living with Illness: The Effects of Condition on Daily Life
De.2 **Brief description of measure***:* This measures the extent to which the conditions of children with special health care needs results in limitations of their daily activities despite health care serivces received.
1.1-2 **Type of Measure:** outcome De.3 **If included in a composite or paired with another measure, please identify composite or paired measure**
De.4 **National Priority Partners Priority Area:** population health De.5 **IOM Quality Domain**: effectiveness De.6 **Consumer Care Need:** Living With Illness

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* A.1 **Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes A.2 **Indicate if Proprietary Measure** (*as defined in measure steward agreement*)**:** A.3 **Measure Steward Agreement:** agreement signed and submitted A.4 **Measure Steward Agreement attached:** 2-2-2010 NQF Agreement Form for new measures-634006397402294395.pdf	**A** **Y** ☐ **N** ☐

B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every 3 years. Yes, information provided in contact section	**B** Y☐ N☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** public reporting, quality improvement 0,0,0,	**C** Y☐ N☐
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 12 months of endorsement. D.1**Testing:** Yes, fully developed and tested D.2 **Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** Y☐ N☐
(for NQF staff use**)** **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	**Met** Y☐ N☐
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. *Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	Eval Rating
(for NQF staff use) Specific NPP goal:	
1a.1 **Demonstrated High Impact Aspect of Healthcare:** severity of illness, affects large numbers 1a.2 1a.3 **Summary of Evidence of High Impact:** Nationally 38.5% of children with special health care needs' health conditions moderately affect their daily activities some of the time, and 24.0% of CSHCN's health conditions consistenly affect their daily activities, oftentimes by a great deal. 1a.4 **Citations for Evidence of High Impact:** Child and Adolescent Health Measurement Initiative. 2005/2206 National Survey of Children with Special Health Care Needs, Data Resource Center for Child and Adolescent Health website. www.cshcndata.org	**1a** C☐ P☐ M☐ N☐
1b. Opportunity for Improvement 1b.1 **Benefits (improvements in quality) envisioned by use of this measure:** Knowing the extent to which conditions affect children will allow new outcomes to be developed. Interventions based solely on diagnoses and medical codes often miss the extent to which there is great intra-condition variation in individual outcomes. 1b.2 **Summary of data demonstrating performance gap (variation or overall poor performance) across providers:** There is a broad range in the proportion of children have health conditions that consistenly affect their daily activities across states. The range across states is 18.4% of children living in Iowa to 30.3% of children	**1b** C☐ P☐ M☐ N☐

living in Oregon.

1b.3 Citations for data on performance gap:
1. Bramlett MD, Read D, Bethell C, Blumberg SJ. Differentiating subgroups of children with special health care needs by health status and complexity of health care needs. Matern Child Health J. 2009;13(2):151-163.
2. Mulvihill BA, Wingate MS, Altarac M, et al. The association of child condition severity with family functioning and relationship with health care providers among children and youth with special health care needs in Alabama. Matern Child Health J. 2005;9(2):S87-97.
3. Okumura MJ, Van Cleave J, Gnanasekaran S, Houtrow A. Understanding factors associated with work loss for families caring for CSHCN. Pediatrics. 2009;124 Suppl 4:S392-8.
4. Baruffi G, Miyashiro L, Prince CB, Heu P. Factors associated with ease of using community-based systems of care for CSHCN in Hawai'i. Matern Child Health J. 2005;9(2):S99-108.

1b.4 Summary of Data on disparities by population group:
CSHCN living in poverty are over twice as likely to have health conditions that consistenly affect their daily activities (35.1% vs. 15.6%) compared with children living at 400% federal poverty level.

CSHCN without a medical home are twice as likely to have health conditions that consistenly affect their daily activities (30.8% vs. 15.7%) than CSHCN who are receiving care within a medical home.

1b.5 Citations for data on Disparities:
1. Bramlett MD, Read D, Bethell C, Blumberg SJ. Differentiating subgroups of children with special health care needs by health status and complexity of health care needs. Matern Child Health J. 2009;13(2):151-163.
2. Mulvihill BA, Wingate MS, Altarac M, et al. The association of child condition severity with family functioning and relationship with health care providers among children and youth with special health care needs in Alabama. Matern Child Health J. 2005;9(2):S87-97.
3. Okumura MJ, Van Cleave J, Gnanasekaran S, Houtrow A. Understanding factors associated with work loss for families caring for CSHCN. Pediatrics. 2009;124 Suppl 4:S392-8.
4. Baruffi G, Miyashiro L, Prince CB, Heu P. Factors associated with ease of using community-based systems of care for CSHCN in Hawai'i. Matern Child Health J. 2005;9(2):S99-108.

1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*)**:** Funtioning difficulties and effects on daily life are correlated with lower outcomes on other health access and lifestyle measures. Further work should be done to assess whether children with different coditions but a similar level of daily life affected are similiar or dissimiliar on other measures.

1c.2-3. Type of Evidence: systematic synthesis of research

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**

1c.5 Rating of strength/quality of evidence (*also provide narrative description of the rating and by whom***):**

1c.6 Method for rating evidence:

1c.7 Summary of Controversy/Contradictory Evidence:

1c.8 Citations for Evidence (*other than guidelines***):**

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number***):**

1c
C ☐
P ☐
M ☐
N ☐

1c.10 Clinical Practice Guideline Citation: **1c.11 National Guideline Clearinghouse or other URL:** **1c.12 Rating of strength of recommendation (***also provide narrative description of the rating and by whom***):** **1c.13 Method for rating strength of recommendation** (*If different from* USPSTF system*, also describe rating and how it relates to USPSTF)*: **1c.14 Rationale for using this guideline over others:**	
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Importance to Measure and Report?*	**1**
Steering Committee: Was the threshold criterion, *Importance to Measure and Report***, met?** **Rationale:**	**1** **Y☐** **N☐**
2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	Eval Rating
2a. MEASURE SPECIFICATIONS	
S.1 Do you have a web page where current detailed measure specifications can be obtained? **S.2 If yes, provide web page URL:** **2a. Precisely Specified**	
2a.1 Numerator Statement (*Brief, text description of the numerator - what is being measured about the target population, e.g. target condition, event, or outcome***):** Daily activities consistently affected, often a great deal **2a.2 Numerator Time Window (***The time period in which cases are eligible for inclusion in the numerator***):** Encounter or point in time. **2a.3 Numerator Details (***All information required to collect/calculate the numerator, including all codes, logic, and definitions***):** For a child to be included in the target numerator, the child's activities must be usually/always limited (C3Q02) and affected a great deal (C3Q03).	
2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured***):** Children age 0-17 who have special health care needs **2a.5 Target population gender:** Female, Male **2a.6 Target population age range:** Children age 0-17 **2a.7 Denominator Time Window (***The time period in which cases are eligible for inclusion in the denominator***):** Encounter or point in time data collection. **2a.8 Denominator Details (***All information required to collect/calculate the denominator - the target*	**2a-specs** **C☐** **P☐** **M☐** **N☐**

population being measured - including all codes, logic, and definitions)**:**	
2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** **2a.10 Denominator Exclusion Details (***All information required to collect exclusions to the denominator, including all codes, logic, and definitions***):**	
2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions***):** No stratification is required.	
2a.12-13 Risk Adjustment Type: no risk adjustment necessary **2a.14 Risk Adjustment Methodology/Variables (***List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method***):** **2a.15-17 Detailed risk model available Web page URL or attachment:**	
2a.18-19 Type of Score: categorical **2a.20 Interpretation of Score:** better quality = lower score **2a.21 Calculation Algorithm (***Describe the calculation of the measure as a flowchart or series of steps***):** For a child to be included in the target numerator of daily activities consistently affected, often a great deal from special health care need, the child's activities must be usually/always limited (C3Q02=3) and affected a great deal (C3Q03=1).	
2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**	
2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*:	
2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)***:** Survey: Patient **2a.25 Data source/data collection instrument (***Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):** 2005/2006 National Survey of Children with Special Health Care Needs **2a.26-28 Data source/data collection instrument reference web page URL or attachment:** URL http://www.cdc.gov/nchs/data/slaits/NSCSHCNIIEnglishQuest.pdf **2a.29-31 Data dictionary/code table web page URL or attachment:** URL http://cshcndata.org/ViewDocument.aspx?item=260 **2a.32-35 Level of Measurement/Analysis** (*Check the level(s) for which the measure is specified and tested)* Population: states, Population: national, Population: regional/network **2a.36-37 Care Settings (***Check the setting(s) for which the measure is specified and tested)***:** Other (specify) Survey was conducted over a telephone **2a.38-41 Clinical Services** (*Healthcare services being measured, check all that apply*)	
TESTING/ANALYSIS	
2b. Reliability testing	**2b** **C☐**

2b.1 Data/sample *(description of data/sample and size)*: Qualitative testing of the entire 2005/2006 National Survey of Children with Special Health Care Needs was conducted by the National Center for Health Statistics. They conducted cognitive interviews with the 2005/2006 NS-CSHCN Computer-Assisted Telephone Interview (CATI) to make sure the entire survey instrument was functioning properly. They conducted 590 interviews with CSHCN and 195 referent interviews in the fall of 2004. The questionnaire was then revised and finalized based on feedback from participants in these interviews. **2b.2 Analytic Method** *(type of reliability & rationale, method for testing)*: Cognitive testing was conducted to test reliability and interpretability of questions across population. **2b.3 Testing Results** *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)*: The Maternal and Child Health Bureau leads the development of the NSCH and NS-CSHCN survey and indicators, in collaboration with the National Center for Health Statistics (NCHS) and a national technical expert panel. The expert panel includes representatives from other federal agencies, state Title V leaders, family organizations, and child health researchers, and experts in all fields related to the surveys (adolescent health, family and neighborhoods, early childhood and development etc.). Previously validated questions and scales are used when available. Extensive literature reviewing and expert reviewing of items is conducted for all aspects of the survey. Respondents' cognitive understanding of the survey questions is assessed during the pretest phase and revisions made as required. All final data components are verified by NCHS and DRC/CAHMI staff prior to public release. Face validity is conducted in comparing results with prior years of the survey and/or results from other implementations of items. No specific reliability results are available for this measure. Please contact the CAHMI if quantitative measures are needed.	**P☐ M☐ N☐**
2c. Validity testing **2c.1 Data/sample** *(description of data/sample and size)*: 590 interviews with CSHCN and 195 referent interviews were conducted in the fall of 2004. Face validity is conducted in comparing results with prior years of the survey and/or results from other implementations of items. Please see the references section for peer-reviewed articles which have used these items. Peer-reviewed papers generally undertake their own validity testing in order to meet strict peer review standards. **2c.2 Analytic Method** *(type of validity & rationale, method for testing)*: Cognitive testing was conducted with 590 parents of children with special health care needs, ages 0-17 years (interviews conducted over the phone with residential households). An additional 195 referant interviews were conducted with parents who did not have a child with special health care needs. **2c.3 Testing Results** *(statistical results, assessment of adequacy in the context of norms for the test conducted)*: No issues were noted by parents for the particular "Children Living with Illness: The Effects of Condition on Daily Life" item.	**2c** **C☐ P☐ M☐ N☐**
2d. Exclusions Justified **2d.1 Summary of Evidence supporting exclusion(s):** **2d.2 Citations for Evidence:** **2d.3 Data/sample** *(description of data/sample and size)*: **2d.4 Analytic Method** *(type analysis & rationale)*: **2d.5 Testing Results** *(e.g., frequency, variability, sensitivity analyses)*:	**2d** **C☐ P☐ M☐ N☐ NA☐**
2e. Risk Adjustment for Outcomes/ Resource Use Measures	**2e**

2e.1 **Data/sample** *(description of data/sample and size)*: 2e.2 **Analytic Method** *(type of risk adjustment, analysis, & rationale)*: 2e.3 **Testing Results** *(risk model performance metrics)*: 2e.4 **If outcome or resource use measure is not risk adjusted, provide rationale:**	C☐ P☐ M☐ N☐ NA☐
2f. Identification of Meaningful Differences in Performance 2f.1 **Data/sample from Testing or Current Use** *(description of data/sample and size)*: 2f.2 **Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)*: 2f.3 **Provide Measure Scores from Testing or Current Use** *(description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)*:	**2f** C☐ P☐ M☐ N☐
2g. Comparability of Multiple Data Sources/Methods 2g.1 **Data/sample** *(description of data/sample and size)*: 2g.2 **Analytic Method** *(type of analysis & rationale)*: 2g.3 **Testing Results** *(e.g., correlation statistics, comparison of rankings)*:	**2g** C☐ P☐ M☐ N☐ NA☐
2h. Disparities in Care 2h.**1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)*: 2h.2 **If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:**	**2h** C☐ P☐ M☐ N☐ NA☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Scientific Acceptability of Measure Properties?*	**2**
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties*, **met?** **Rationale:**	*2* C☐ P☐ M☐ N☐
3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)	Eval Rating
3a. Meaningful, Understandable, and Useful Information 3a.1 **Current Use:** in use 3a.2 **Use in a public reporting initiative (disclosure of performance results to the public at large)** (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*):	**3a** C☐ P☐ M☐ N☐

U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. The 2005/2006 National Survey of Children with Special Health Care Needs Chartbook. Information at http://mchb.hrsa.gov/cshcn05/. 3a.3 **If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years***):** The Data Resource Center websites have been accessed more than 18 million times since 2006. Thousands of state and national researchers, MCH providers and analysts use the data to report valid children's health data. **Testing of Interpretability** (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*) 3a.4 **Data/sample** *(description of data/sample and size)***:** Focus groups were held with numerous stakeholder groups—family advocates, clinicians, Title V leaders, researchers—to obtain feedback on report formats. The Child and Adolescent Health Measurement Initiative led the focus groups and developed reports in accordance with a general consumer information framework. Additional focus groups were held when preparing data and reports for display on the Data Resource Center website. The Data Resource Center executive committee also reviewed report formats for interpretability and applicability. 3a.5 **Methods** *(e.g., focus group, survey, QI project)***:** Focus groups 3a.6 **Results** *(qualitative and/or quantitative results and conclusions)***:** The Data Resource Center websites have been accessed more than 18 million times since 2006. Thousands of state and national researchers, MCH providers and analysts use the data to report valid children's health data.	
3b/3c. Relation to other NQF-endorsed measures 3b.1 **NQF # and Title of similar or related measures:**	
(for NQF staff use) **Notes on similar/related** endorsed **or submitted measures:**	
3b. Harmonization If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population): 3b.2 **Are the measure specifications harmonized? If not, why?**	**3b** C☐ P☐ M☐ N☐ NA☐
3c. Distinctive or Additive Value 3c.1 **Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:** 5.1 **Competing Measures If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), describe why it is a more valid or efficient way to measure quality:**	**3c** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Usability?*	**3**
Steering Committee: Overall, to what extent was the criterion, *Usability***, met?** **Rationale:**	**3** C☐ P☐ M☐ N☐
4. FEASIBILITY	

Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	Eval Rating
4a. Data Generated as a Byproduct of Care Processes 4a.1-2 **How are the data elements that are needed to compute measure scores generated?** Survey,	**4a** C☐ P☐ M☐ N☐
4b. Electronic Sources 4b.1 **Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*) Yes 4b.2 **If not, specify the near-term path to achieve electronic capture by most providers.**	**4b** C☐ P☐ M☐ N☐
4c. Exclusions 4c.1 **Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** No 4c.2 **If yes, provide justification.**	**4c** C☐ P☐ M☐ N☐ NA☐
4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences 4d.1 **Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.**	**4d** C☐ P☐ M☐ N☐
4e. Data Collection Strategy/Implementation 4e.1 **Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues:** Items are easy to understand and yield very low numbers of missing cases, don't know or refused answers. 4e.2 **Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** Costs to implement measure will be based on sample size and sampling frame. 4e.3 **Evidence for costs:** 4e.4 **Business case documentation:**	**4e** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Feasibility?*	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility*, **met?** **Rationale:**	**4** C☐ P☐ M☐ N☐
RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited**

	☐
Steering Committee: Do you recommend for endorsement? **Comments:**	**Y**☐ **N**☐ **A**☐

CONTACT INFORMATION

Co.1 Measure Steward (Intellectual Property Owner)
Co.1 Organization
Child and Adolescent Health Measurement Initiative on behalf of the Maternal and Child Health Bureau | Oregon Health & Science University, 707 SW Gaines Street | Portland | Oregon | 97239

Co.2 Point of Contact
Christina | Bethell, Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892

Measure Developer If different from Measure Steward
Co.3 Organization
Maternal and Child Health Bureau | Parklawn Building Room 18-05, 5600 Fishers Lane | Rockville | Maryland | 20857

Co.4 Point of Contact
Christina | Bethell, Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892

Co.5 Submitter If different from Measure Steward POC
Christina | Bethell, Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892- |Maternal and Child Health Bureau

Co.6 Additional organizations that sponsored/participated in measure development
The Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Dept of Health & Human Services.
The National Center of Health Statistics, Centers for Disease Control and Prevention.

ADDITIONAL INFORMATION

Workgroup/Expert Panel involved in measure development
Ad.1 Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.

Ad.2 If adapted, provide name of original measure:
Ad.3-5 If adapted, provide original specifications URL or attachment

Measure Developer/Steward Updates and Ongoing Maintenance
Ad.6 Year the measure was first released: 2005
Ad.7 Month and Year of most recent revision: 2005-04
Ad.8 What is your frequency for review/update of this measure? Every 4 years when a new national survey is developed (NS-CSHCN)
Ad.9 When is the next scheduled review/update for this measure? 2009-10

Ad.10 Copyright statement/disclaimers:

Ad.11 -13 Additional Information web page URL or attachment:

Date of Submission (*MM/DD/YY*)**:** 04/06/2010

NATIONAL QUALITY FORUM

Measure Evaluation 4.1
January 2010

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The sub-criteria and most of the footnotes from the evaluation criteria are provided in Word comments and will appear if your cursor is over the highlighted area (or in the margin if your Word program is set to show revisions in balloons). Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all yellow highlighted areas of the form. Evaluate the extent to which each sub-criterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the* sub-criteria *(yellow highlighted areas)*.

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the sub-criterion, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few sub-criteria as indicated)

(for NQF staff use) **NQF Review** #: OT3-040-10 **NQF Project:** Patient Outcomes Measures: Child Health and Mental Health (Phase III)
MEASURE DESCRIPTIVE INFORMATION
De.1 Measure Title: Children Who Live in Neighborhoods with Certain Essential Amenities
De.2 Brief description of measure*:* This measure creates a count or composite measure designed to assess whether or not children live in neighborhoods which contain elements that are known to have an impact on health status and functioning.
1.1-2 Type of Measure: outcome **De.3 If included in a composite or paired with another measure, please identify composite or paired measure**
De.4 National Priority Partners Priority Area: population health **De.5 IOM Quality Domain**: patient-centered **De.6 Consumer Care Need:** Staying Healthy

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* **A.1 Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes **A.2 Indicate if Proprietary Measure** (*as defined in measure steward agreement*)**:** **A.3 Measure Steward Agreement:** agreement signed and submitted **A.4 Measure Steward Agreement attached:** 2-2-2010 NQF Agreement Form for new measures-634006398978065560.pdf	**A** **Y☐** **N☐**

B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every 3 years. Yes, information provided in contact section	**B** Y☐ N☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** public reporting, quality improvement 0,0,0,	**C** Y☐ N☐
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 12 months of endorsement. D.1**Testing:** Yes, fully developed and tested D.2 **Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** Y☐ N☐
(for NQF staff use**)** **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	**Met** Y☐ N☐
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. *Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	Eval Rating
(for NQF staff use) Specific NPP goal:	
1a.1 **Demonstrated High Impact Aspect of Healthcare:** patient/societal consequences of poor quality 1a.2 1a.3 **Summary of Evidence of High Impact:** Living in neighborhoods with appropriate amenities is essential for all children. Numerous studies have shown the impact on whether or not a neighborhood contains a recreation center and/or parks and therefore offers social and physical recreational outlets for children of all ages. 1a.4 **Citations for Evidence of High Impact:** Child and Adolescent Health Measurement Initiative. 2007 National Survey of Children's Health, Data Resource Center for Child and Adolescent Health website. www.nschdata.org	**1a** C☐ P☐ M☐ N☐
1b. Opportunity for Improvement 1b.1 **Benefits (improvements in quality) envisioned by use of this measure:** Neighborhood amenities (such as sidewalks, parks and recreation centers) have been shown to be associate with increased physical activity among children and to increased health outcomes. 1b.2 **Summary of data demonstrating performance gap (variation or overall poor performance) across providers:** Nationally, only 48.2% of children age 0-17 years live in neighborhoods with sidewalks, a park or playground area, a recreation center and a library.	**1b** C☐ P☐ M☐ N☐

1b.3 Citations for data on performance gap:
1. Bethell C, Simpson L, Stumbo S, Carle AC, Gombojav N. National, state, and local disparities in childhood obesity. Health Aff (Millwood). 2010;29(3):347-356.
2. Singh GK, Kogan MD, Siahpush M, van Dyck PC. Independent and joint effects of socioeconomic, behavioral, and neighborhood characteristics on physical inactivity and activity levels among US children and adolescents. J Community Health. 2008;33(4):206-216.
3. Singh GK, Kogan MD, van Dyck PC. A multilevel analysis of state and regional disparities in childhood and adolescent obesity in the United States. J Community Health. 2008;33(2):90-102.
4. Singh GK, Siahpush M, Kogan MD. Neighborhood socioeconomic conditions, built environments, and childhood obesity. Health Aff (Millwood). 2010;29(3):503-512.

1b.4 Summary of Data on disparities by population group:
Children in low income households (0-99% FPL; 41.8%) are less likely to live in neighborhoods with all four essential amenities, compared to children in high income households (400% FPL and up; 55.2%).

1b.5 Citations for data on Disparities:
1. Bethell C, Simpson L, Stumbo S, Carle AC, Gombojav N. National, state, and local disparities in childhood obesity. Health Aff (Millwood). 2010;29(3):347-356.
2. Singh GK, Kogan MD, Siahpush M, van Dyck PC. Independent and joint effects of socioeconomic, behavioral, and neighborhood characteristics on physical inactivity and activity levels among US children and adolescents. J Community Health. 2008;33(4):206-216.
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4. Singh GK, Siahpush M, Kogan MD. Neighborhood socioeconomic conditions, built environments, and childhood obesity. Health Aff (Millwood). 2010;29(3):503-512.

1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*)**:** The availability of neighborhood amenities within a community may have direct and mediated effects on the health outcomes of children.

1c.2-3. Type of Evidence:

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**
Children who live in neighborhoods with all of the amenities asked about in the survey have a higher rate of overall excellent or very good health (87% vs. 81%)

1c.5 Rating of strength/quality of evidence (*also provide narrative description of the rating and by whom***):**

1c.6 Method for rating evidence:

1c.7 Summary of Controversy/Contradictory Evidence:

1c.8 Citations for Evidence (*other than guidelines***):**

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number***):**

1c.10 Clinical Practice Guideline Citation:
1c.11 National Guideline Clearinghouse or other URL:

1c
C☐
P☐
M☐
N☐

1c.12 **Rating of strength of recommendation (***also provide narrative description of the rating and by whom***):** 1c.13 **Method for rating strength of recommendation** (*If different from* USPSTF system*, also describe rating and how it relates to USPSTF)***:** 1c.14 **Rationale for using this guideline over others:**	
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Importance to Measure and Report?*	**1**
Steering Committee: Was the threshold criterion, *Importance to Measure and Report***, met?** **Rationale:**	**1** **Y☐** **N☐**
2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	Eval Rating
2a. MEASURE SPECIFICATIONS	
S.1 **Do you have a web page where current detailed measure specifications can be obtained?** S.2 **If yes, provide web page URL:** **2a. Precisely Specified**	
2a.1 **Numerator Statement (***Brief, text description of the numerator - what is being measured about the target population, e.g. target condition, event, or outcome***):** Children who live in neighborhoods that contain all four of the amenities: sidewalks or walking paths, a park or playground area, a recreation center or community center, and a library or bookmobile. 2a.2 **Numerator Time Window (***The time period in which cases are eligible for inclusion in the numerator***):** Encounter or point in time. 2a.3 **Numerator Details (***All information required to collect/calculate the numerator, including all codes, logic, and definitions***):** Each neighborhood amenity is asked in a separate question. The answers are simple yes/no to whether or not that amenity is present in the child's neighborhood. To be included in a count variable which highlights children who live in neighborhoods with all four of the amenities, an answer of "yes" must be present for each neighborhood characteristic.	
2a.4 **Denominator Statement (***Brief, text description of the denominator - target population being measured***):** Children age 0-17 years 2a.5 **Target population gender:** Female, Male 2a.6 **Target population age range:** Children age 0-17 years 2a.7 **Denominator Time Window (***The time period in which cases are eligible for inclusion in the denominator***):** No defined time window for denominator--all parents of children 0-17 years are included in the denominator, and the question isn't anchored to a specific point in time. 2a.8 **Denominator Details (***All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions***):**	**2a-specs** **C☐** **P☐** **M☐** **N☐**

All children age 0-17 years old

2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** Excluded from denominator if child does not fall in target population age range of 0-17 years.

2a.10 Denominator Exclusion Details (*All information required to collect exclusions to the denominator, including all codes, logic, and definitions***):**

2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions***):**

2a.12-13 Risk Adjustment Type: no risk adjustment necessary

2a.14 Risk Adjustment Methodology/Variables (*List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method***):**
No stratification is required.

2a.15-17 Detailed risk model available Web page URL or attachment:

2a.18-19 Type of Score: count
2a.20 Interpretation of Score: better quality = higher score
2a.21 Calculation Algorithm (*Describe the calculation of the measure as a flowchart or series of steps***):**
In order for a child to be scored as living in a neighborhood or community that has all four of the amenities, the community must have sidewalks or walking paths (K10Q11=1), a park or playground (K10Q12=1), a recreation center or community center (K10Q13=1), and a library or bookmobile (K10Q14=1).

2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**

2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*:
Best guideline to follow is the survey methodology used in the 2007 National Survey of Children's Health.

The goal of the NSCH sample design was to generate samples representative of populations of children within each state. An additional goal of the NSCH was to obtain state-specific sample sizes that were sufficiently large to permit reasonably precise estimates of the health characteristics of children in each state.
To achieve these goals, state samples were designed to obtain a minimum of 1,700 completed interviews. The number of children to be selected in each NIS estimation area was determined by allocating the total of 1,700 children in the state to each National Immunization Survey (NIS) estimation area within the state in proportion to the total estimated number of households with children in the NIS estimation area. Given this allocation, the number of households that needed to be screened in each NIS estimation area was calculated using the expected proportion of households with children under 18 years of age in the area. Then, the number of telephone numbers that needed to be called was computed using the expected working residential number rate, adjusted for expected nonresponse.

A total of 91,642 interviews were completed from April 2007 to July 2008 for the 2007 National Survey of Children's Health. A random-digit-dialed sample of households with children less than 18 years of age was selected from each of the 50 states and the District of Columbia. One child was randomly selected from all children in each identified household to be the subject of the survey. The respondent was a parent or guardian who knew about the child's health and health care.

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
Survey: Patient

2a.25 Data source/data collection instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):**
2007 National Survey of Children's Health

2a.26-28 Data source/data collection instrument reference web page URL or attachment: URL

ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/slaits/nsch07/1a_Survey_Instrument_English/NSCH_Questionnaire_052109.pdf

2a.29-31 Data dictionary/code table web page URL or attachment: URL
http://nschdata.org/Viewdocument.aspx?item=519

2a.32-35 Level of Measurement/Analysis (*Check the level(s) for which the measure is specified and tested)*
Population: states, Population: national, Population: regional/network

2a.36-37 Care Settings (*Check the setting(s) for which the measure is specified and tested)*
Other (specify) Survey was conducted over a telephone

2a.38-41 Clinical Services (*Healthcare services being measured, check all that apply*)
Other Patient experience

TESTING/ANALYSIS

2b. Reliability testing

2b.1 Data/sample *(description of data/sample and size)***:** Qualitative testing of the entire 2007 National Survey of Children's Health was conducted by the National Center for Health Statistics. They conducted cognitive interviews with the 2007 NSCH Computer-Assisted Telephone Interview (CATI) to make sure the entire survey instrument was functioning properly. N=640 interviews were completed over 3 days in December 2006. The questionnaire was then revised and finalized based on feedback from participants in these interviews.

2b.2 Analytic Method *(type of reliability & rationale, method for testing)***:**
Cognitive testing was conducted to test reliability and interpretability of questions across population.

2b.3 Testing Results *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)***:**
The Maternal and Child Health Bureau leads the development of the NSCH and NS-CSHCN survey and indicators, in collaboration with the National Center for Health Statistics (NCHS) and a national technical expert panel. The expert panel includes representatives from other federal agencies, state Title V leaders, family organizations, and child health researchers, and experts in all fields related to the surveys (adolescent health, family and neighborhoods, early childhood and development etc.). Previously validated questions and scales are used when available. Extensive literature reviewing and expert reviewing of items is conducted for all aspects of the survey. Respondents' cognitive understanding of the survey questions is assessed during the pretest phase and revisions made as required. All final data components are verified by NCHS and DRC/CAHMI staff prior to public release.

Issues noted in reliability testing are that some parents, particularly living in rural communities, were not sure whether "in the community" could mean the nearest town, or applied specifically to a certain mile radius. The question was left intentionally open to interpretation for individuals to decide what is "in your neighborhood and community."

2b
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2c. Validity testing

2c.1 Data/sample *(description of data/sample and size)***:** 640 interviews were completed over 3 days in December 2006

2c.2 Analytic Method *(type of validity & rationale, method for testing)***:**
Cognitive testing was conducted with parents of children ages 0-17 years (interviews conducted over the phone with residential households).

2c.3 Testing Results *(statistical results, assessment of adequacy in the context of norms for the test conducted)***:**
Please see the references section for peer-reviewed articles which have used these items. Peer-reviewed

2c
C☐ P☐ M☐ N☐

papers generally undertake their own validity testing in order to meet strict peer review standards	
2d. Exclusions Justified **2d.1 Summary of Evidence supporting exclusion(s):** **2d.2 Citations for Evidence:** **2d.3 Data/sample** *(description of data/sample and size)***:** **2d.4 Analytic Method** *(type analysis & rationale)***:** **2d.5 Testing Results** *(e.g., frequency, variability, sensitivity analyses)***:**	**2d** **C☐** **P☐** **M☐** **N☐** **NA☐**
2e. Risk Adjustment for Outcomes/ Resource Use Measures **2e.1 Data/sample** *(description of data/sample and size)***:** **2e.2 Analytic Method** *(type of risk adjustment, analysis, & rationale)***:** **2e.3 Testing Results** *(risk model performance metrics)***:** **2e.4 If outcome or resource use measure is not risk adjusted, provide rationale:**	**2e** **C☐** **P☐** **M☐** **N☐** **NA☐**
2f. Identification of Meaningful Differences in Performance **2f.1 Data/sample from Testing or Current Use** *(description of data/sample and size)***:** **2f.2 Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)***:** **2f.3 Provide Measure Scores from Testing or Current Use** *(description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)***:**	**2f** **C☐** **P☐** **M☐** **N☐**
2g. Comparability of Multiple Data Sources/Methods **2g.1 Data/sample** *(description of data/sample and size)***:** **2g.2 Analytic Method** *(type of analysis & rationale)***:** **2g.3 Testing Results** *(e.g., correlation statistics, comparison of rankings)***:**	**2g** **C☐** **P☐** **M☐** **N☐** **NA☐**
2h. Disparities in Care **2h.1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)***:** **2h.2 If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:**	**2h** **C☐** **P☐** **M☐** **N☐** **NA☐**
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Scientific*	**2**

Acceptability of Measure Properties?	
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties*, **met?** **Rationale:**	*2* **C☐** **P☐** **M☐** **N☐**
3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)	Eval Rating
3a. Meaningful, Understandable, and Useful Information **3a.1 Current Use:** in use **3a.2 Use in a public reporting initiative (disclosure of performance results to the public at large)** (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*)**:** U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. The Health and Well-Being of Children: A Portrait of States and the Nation 2007. Chartbook based on data from the 2007 National Survey of Children's Health. http://mchb.hrsa.gov/nsch07/index.html. **3a.3 If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years***):** **Testing of Interpretability** (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*) **3a.4 Data/sample** *(description of data/sample and size)***:**): Focus groups were held with numerous stakeholder groups—family advocates, clinicians, Title V leaders, researchers—to obtain feedback on report formats. The Child and Adolescent Health Measurement Initiative led the focus groups and developed reports in accordance with a general consumer information framework. Additional focus groups were held when preparing data and reports for display on the Data Resource Center website. The Data Resource Center executive committee also reviewed report formats for interpretability and applicability. **3a.5 Methods** *(e.g., focus group, survey, QI project)***:** Focus groups **3a.6 Results** *(qualitative and/or quantitative results and conclusions)***:** The Data Resource Center websites have been accessed more than 18 million times since 2006. Thousands of state and national researchers, MCH providers and analysts use the data to report valid children's health data.	**3a** **C☐** **P☐** **M☐** **N☐**
3b/3c. Relation to other NQF-endorsed measures **3b.1 NQF # and Title of similar or related measures:**	
(for NQF staff use) **Notes on similar/related** endorsed **or submitted measures:**	
3b. Harmonization If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population): **3b.2 Are the measure specifications harmonized? If not, why?**	**3b** **C☐** **P☐** **M☐** **N☐** **NA☐**

3c. Distinctive or Additive Value **3c.1 Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:** **5.1 Competing Measures If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), describe why it is a more valid or efficient way to measure quality:**	**3c** **C☐** **P☐** **M☐** **N☐**
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Usability?*	**3**
Steering Committee: Overall, to what extent was the criterion, *Usability***, met?** **Rationale:**	**3** **C☐** **P☐** **M☐** **N☐**
4. FEASIBILITY	
Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	Eval Rating
4a. Data Generated as a Byproduct of Care Processes **4a.1-2 How are the data elements that are needed to compute measure scores generated?** Survey,	**4a** **C☐** **P☐** **M☐** **N☐**
4b. Electronic Sources **4b.1 Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*) Yes **4b.2 If not, specify the near-term path to achieve electronic capture by most providers.**	**4b** **C☐** **P☐** **M☐** **N☐**
4c. Exclusions **4c.1 Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** No **4c.2 If yes, provide justification.**	**4c** **C☐** **P☐** **M☐** **N☐** **NA☐**
4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences **4d.1 Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.**	**4d** **C☐** **P☐** **M☐** **N☐**
4e. Data Collection Strategy/Implementation **4e.1 Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues:** Items generated very low frequencies of missing, don't know or refused answers…therefore items perform	**4e** **C☐** **P☐** **M☐** **N☐**

well in a general measure. 4e.2 **Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** Costs associated with implementing neighborhood amenities items will vary by sampling frame and sample size. Items are public domain and available at no cost. 4e.3 **Evidence for costs:** 4e.4 **Business case documentation:**	
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Feasibility*?	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility***, met?** **Rationale:**	**4** **C☐** **P☐** **M☐** **N☐**
RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited ☐**
Steering Committee: Do you recommend for endorsement? **Comments:**	**Y☐** **N☐** **A☐**
CONTACT INFORMATION	
Co.1 **Measure Steward (Intellectual Property Owner)** Co.1 **Organization** Child and Adolescent Health Measurement Initiative on behalf of the Maternal and Child Health Bureau | Oregon Health & Science University, 707 SW Gaines Street | Portland | Oregon | 97239 Co.2 **Point of Contact** Christina | Bethell, Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892	
Measure Developer If different from Measure Steward Co.3 **Organization** Maternal Health and Child Bureau | Parklawn Building Room 18-05, 5600 Fishers Lane | Rockville | Maryland | 20857 Co.4 **Point of Contact** Christina | Bethell, Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892	
Co.5 **Submitter If different from Measure Steward POC** Christina | Bethell, Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892- |Maternal Health and Child Bureau	
Co.6 **Additional organizations that sponsored/participated in measure development** The Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Dept of Health & Human Services. The National Center of Health Statistics, Centers for Disease Control and Prevention.	
ADDITIONAL INFORMATION	
Workgroup/Expert Panel involved in measure development Ad.1 **Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.**	

Ad.2 If adapted, provide name of original measure: **Ad.3-5 If adapted, provide original specifications URL or attachment**
Measure Developer/Steward Updates and Ongoing Maintenance **Ad.6 Year the measure was first released:** 2007 **Ad.7 Month and Year of most recent revision:** 2007-04 **Ad.8 What is your frequency for review/update of this measure?** Updated every 4 years when a new National Survey of Children's Health is developed **Ad.9 When is the next scheduled review/update for this measure?** 2011-01
Ad.10 Copyright statement/disclaimers: CAHMI- The Child and Adolescent Health Measurement Initiative.
Ad.11 -13 Additional Information web page URL or attachment:
Date of Submission (*MM/DD/YY*)**:** 04/06/2010

NATIONAL QUALITY FORUM

Measure Evaluation 4.1
January 2010

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The sub-criteria and most of the footnotes from the evaluation criteria are provided in Word comments and will appear if your cursor is over the highlighted area (or in the margin if your Word program is set to show revisions in balloons). Hyperlinks to the evaluation criteria and ratings are provided in each section.

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Note: *If there is no TAP or workgroup, the SC also evaluates the* sub-criteria *(yellow highlighted areas)*.

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Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few sub-criteria as indicated)

(for NQF staff use) **NQF Review** #: OT3-042-10 **NQF Project:** Patient Outcomes Measures: Child Health and Mental Health (Phase III)
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Children Who Receive the Mental Health Care They Need
De.2 **Brief description of measure***:* Percentage of children age 2-17 who have an ongoing condition which would require mental health care who actually have seen a mental health care professional in the past 12 months
1.1-2 **Type of Measure:** outcome De.3 **If included in a composite or paired with another measure, please identify composite or paired measure**
De.4 **National Priority Partners Priority Area:** population health De.5 **IOM Quality Domain**: effectiveness De.6 **Consumer Care Need:** Getting Better

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* A.1 **Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes A.2 **Indicate if Proprietary Measure** (*as defined in measure steward agreement*)**:** A.3 **Measure Steward Agreement:** agreement signed and submitted A.4 **Measure Steward Agreement attached:** 2-2-2010 NQF Agreement Form for new measures-634006403213663452.pdf	**A** **Y** ☐ **N** ☐

B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every 3 years. Yes, information provided in contact section	**B** Y☐ N☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** public reporting, quality improvement 0,0,0,	**C** Y☐ N☐
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 12 months of endorsement. D.1**Testing:** Yes, fully developed and tested D.2 **Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** Y☐ N☐
(for NQF staff use**)** **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	**Met** Y☐ N☐
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. *Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	Eval Rating
(for NQF staff use) Specific NPP goal:	
1a.1 **Demonstrated High Impact Aspect of Healthcare:** patient/societal consequences of poor quality 1a.2 1a.3 **Summary of Evidence of High Impact:** National initiatives such as the U.S. Department of Health and Human Services' Healthy People 2010 have recently begun prioritizing the need to increase the proportion of children with mental disorders that receive mental health care (Objective 18-7). 1a.4 **Citations for Evidence of High Impact:** U.S. Department of Health and Human Services. Healthy People 2010. Conference Edition. Washington, DC. 2000.	**1a** C☐ P☐ M☐ N☐
1b. Opportunity for Improvement 1b.1 **Benefits (improvements in quality) envisioned by use of this measure:** Health care providers, public health professionals and population-based health analysts can all benefit from knowing whether or not children are receiving quality care. Having the ability to recognize the unmet mental health needs of various populations is essential to providing equitable and effective care to all patients across sociodemographic backgrounds. 1b.2 **Summary of data demonstrating performance gap (variation or overall poor performance) across providers:** Only 60.0% of children age 2-17 in the nation who need mental health care are actually receiving that care.	**1b** C☐ P☐ M☐ N☐

1b.3 Citations for data on performance gap:
Child and Adolescent Health Measurement Initiative. 2007 National Survey of Children's Health, Data Resource Center for Child and Adolescent Health website. www.nschdata.org

1b.4 Summary of Data on disparities by population group:
The range of receiving needed mental health care varies across race, with Hispanic children least likely to receive needed care (50.6%) and Multi-racial children most likely to receive needed care (73.8%). Among Hispanic children, children with Spanish as the primary household language are significantly less likely to receive needed mental health care (33.5%) compared to Hispanic children whose primary household language is English (66.2%).

1b.5 Citations for data on Disparities:
Child and Adolescent Health Measurement Initiative. 2007 National Survey of Children's Health, Data Resource Center for Child and Adolescent Health website. www.nschdata.org

1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*)**:** Outcomes are relevant to the target population for purposes of quality improvement. Measurement and receipt of high quality care can only be strenghtened with expansion of evidence based quality indicators. All children who have an ongoing mental, emotional or behavioral condition need immediate access to high quality mental health care.

1c.2-3. Type of Evidence: other (specify) Population based reserach

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**
All items included in the measure are report of patient experience with healthcare services. Healthcare providers who identify patients with an ongoing mental, emotional or behavioral condition may refer their patients to a mental health specialist.

1c.5 Rating of strength/quality of evidence (*also provide narrative description of the rating and by whom***):**

1c.6 Method for rating evidence:

1c.7 Summary of Controversy/Contradictory Evidence:

1c.8 Citations for Evidence (*other than guidelines***):**

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number***):**

1c.10 Clinical Practice Guideline Citation:
1c.11 National Guideline Clearinghouse or other URL:

1c.12 Rating of strength of recommendation (*also provide narrative description of the rating and by whom***):**

1c.13 Method for rating strength of recommendation (*If different from* USPSTF system*, also describe rating and how it relates to USPSTF)***:**

1c.14 Rationale for using this guideline over others:

1c
C☐
P☐
M☐
N☐

TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Importance to*

1

Measure and Report?	
Steering Committee: Was the threshold criterion, *Importance to Measure and Report*, **met?** **Rationale:**	**1** **Y☐** **N☐**
2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	Eval Rating
2a. MEASURE SPECIFICATIONS	
S.1 Do you have a web page where current detailed measure specifications can be obtained? **S.2 If yes, provide web page URL:** **2a. Precisely Specified**	
2a.1 Numerator Statement (*Brief, text description of the numerator - what is being measured about the target population, e.g. target condition, event, or outcome***):** Children who have a mental health condition and saw a mental health professional in the past 12 months **2a.2 Numerator Time Window (***The time period in which cases are eligible for inclusion in the numerator***):** Encounter or point in time. **2a.3 Numerator Details (***All information required to collect/calculate the numerator, including all codes, logic, and definitions***):** Children who needed and did not get mental healthcare treatment or counseling; Children who needed and received mental healthcare treatment or counseling	
2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured***):** Main denominator: Children age 2-17 years in the U.S. (this measure has only been officially tested on children in the United States and has not been tested for potential cultural differences among other countries) who are assessed as needing mental health care due to the presence of an ongoing mental health related condition. **2a.5 Target population gender:** Female, Male **2a.6 Target population age range:** Children and adolescents 2-17 years old **2a.7 Denominator Time Window (***The time period in which cases are eligible for inclusion in the denominator***):** Encounter or point in time data collection. This item is anchored in fixed period windows of time, to "the last 12 months or since the child was born" (for children younger than 12 months old). **2a.8 Denominator Details (***All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions***):** For a child to be included in the target denominator of receiving needed mental health care, the child must meet the following criteria: -Child must be at least 24 months old -Child's parent must have reported the child has any kind of emotional, developmental, or behavioral problem for which [he/she] needs treatment or counseling.	
2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** If the child is younger than 24 months of age or if the child's parent does not report the child having any kind of emotional, developmental, or behavioral problem for which [he/she] needs treatment or counseling. **2a.10 Denominator Exclusion Details (***All information required to collect exclusions to the denominator,*	**2a-specs** **C☐** **P☐** **M☐** **N☐**

including all codes, logic, and definitions)**:**

2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions*)**:**
No stratification is required.

2a.12-13 Risk Adjustment Type: no risk adjustment necessary

2a.14 Risk Adjustment Methodology/Variables (*List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method*)**:**

2a.15-17 Detailed risk model available Web page URL or attachment:

2a.18-19 Type of Score: rate/proportion
2a.20 Interpretation of Score: better quality = higher score
2a.21 Calculation Algorithm (*Describe the calculation of the measure as a flowchart or series of steps*)**:**
If the child's parent reports the child having any kind of emotional, developmental, or behavioral problem for which [he/she] needs treatment or counseling (K2Q22=1) and the child's parent reports the child receiving any treatment or counseling from a mental health professional (K4Q22=1), the measure is scored as the child receiving needed mental healthcare.

If K2Q22=1 and K4Q22=0 (the child's parent reported that the child did not receive any treatment or counseling from a mental health professional), the measure is scored as the child not receiving needed mental healthcare.

2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**

2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*:
The following is a brief rendering of the survey methodology used in the 2007 National Survey of Children's Health:

The goal of the NSCH sample design was to generate samples representative of populations of children within each state. An additional goal of the NSCH was to obtain state-specific sample sizes that were sufficiently large to permit reasonably precise estimates of the health characteristics of children in each state.
To achieve these goals, state samples were designed to obtain a minimum of 1,700 completed interviews. The number of children to be selected in each National Immunization Survey (NIS) estimation area was determined by allocating the total of 1,700 children in the state to each NIS estimation area within the state in proportion to the total estimated number of households with children in the NIS estimation area. Given this allocation, the number of households that needed to be screened in each NIS estimation area was calculated using the expected proportion of households with children under 18 years of age in the area. Then, the number of telephone numbers that needed to be called was computed using the expected working residential number rate, adjusted for expected nonresponse.

A total of 91,642 interviews were completed from April 2007 to July 2008 for the 2007 National Survey of Children's Health. A random-digit-dialed sample of households with children less than 18 years of age was selected from each of the 50 states and the District of Columbia. One child was randomly selected from all children in each identified household to be the subject of the survey. The respondent was a parent or guardian who knew about the child's health and health care.

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
Survey: Patient

2a.25 Data source/data collection instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.*)**:**
2007 National Survey of Children's Health

2a.26-28 Data source/data collection instrument reference web page URL or attachment: URL
ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/slaits/nsch07/1a_Survey_Instrument_English/NSCH_Questionnaire_052109.pdf

2a.29-31 Data dictionary/code table web page URL or attachment: URL
http://nschdata.org/Viewdocument.aspx?item=519

2a.32-35 Level of Measurement/Analysis (*Check the level(s) for which the measure is specified and tested)*
Population: states, Population: national, Population: regional/network

2a.36-37 Care Settings (*Check the setting(s) for which the measure is specified and tested)*
Other (specify) Survey was conducted over a telephone

2a.38-41 Clinical Services (*Healthcare services being measured, check all that apply*)
Other Clinical experience

TESTING/ANALYSIS

2b. Reliability testing

2b.1 Data/sample *(description of data/sample and size)***:** Qualitative testing of the entire 2007 National Survey of Children's Health was conducted by the National Center for Health Statistics. They conducted cognitive interviews with the 2007 NSCH Computer-Assisted Telephone Interview (CATI) to make sure the entire survey instrument was functioning properly. N=640 interviews were completed over 3 days in December 2006. The questionnaire was then revised and finalized based on feedback from participants in these interviews.

2b.2 Analytic Method *(type of reliability & rationale, method for testing)***:**
Cognitive testing was conducted to test reliability and interpretability of questions across population.

2b.3 Testing Results *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)***:**
The Maternal and Child Health Bureau leads the development of the NSCH and NS-CSHCN survey and indicators, in collaboration with the National Center for Health Statistics (NCHS) and a national technical expert panel. The expert panel includes representatives from other federal agencies, state Title V leaders, family organizations, and child health researchers, and experts in all fields related to the surveys (adolescent health, family and neighborhoods, early childhood and development etc.). Previously validated questions and scales are used when available. Extensive literature reviewing and expert reviewing of items is conducted for all aspects of the survey. Respondents' cognitive understanding of the survey questions is assessed during the pretest phase and revisions made as required. All final data components are verified by NCHS and DRC/CAHMI staff prior to public release. Face validity is conducted in comparing results with prior years of the survey and/or results from other implementations of items. No specific reliability results are available for this measure. Please contact the CAHMI if quantitative measures are needed.

2b
C☐ P☐ M☐ N☐

2c. Validity testing

2c.1 Data/sample *(description of data/sample and size)***:** 640 interviews were completed over 3 days in December 2006

2c.2 Analytic Method *(type of validity & rationale, method for testing)***:**
Cognitive testing was conducted with parents of children ages 0-17 years (interviews conducted over the phone with residential households).

2c.3 Testing Results *(statistical results, assessment of adequacy in the context of norms for the test conducted)***:**
Face validity is conducted in comparing results with prior years of the survey and/or results from other implementations of items. Please see the references section for peer-reviewed articles which have used these items. Peer-reviewed papers generally undertake their own validity testing in order to meet strict

2c
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peer review standards. No issues were noted by parents for the particular "Children Who Receive the Mental Health Care They Need" item.	
2d. Exclusions Justified **2d.1 Summary of Evidence supporting exclusion(s):** **2d.2 Citations for Evidence:** **2d.3 Data/sample** *(description of data/sample and size)***:** **2d.4 Analytic Method** *(type analysis & rationale)***:** **2d.5 Testing Results** *(e.g., frequency, variability, sensitivity analyses)***:**	**2d** **C☐** **P☐** **M☐** **N☐** **NA☐**
2e. Risk Adjustment for Outcomes/ Resource Use Measures **2e.1 Data/sample** *(description of data/sample and size)***:** **2e.2 Analytic Method** *(type of risk adjustment, analysis, & rationale)***:** **2e.3 Testing Results** *(risk model performance metrics)***:** **2e.4 If outcome or resource use measure is not risk adjusted, provide rationale:**	**2e** **C☐** **P☐** **M☐** **N☐** **NA☐**
2f. Identification of Meaningful Differences in Performance **2f.1 Data/sample from Testing or Current Use** *(description of data/sample and size)***:** **2f.2 Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)***:** **2f.3 Provide Measure Scores from Testing or Current Use** *(description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)***:**	**2f** **C☐** **P☐** **M☐** **N☐**
2g. Comparability of Multiple Data Sources/Methods **2g.1 Data/sample** *(description of data/sample and size)***:** **2g.2 Analytic Method** *(type of analysis & rationale)***:** **2g.3 Testing Results** *(e.g., correlation statistics, comparison of rankings)***:**	**2g** **C☐** **P☐** **M☐** **N☐** **NA☐**
2h. Disparities in Care **2h.1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)***:** **2h.2 If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:**	**2h** **C☐** **P☐** **M☐** **N☐** **NA☐**

TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Scientific Acceptability of Measure Properties*?	**2**
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties*, **met?** **Rationale:**	*2* **C☐** **P☐** **M☐** **N☐**
3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)	Eval Rating
3a. Meaningful, Understandable, and Useful Information **3a.1 Current Use:** in use **3a.2 Use in a public reporting initiative (disclosure of performance results to the public at large)** (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*)**:** U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. The Health and Well-Being of Children: A Portrait of States and the Nation 2007. Chartbook based on data from the 2007 National Survey of Children's Health. http://mchb.hrsa.gov/nsch07/index.html. **3a.3 If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years***):** U.S. Department of Health and Human Services. Healthy People 2010. Conference Edition. Washington, DC. 2000. U.S. Department of Health and Human Services. Healthy People 2020. http://www.healthypeople.gov/HP2020/. **Testing of Interpretability** (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*) **3a.4 Data/sample** *(description of data/sample and size)***:** Focus groups were held with numerous stakeholder groups—family advocates, clinicians, Title V leaders, researchers—to obtain feedback on report formats. The Child and Adolescent Health Measurement Initiative led the focus groups and developed reports in accordance with a general consumer information framework. Additional focus groups were held when preparing data and reports for display on the Data Resource Center website. The Data Resource Center executive committee also reviewed report formats for interpretability and applicability. **3a.5 Methods** *(e.g., focus group, survey, QI project)***:** Focus groups **3a.6 Results** *(qualitative and/or quantitative results and conclusions)***:** The Data Resource Center websites have been accessed more than 18 million times since 2006. Thousands of state and national researchers, MCH providers and analysts use the data to report valid children's health data.	**3a** **C☐** **P☐** **M☐** **N☐**
3b/3c. Relation to other NQF-endorsed measures **3b.1 NQF # and Title of similar or related measures:**	

(for NQF staff use) **Notes on similar/related** endorsed **or submitted measures:**	
3b. Harmonization If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population): 3b.2 **Are the measure specifications harmonized? If not, why?**	**3b** C☐ P☐ M☐ N☐ NA☐
3c. Distinctive or Additive Value 3c.1 **Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:** 5.1 **Competing Measures If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), describe why it is a more valid or efficient way to measure quality:**	**3c** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Usability?*	**3**
Steering Committee: Overall, to what extent was the criterion, *Usability*, **met?** **Rationale:**	**3** C☐ P☐ M☐ N☐
4. FEASIBILITY	
Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	Eval Rating
4a. Data Generated as a Byproduct of Care Processes 4a.1-2 **How are the data elements that are needed to compute measure scores generated?** Survey,	**4a** C☐ P☐ M☐ N☐
4b. Electronic Sources 4b.1 **Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*) Yes 4b.2 **If not, specify the near-term path to achieve electronic capture by most providers.**	**4b** C☐ P☐ M☐ N☐
4c. Exclusions 4c.1 **Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** No 4c.2 **If yes, provide justification.**	**4c** C☐ P☐ M☐ N☐ NA☐
4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences 4d.1 **Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.**	**4d** C☐ P☐ M☐

	N☐
4e. Data Collection Strategy/Implementation **4e.1 Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues:** **4e.2 Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** All items are public domain. Costs of implementing survey items will vary depending on sample size, population and sampling frame. **4e.3 Evidence for costs:** **4e.4 Business case documentation:**	**4e** **C☐** **P☐** **M☐** **N☐**
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Feasibility*?	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility***, met?** **Rationale:**	**4** **C☐** **P☐** **M☐** **N☐**
RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited ☐**
Steering Committee: Do you recommend for endorsement? **Comments:**	**Y☐** **N☐** **A☐**
CONTACT INFORMATION	
Co.1 Measure Steward (Intellectual Property Owner) **Co.1 Organization** Child and Adolescent Health Measurement Initiative on behalf of the Maternal and Child Health Bureau | Oregon Health & Science University, 707 SW Gaines Street | Portland | Oregon | 97239 **Co.2 Point of Contact** Christina | Bethell, Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892	
Measure Developer If different from Measure Steward **Co.3 Organization** Maternal and Child Health Bureau | Parklawn Building Room 18-05, 5600 Fishers Lane | Rockville | Maryland | 20857 **Co.4 Point of Contact** Christina | Bethell, Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892	
Co.5 Submitter If different from Measure Steward POC Christina | Bethell, Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892- |Maternal and Child Health Bureau	
Co.6 Additional organizations that sponsored/participated in measure development The Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Dept of Health & Human Services.	

The National Center of Health Statistics, Centers for Disease Control and Prevention.
ADDITIONAL INFORMATION
Workgroup/Expert Panel involved in measure development **Ad.1 Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.**
Ad.2 If adapted, provide name of original measure: **Ad.3-5 If adapted, provide original specifications URL or attachment**
Measure Developer/Steward Updates and Ongoing Maintenance **Ad.6 Year the measure was first released:** 2007 **Ad.7 Month and Year of most recent revision:** 2007-04 **Ad.8 What is your frequency for review/update of this measure?** Every 4 years when a new national survey is developed **Ad.9 When is the next scheduled review/update for this measure?** 2011-01
Ad.10 Copyright statement/disclaimers: CAHMI- The Child and Adolescent Health Measurement Initiative.
Ad.11 -13 Additional Information web page URL or attachment:
Date of Submission (*MM/DD/YY*)**:** 04/06/2010

NATIONAL QUALITY FORUM

Measure Evaluation 4.1
January 2010

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The sub-criteria and most of the footnotes from the evaluation criteria are provided in Word comments and will appear if your cursor is over the highlighted area (or in the margin if your Word program is set to show revisions in balloons). Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all yellow highlighted areas of the form. Evaluate the extent to which each sub-criterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the* sub-criteria *(yellow highlighted areas)*.

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the sub-criterion, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few sub-criteria as indicated)

(for NQF staff use) **NQF Review** #: OT3-048-10 **NQF Project:** Patient Outcomes Measures: Child Health and Mental Health (Phase III)
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Plan of Care for Inadequate Hemodialysis
De.2 **Brief description of measure***:* Percentage of calendar months during the 12 month reporting period in which patients aged 17 years and younger with a diagnosis of ESRD receiving hemodialysis have a single-pool Kt/V >=1.2 or have a single-pool Kt/V <1.2 with a documented plan of care for inadequate hemodialysis
1.1-2 **Type of Measure:** Other (specify) Intermediate Outcome De.3 **If included in a composite or paired with another measure, please identify composite or paired measure**
De.4 **National Priority Partners Priority Area:** safety De.5 **IOM Quality Domain**: effectiveness, equity De.6 **Consumer Care Need:** Living With Illness

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* A.1 **Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes A.2 **Indicate if Proprietary Measure** (*as defined in measure steward agreement*)**:** A.3 **Measure Steward Agreement:** agreement signed and submitted A.4 **Measure Steward Agreement attached:**	**A** **Y** ☐ **N** ☐

B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every 3 years. Yes, information provided in contact section	**B** Y☐ N☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** public reporting, quality improvement Accountability	**C** Y☐ N☐
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 24 months of endorsement. D.1**Testing:** Yes, fully developed and tested D.2 **Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** Y☐ N☐
(for NQF staff use**)** **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	**Met** Y☐ N☐
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. *Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	Eval Rating
(for NQF staff use) Specific NPP goal:	
1a.1 **Demonstrated High Impact Aspect of Healthcare:** patient/societal consequences of poor quality 1a.2 1a.3 **Summary of Evidence of High Impact:** The United States Renal Data System report for 2007 shows that care for pediatric patients with kidney disease is suboptimal. Specifically [1]: • Overall mortality rates in pediatric end stage renal disease patients have not improved. From 1991 to 2005, mortality rates is pediatric prevalent patients have increased 5% to 26.6 per million population. Rates for hemodialysis (57.8) and peritoneal dialysis (42.8) patients are the highest. Mortality rates for transplant patients are 3-4 fold lower than both dialysis modalities. • All-cause hospital admission rates for pediatric end stage renal disease patients was 14% higher in 2005 in comparison to all-cause hospital admissions of adults. Admissions are highest among children age 0-9. Additionally, hospitalizations for infections are higher in children than in adults (46%). Female patients have a higher hospitalization rate than male patients, and there is also differences in hospitalization rates when stratified by ethnicity. 1a.4 **Citations for Evidence of High Impact:** 1] U.S. Renal Data System. USRDS 2007 Annual Data Report: Atlas of Chronic Kidney Disease and End Stage Renal Disease in the United States. National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases. Bethesda, MD. 2007.	**1a** C☐ P☐ M☐ N☐
1b. Opportunity for Improvement	**1b**

1b.1 Benefits (improvements in quality) envisioned by use of this measure: Ensuring that pediatric hemodialysis patients receive adequate dialysis dose may have a positive impact on morbidity and mortality.

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
The 2006 End Stage Renal Disease Clinical Performance Measures Report from the Centers of Medicare and Medicaid Services reports that 12% of pediatric hemodialysis patients had a mean, delivered, calculated, single-session adequacy dose of spKt/V of <1.2. [1]

1b.3 Citations for data on performance gap:
[1] Centers for Medicare & Medicaid Services. 2006 Annual Report, End Stage Renal Disease Clinical Performance Measures Project. Department of Health and Human Services. Centers for Medicare & Medicaid Services, Office of Clinical Standards & Quality. Baltimore, MD. January 2007.

1b.4 Summary of Data on disparities by population group:

1b.5 Citations for data on Disparities:

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1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*)**:** Patients receiving hemodialysis must be monitored (by assessing Kt/V) regularly to ensure that their dialysis dose is sufficient. A patient receiving thrice weekly hemodialysis whose Kt/V is less than 1.2 is not receiving adequate dialysis. This measure assesses whether the treating physician addressed a low Kt/V level. A plan of care (defined as checking for adequacy of the AV access, increasing the blood flow, increasing the dialyzer size, increasing the time of dialysis sessions, increasing the number of days of dialysis, documenting residual renal function, or documenting that patient has an inborn error of metabolism or is undergoing an alternate hemodialysis modality) should be documented by the physician for every time the Kt/V is less than 1.2.

1c.2-3. Type of Evidence: evidence based guideline

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**

1c.5 Rating of strength/quality of evidence (*also provide narrative description of the rating and by whom***):**

1c.6 Method for rating evidence:

1c.7 Summary of Controversy/Contradictory Evidence: None

1c.8 Citations for Evidence (*other than guidelines***):**

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number***):**
Children should receive at least the delivered dialysis dose as recommended for the adult population. (NKF K/DOQI 2006) (Grade A Recommendation)

Guideline Recommendations for Measuring and Expressing Hemodialysis Dose and for Minimally Adequate Hemodialysis in Adults

Quantifying HD is the first step toward assessment of its adequacy. Fortunately, the intermittent rapid decrease in urea concentration during HD allows a relatively easy measurement of the dose. The delivered

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dose should be measured at regular intervals and no less than monthly. (NKF K/DOQI 20061) (Grade A Recommendation) The minimally adequate dose of HD given 3 times per week with Kr less than 2 mL/min/1.73m2 should be an spKt/V (excluding RKF) of 1.2 per dialysis. For treatment times less than 5 hours, an alternative minimum dose is a URR of 65%. (NKF K/DOQI 20061) (Grade A Recommendation) **1c.10 Clinical Practice Guideline Citation:** National Kidney Foundation. K/DOQI Clinical Practice Guidelines for Hemodialysis Adequacy. Update 2006. Available at: http://www.kidney.org/professionals/KDOQI/guidelines.cfm. Accessed: December 2007. **1c.11 National Guideline Clearinghouse or other URL:** **1c.12 Rating of strength of recommendation (***also provide narrative description of the rating and by whom***):** Grade A **1c.13 Method for rating strength of recommendation** (*If different from* USPSTF system*, also describe rating and how it relates to USPSTF)*: Strength of Recommendation: • Grade A: It is strongly recommended that clinicians routinely follow the guideline for eligible patients. There is strong evidence that the practice improves health outcomes. • Grade B: It is recommended that clinicians routinely follow the guideline for eligible patients. There is moderately strong evidence that the practice improves health outcomes. • CPR: It is recommended that clinicians consider the following guideline for eligible patients. The recommendation is based on either weak evidence or on the opinions of the Work Group and reviewers that the practice might improve health outcomes. **1c.14 Rationale for using this guideline over others:** It is the PCPI policy to use guidelines, which are evidence-based , applicable to physicians and other healthcare providers, and developed by a national speciality organization or government agency. In addition, the PCPI has now expanced what is acceptable as the evidence base for measures to included documented quality improvement (QI) initiatives or implementation projects that have demonstrated improvement in the quality of care.	
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Importance to Measure and Report?*	**1**
Steering Committee: Was the threshold criterion, *Importance to Measure and Report***, met?** **Rationale:**	**1** **Y☐** **N☐**
2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	Eval Rating
2a. MEASURE SPECIFICATIONS	
S.1 Do you have a web page where current detailed measure specifications can be obtained? **S.2 If yes, provide web page URL:** **2a. Precisely Specified**	**2a-specs** **C☐** **P☐** **M☐** **N☐**
2a.1 Numerator Statement (*Brief, text description of the numerator - what is being measured about the target population, e.g. target condition, event, or outcome***):** Number of patient calendar months during which patients have a single-pool Kt/V >=1.2 OR have a single-pool Kt/V <1.2 with a documented plan of care for inadequate hemodialysis	

2a.2 Numerator Time Window (*The time period in which cases are eligible for inclusion in the numerator***):**
Number of patient calendar months during the 12 month period

2a.3 Numerator Details (*All information required to collect/calculate the numerator, including all codes, logic, and definitions***):**
*A documented plan of care may include checking for adequacy of the AV access, increasing the blood flow, increasing the dialyzer size, increasing the time of dialysis sessions, increasing the number of days of dialysis, documenting residual renal function, documenting that patient has an inborn error of metabolism or is undergoing an alternate hemodialysis modality.

Number of patient calendar months during which patients have a single-pool Kt/V >=1.2 OR have a single-pool Kt/V <1.2 with a documented plan of care for inadequate hemodialysis

EHR Specifications for this measure are under development

Claims Specifications

Patients documented to have a Kt/V >=1.2:

• 3083F: Kt/V equal to or greater than 1.2 and less than 1.7 (Clearance of urea (Kt)/volume (V))
OR
• 3084F Kt/V greater than or equal to 1.7 (Clearance of urea (Kt)/volume (V))

OR

Patients who have a Kt/V <1.2 with a documented plan of care:

• 3082F: Kt/V less than 1.2 (Clearance of urea (Kt)/volume (V))
AND
• 0505F: Hemodialysis plan of care documented

2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured***):**
Patient calendar months for all patients aged 17 years and younger with a diagnosis of ESRD and receiving hemodialysis

2a.5 Target population gender: Female, Male
2a.6 Target population age range: Aged 17 years and younger

2a.7 Denominator Time Window (*The time period in which cases are eligible for inclusion in the denominator***):**
12 month period

2a.8 Denominator Details (*All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions***):**
EHR specifications for this measure are under development
Claims Specifications
ICD-9-CM Diagnosis Code:
• 585.6- End stage renal disease
AND
CPT Code for a procedure:
• 90951, 90952, 90953, 90954, 90955, 90956, 90957, 90958, 90959

2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** None

2a.10 Denominator Exclusion Details (*All information required to collect exclusions to the denominator, including all codes, logic, and definitions***):**

2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions***):**
Stratification by insurance coverage (commercial, Medicare and Medicaid) is recommended by some implementers.

2a.12-13 Risk Adjustment Type: no risk adjustment necessary

2a.14 Risk Adjustment Methodology/Variables (*List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method***):**

2a.15-17 Detailed risk model available Web page URL or attachment:

2a.18-19 Type of Score: rate/proportion
2a.20 Interpretation of Score: better quality = higher score
2a.21 Calculation Algorithm (*Describe the calculation of the measure as a flowchart or series of steps***):**
See sample calculation algorithm attached

2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**

2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*:

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
Electronic adminstrative data/claims, Survey: Patient, lab data, pharmacy data

2a.25 Data source/data collection instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):**
Participation Tools: Individual Quality Measures for 2010 PQRI

2a.26-28 Data source/data collection instrument reference web page URL or attachment: URL
http://www.ama-assn.org/ama/pub/physician-resources/clinical-practice-improvement/clinical-quality/participation-tools-individual-2010.shtml

2a.29-31 Data dictionary/code table web page URL or attachment:

2a.32-35 Level of Measurement/Analysis (*Check the level(s) for which the measure is specified and tested)*
Clinicians: Individual, Clinicians: Group

2a.36-37 Care Settings (*Check the setting(s) for which the measure is specified and tested)*
Ambulatory Care: Clinic, Ambulatory Care: Office, Dialysis Facility, Ambulatory Care: Hospital Outpatient

2a.38-41 Clinical Services (*Healthcare services being measured, check all that apply*)
Clinicians: Physicians (MD/DO), Clinicians: PA/NP/Advanced Practice Nurse

TESTING/ANALYSIS

2b. Reliability testing

2b.1 Data/sample *(description of data/sample and size)***:** The PCPI has performed measure testing for the NQF-endorsed ESRD (Adult) Plan of Care for Inadequate Hemodialysis (NQF #0323). The adult measure tested is the same as the pediatric measure except for age eligibility and age-related differences in the plan of care definition. Given their similarities, we present data (here and below) from the testing of the

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adult measure, for lack of data on testing for the child measure.

The PCPI's ERSD Measure testing included collection and analysis of data from a sample of patients 18 years and older, from four sites, selecting the first 35 patients in each ESRD category using a start date of July 1, 2007. The two ESRD categories were ESRD requiring hemodialysis, and ESRD requiring peritoneal dialysis. Each sample was an oversample of five patients, in an effort to ensure a remaining sample of 30 patients in each category from each site. The four nephrology practices varied in size, geographic location, and medical record type.

Prior to the site visits, data definitions were drafted for each set of measures, and a data collection tool was created. An alpha test of the data collection tool was conducted. During the test, for sites with electronic health records (EHRs), it was noted whether the data elements were located in a discrete field in the EHR, and whether the data were coded using a standard format.

2b.2 **Analytic Method** *(type of reliability & rationale, method for testing)***:**
Inter-rater reliability testing was conducted.
Two abstractors performed on-site manual-data collection on the same medical records to determine if the measures could be collected reliably. The abstractors then compared results and evaluated the mismatches. Mismatch codes were used to classify the reason determined for each mismatch: data entry error, illegible documentation, unclear element definition, information missed, conflicting information, not following definition, and other.

For the two practice sites participating in the 2008 CMS PQRI program, abstractors conducted a validation of the PQRI claims data. Abstractors compared the information submitted on the Medicare claim with information in the patient record to determine if the information submitted matched the PQRI measure specifications.

2b.3 **Testing Results** *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)***:**
Kappa statistic:
Plan of Care of Inadequate Hemodialysis = 0.9968 (95% CI: 0.9923-1.0000)
The kappa statistic is a measure of inter-rater agreement for qualitative items. It is generally thought to be a more robust measure than percent agreement since it measures agreement beyond what would occur by chance. The kappa statistic will equal 0 when there is no better than chance agreement and 1 when there is perfect agreement, but has negative values when there is less than chance agreement. A kappa statistic from 0.60 to 0.80 indicates good agreement, and from 0.80 to 1.00 indicates very good agreement.

Measure performance results were calculated, with 755 of 1109 cases meeting the measure, for a 68% mean performance rate across all sites. Individual site performance ranged from 42% to 93%.

2c. Validity testing

2c.1 **Data/sample** *(description of data/sample and size)***:** It is the consensus of the PCPI Measures Implementation and Evaluation Advisory Committee that face and content validity of PCPI measures can be assumed to be established once they have progressed beyond the Public Comment period by virtue of the specialized expertise of the PCPI work group members who are involved in identifying and drafting performance measures within a topical domain as well, as the rigorous, structured discussions that are prescribed according to PCPI protocols for work group conduct.

2c.2 **Analytic Method** *(type of validity & rationale, method for testing)***:**
This measure is based on the National Kidney Foundation. K/DOQI Clinical Practice Guidelines for Hemodialysis Adequacy, Update 2006. Available at:
http://www.kidney.org/professionals/KDOQI/guidelines.cfm.

2c.3 **Testing Results** *(statistical results, assessment of adequacy in the context of norms for the test conducted)***:**

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N ☐

2d. Exclusions Justified **2d.1 Summary of Evidence supporting exclusion(s):** Exceptions are not utilized for this measure. **2d.2 Citations for Evidence:** **2d.3 Data/sample** *(description of data/sample and size)*: **2d.4 Analytic Method** *(type analysis & rationale)*: **2d.5 Testing Results** *(e.g., frequency, variability, sensitivity analyses)*:	**2d** C☐ P☐ M☐ N☐ NA☐
2e. Risk Adjustment for Outcomes/ Resource Use Measures **2e.1 Data/sample** *(description of data/sample and size)*: **2e.2 Analytic Method** *(type of risk adjustment, analysis, & rationale)*: **2e.3 Testing Results** *(risk model performance metrics)*: **2e.4 If outcome or resource use measure is not risk adjusted, provide rationale:**	**2e** C☐ P☐ M☐ N☐ NA☐
2f. Identification of Meaningful Differences in Performance **2f.1 Data/sample from Testing or Current Use** *(description of data/sample and size)*: A similar measure (NQF #0323) was used in the CMS PQRI program claims option for 2008 and registry option for 2009. This adult measure is the same as the pediatric measure except for age eligibility and age-related differences in the plan of care definition. This measure (NQF #0323) was tested in the ESRD testing described previously in this document. **2f.2 Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)*: 2007 and 2008 PQRI: Calculation of performance from data set, including mean and quartiles. Insufficient data was publicly reported by CMS for us to perform statistical tests of significance of the difference between the quartiles. ESRD testing: Calculation of performance from data set, including mean and ranges. **2f.3 Provide Measure Scores from Testing or Current Use** *(description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)*: In 2007, of those patients with enough data elements to be included in the ESRD Clinical Performance Measures report, 13% of patients did not have monthly adequacy measurement performed. (Centers for Medicare and Medicaid Services. 2007 Annual Report, End Stage Renal Disease Clinical Performance Measures Project. December, 2007) Recent PQRI data also shows opportunities for improvement for this measure. 2008 PQRI data. Mean performance rate: 58.64%. National clinical performance rates: 10th percentile:	**2f** C☐ P☐ M☐ N☐

7.80%; 25th percentile: 29.77%, 50th percentile: 60.00%, 75th percentile: 79.29%, 90th percentile: 91.30%. Performance of physicians who participate in PQRI is found to vary. As a result, opportunities for improvement exists for these early participants. In addition, continued reporting and tracking of measure performance and variation is required as familiarity with PQRI increases and an increasing number of physicians participate. ESRD Testing: The performance rate was 755 of 1109 or 68%, with site-specific performance ranging from 61% to 94%.	
2g. Comparability of Multiple Data Sources/Methods 2g.1 **Data/sample** *(description of data/sample and size)*: The PCPI has performed measure testing for the NQF-endorsed ESRD (Adult) Plan of Care for Inadequate Hemodialysis (NQF #0323). The adult measure tested is the same as the pediatric measure except for age eligibility and age-related differences in the plan of care definition. Given their similarities, we present data (here and below) from the testing of the adult measure, for lack of data on testing for the child measure. The ESRD testing included collection and analysis of data from paper health records, and electronic health records. For the two nephrology practice sites participating in 2008 PQRI, abstractors conducted a validation of the PQRI claims data. Abstractors compared the information submitted on the Medicare claim with information in the patient record to determine if the information submitted matched the PQRI Measure Specifications. Both sites submitted information on the Inadequate Hemodialysis measure. 2g.2 **Analytic Method** *(type of analysis & rationale)*: Parallel forms reliability 2g.3 **Testing Results** *(e.g., correlation statistics, comparison of rankings)*: We were not able to complete a full parallel forms testing for PQRI for several reasons: - Due to the monthly nature of ESRD billing, it was often difficult to match the code on the claim to the appropriate visit in the patient record - Due to the timing of the project, only 6 months of billings were available	**2g** C☐ P☐ M☐ N☐ NA☐
2h. Disparities in Care 2h.**1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)*: We are not aware of any existing research to indicate whether or not disparities in care exist regarding the implementation of this measure. 2h.2 **If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:**	**2h** C☐ P☐ M☐ N☐ NA☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Scientific Acceptability of Measure Properties*?	**2**
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties*, **met?** **Rationale:**	*2* C☐ P☐ M☐ N☐
3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)	Eval Rating
3a. Meaningful, Understandable, and Useful Information 3a.1 **Current Use:** in use	**3a** C☐ P☐ M☐

3a.2 Use in a public reporting initiative (disclosure of performance results to the public at large) (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*)**:** This measure is currently in the CMS PQRI program (2009 and 2010). A similar measure (NQF #0323) for the adult population is used in the CMS PQRI program claims option for 2008, and registry option for 2009 and 2010. The adult measure (#0323) is the same as the pediatric measure except for age eligibility and age-related differences in the plan of care definition. 2008 PQRI Submission Data, Executive Summary. Available at: http://www.cms.hhs.gov/PQRI/Downloads/2008QualityDataCodeSubmissionErrorReportFinal04-03-09.pdf **3a.3 If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years***):** **Testing of Interpretability** (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*) **3a.4 Data/sample** *(description of data/sample and size)***:** **3a.5 Methods** *(e.g., focus group, survey, QI project)***:** **3a.6 Results** *(qualitative and/or quantitative results and conclusions)***:**	**N☐**
3b/3c. Relation to other NQF-endorsed measures **3b.1 NQF # and Title of similar or related measures:** 0323 - Hemodialysis Adequacy/Plan of Care	
(for NQF staff use) **Notes on similar/related** endorsed **or submitted measures:**	
3b. Harmonization If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population): **3b.2 Are the measure specifications harmonized? If not, why?** The PCPI attempts to harmonize measures with other existing measures to the extent feasible.	**3b** **C☐** **P☐** **M☐** **N☐** **NA☐**
3c. Distinctive or Additive Value **3c.1 Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:** **5.1 Competing Measures If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), describe why it is a more valid or efficient way to measure quality:**	**3c** **C☐** **P☐** **M☐** **N☐**
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Usability?*	**3**
Steering Committee: Overall, to what extent was the criterion, *Usability***, met?** **Rationale:**	**3** **C☐** **P☐** **M☐** **N☐**
4. FEASIBILITY	

Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	Eval Rating
4a. Data Generated as a Byproduct of Care Processes 4a.1-2 **How are the data elements that are needed to compute measure scores generated?** data generated as byproduct of care processes during delivery, coding/abstraction performed by someone other than person obtaining original information,	**4a** C☐ P☐ M☐ N☐
4b. Electronic Sources 4b.1 **Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*) Yes 4b.2 **If not, specify the near-term path to achieve electronic capture by most providers.**	**4b** C☐ P☐ M☐ N☐
4c. Exclusions 4c.1 **Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** No 4c.2 **If yes, provide justification.**	**4c** C☐ P☐ M☐ N☐ NA☐
4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences 4d.1 **Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.** Physicians have voluntarily reported on this measure as part of the PQRI program. We are not aware of any unintended consequences related to this measurement.	**4d** C☐ P☐ M☐ N☐
4e. Data Collection Strategy/Implementation 4e.1 **Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues:** The PCPI has performed measure testing for the NQF-endorsed ESRD (Adult) Plan of Care for Inadequate Hemodialysis (NQF #0323). The adult measure tested is the same as the pediatric measure except for age eligibility and age-related differences in the plan of care definition. Given their similarities, we present data from the testing of the adult measure, for lack of data on testing for the child measure. The objective of feasibility and implementation testing of the measure is to assess the feasibility of data collection, measurement and reporting of these performance measures in a timely manner and at a reasonable cost. To undertake this part of the measure testing process, we gathered information in several different ways. -Observation and documentation of data elements that were absent or inconsistently documented in the medical record. -Observation and documentation of differences between paper and electronic health record sources. -Pre-visit retrieval of data element availability from sites. -Follow-up retrieval of whether data elements were in discrete fields and were coded using a standard code set. -Time spent on abstraction. 4e.2 **Costs to implement the measure** (*costs of data collection, fees associated with proprietary*	**4e** C☐ P☐ M☐ N☐

measures): 4e.3 **Evidence for costs:** In the ESRD measure testing (NQF #0323) it was found that the average time for the abstractors to collect the data from the medical records ranged from 15 to 20 minutes. The first 3-4 records abstracted at each site averaged 20-30 minutes. The abstractor times decreased as familiarity with the medical record increased. There was not a significant difference in time of abstraction between EHR and paper records. Assuming only cost for the abstraction of each medical record, the cost ranged from $19 to $26 per patient record. Travel expenses and any work with the sites prior to and following the site visit were not included, although all applicable overhead rates and administrative costs were applied. 4e.4 **Business case documentation:**	
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Feasibility*?	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility*, **met?** **Rationale:**	**4** **C** ☐ **P** ☐ **M** ☐ **N** ☐
RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited** ☐
Steering Committee: Do you recommend for endorsement? **Comments:**	**Y** ☐ **N** ☐ **A** ☐
CONTACT INFORMATION	
Co.1 **Measure Steward (Intellectual Property Owner)** Co.1 **Organization** American Medical Association - Physician Consortium for Performance Improvement | 515 N. State St. | Chicago | Illinois | 60654 Co.2 **Point of Contact** Mark | Antman, DDS, MBA | mark.antman@ama-assn.org | 312-464-5637	
Measure Developer If different from Measure Steward Co.3 **Organization** American Medical Association - Physician Consortium for Performance Improvement | 515 N. State St. | Chicago | Illinois | 60654 Co.4 **Point of Contact** Mark | Antman, DDS, MBA | mark.antman@ama-assn.org | 312-464-5637	
Co.5 **Submitter If different from Measure Steward POC** Mark | Antman, DDS, MBA | mark.antman@ama-assn.org | 312-464-5637- |American Medical Association - Physician Consortium for Performance Improvement	
Co.6 **Additional organizations that sponsored/participated in measure development**	
ADDITIONAL INFORMATION	
Workgroup/Expert Panel involved in measure development Ad.1 **Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.** Barbara Fivush, MD (Co-Chair) (pediatric nephrology)	

William Haley, MD (Co-Chair) (adult nephrology)
Sharon Andreoli, MD (pediatric nephrology)
Craig B. Langman, MD (pediatric nephrology)
Eileen Brewer, MD (pediatric nephrology)
Sharon A. Perlman, MD (pediatric nephrology)
Leona Cuttler, MD (pediatric endocrinology)
Paul Rockswold, MD, MPH (family medicine)
Richard Goldman, MD (adult nephrology)
Brad Warady, MD (pediatric nephrology)
Stuart Goldstein, MD (pediatric nephrology)
Steven J. Wassner, MD (pediatric nephrology)
John Foreman, MD (pediatric nephrology)

Ad.2 If adapted, provide name of original measure:
Ad.3-5 If adapted, provide original specifications URL or attachment URL http://www.ama-assn.org/ama/pub/physician-resources/clinical-practice-improvement/clinical-quality/physician-consortium-performance-improvement/pcpi-measures.shtml

Measure Developer/Steward Updates and Ongoing Maintenance
Ad.6 Year the measure was first released: 2008
Ad.7 Month and Year of most recent revision: 2008-02
Ad.8 What is your frequency for review/update of this measure? Every 3-4 years or as new evidence becomes available that materially affects the measures
Ad.9 When is the next scheduled review/update for this measure? 2011-02

Ad.10 Copyright statement/disclaimers: Physician Performance Measures (Measures) and related data specifications, developed by the Physician Consortium for Performance Improvement® (the Consortium), are intended to facilitate quality improvement activities by physicians.

These Measures are intended to assist physicians in enhancing quality of care. Measures are designed for use by any physician who manages the care of a patient for a specific condition or for prevention. These performance Measures are not clinical guidelines and do not establish a standard of medical care. The Consortium has not tested its Measures for all potential applications. The Consortium encourages the testing and evaluation of its Measures.

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Ad.11 -13 Additional Information web page URL or attachment: Attachment Sample Calculation Algorithm-634007259590999065.doc

Date of Submission (*MM/DD/YY*)**:** 02/02/2010

NATIONAL QUALITY FORUM

Measure Evaluation 4.1
January 2010

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The sub-criteria and most of the footnotes from the evaluation criteria are provided in Word comments and will appear if your cursor is over the highlighted area (or in the margin if your Word program is set to show revisions in balloons). Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all yellow highlighted areas of the form. Evaluate the extent to which each sub-criterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the* sub-criteria *(yellow highlighted areas)*.

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the sub-criterion, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few sub-criteria as indicated)

(for NQF staff use) **NQF Review** #: OT3-049-10 **NQF Project:** Patient Outcomes Measures: Child Health and Mental Health (Phase III)
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Primary Caries Prevention Intervention as Part of Well/Ill Child Care as Offered by Primary Care Medical Providers
De.2 **Brief description of measure***:* Each of the 35 state Medicaid programs which are currently reimbursing primary care medical providers (hereafter PCMP) for primary caries prevention intervention (PCPI) has identified a specific code to reflect application of fluoride varnish (hereafter FV) to the teeth of a high-risk child primarily as part of the EPSDT well-child examination (but FV can also be applied at an ill-child visit). The proposed measure will a) track participation by PCMP (physician (pediatrician, family medicine physician), nurse practitioner, physician assistant) and b) track the degree to which each provider's use of the fluoride varnish code increases from year to year (more children varnished and more children receiving FV four times a year).
1.1-2 **Type of Measure:** use of services De.3 **If included in a composite or paired with another measure, please identify composite or paired measure**
De.4 **National Priority Partners Priority Area:** population health De.5 **IOM Quality Domain**: effectiveness De.6 **Consumer Care Need:** Getting Better, Staying Healthy

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* **A.1 Do you attest that the measure steward holds intellectual property rights to the measure and the**	**A** **Y☐** **N☐**

right to use aspects of the measure owned by another entity (e.g., risk model, code set)? Yes A.2 **Indicate if Proprietary Measure** (*as defined in measure steward agreement*)**:** proprietary measure A.3 **Measure Steward Agreement:** agreement signed and submitted A.4 **Measure Steward Agreement attached:**	
B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every 3 years. Yes, information provided in contact section	**B** **Y**☐ **N**☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** public reporting, quality improvement Data will be collected by provider (practitioner or clinic) and will be reported to the public. The results will hopefully stimulate providers to do more so ultimately all high-risk children will receive the service quarterly	**C** **Y**☐ **N**☐
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 24 months of endorsement. D.1**Testing:** Yes, fully developed and tested D.2 **Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** **Y**☐ **N**☐
(for NQF staff use**)** **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	**Met** **Y**☐ **N**☐
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. *Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	Eval Rating
(for NQF staff use) Specific NPP goal:	
1a.1 **Demonstrated High Impact Aspect of Healthcare:** affects large numbers, a leading cause of morbidity/mortality 1a.2 1a.3 **Summary of Evidence of High Impact:** The literature reflects that fluoride varnish when applied to the teeth of high-risk children, reduces, in conjunction with anticipatory guidance provided to the caregiver, the risk of the child developing caries. 1a.4 **Citations for Evidence of High Impact:** See reference page.	**1a** **C**☐ **P**☐ **M**☐ **N**☐
1b. Opportunity for Improvement 1b.1 **Benefits (improvements in quality) envisioned by use of this measure:** Caries (the process of which the end result is the cavity) is the most common chronic disease of childhood (five times more common than asthma and seven times more common than hay fever). Dental care is the most common health need	**1b** **C**☐ **P**☐ **M**☐ **N**☐

of high-risk children yet according to the GAO, only about one third of the 20 million children covered by Medicaid/CHIP received any dental care in 2007. Children are 2.6 times more likely to have medical coverage than dental coverage. Only 20-30% of Medicaid-eligible children receive preventive healthcare. Based on 2005 enrollment, the Medicaid GAO estimated that 6.5 million Medicaid-eligible children 2-18 years of age had untreated tooth decay and more than five percent had urgent conditions. 1.1 million children 2-18 years of age had conditions that warranted seeing a dentist within two weeks. The sad reality is that 50% of tooth decay in low-income children goes untreated. One in eight children never sees a dentist, while more than half of children with private insurance received dental care in the preceding year. The GAO has estimated that in 2005, 724,000 children 2-18 years of age could not get needed dental care. Starting several decades ago, the Scandinavian countries began to use topically applied fluoride as a way of preventing caries. Wentraub recently showed that one application of fluoride varnish will cut the caries rate by 50% and a second application will cut it by another 50%. 35 state Medicaid programs are currently reimbursing PCMP for offering PCPI as part of well/ill child care. Reimbursement rates range from $9.00 to close to $62.00. The procedure takes little time – less than five minutes for a child with a full set of primary teeth, and is noninvasive. Fluoride varnish reverses demineralization and enhances remineralization of the enamel of the tooth. Both actions will lead to the reduction of caries.

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
Minnesota's DHS can create a report that shows by PCMP the number of C&TC (Minnesota's version of EPSDT) examinations done on unduplicated and duplicated patients, with or without FV.

1b.3 Citations for data on performance gap:
JA. Wentraub, F. Ramos-Gomez, B. Jue, S. Shain, CI. Hoover, JDB. Featherstone, and SA. Gansky. Fluoride Varnish Efficacy in Prevention ECC. J Dent Res 85(2): 172-176, 2006.

1b.4 Summary of Data on disparities by population group:

1b.5 Citations for data on Disparities:

1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*)**:** Caries is an infectious disease and is thus theoretically preventable. Fluoride interferes with the metabolism of the microflora (particularly streptococcus mutans) which reside in plaque. Caries can only occur if there is a tooth, sugars, and bacteria. For their own metabolic purposes, the bacteria digest the sugars in the foods and liquids which the child consumes, creating an acidic excrement which etches the enamel of the tooth, thus starting the caries process. Fluoride can not only slow down the demineralization of the enamel but can also remineralize it. The first stage of the caries process is the white spot which can be found at the juncture of the tooth and the gum line of the lateral and central lateral maxillary primary incisors. The white spot can be reversed and remineralized if exposed to fluoride varnish, thus obviating the need to either pull the tooth or drill-and-fill it. The outcome of this project is that PCMP who provide primary care to children generally will offer PCPI as part of well-child care. That intervention includes: an oral examination with referral to a dentist if there is a suggestion of pathology, a risk-assessment to separate the high-risk from the low-risk (a child who is on Medicaid with no dental home is high-risk with no need to ask other questions), anticipatory guidance of the caregiver about caries etiology and the caregiver's role in prevention, application of fluoride varnish, referrals as necessary, and advising the caregiver that a dental home should be found for the child by the child's first birthday.

Fluoride (fluoridated water) has been shown to reduce the caries rate by 70% across the entire population. Today the caries burden is borne primarily by high-risk Medicaid/CHIP-eligible children who cannot gain access to dental care. In a state such as Minnesota, where the water supply is 98.6% fluoridated, both the Medicaid/MNCare (Minnesota's version of CHIP)-eligible children who represent 30% of the population carry 80% of the disease burden. Presumptively, the dental office not only provides fluoride to the child but also provides anticipatory guidance to the caregiver. PCMP traditionally have not been trained to address oral health issues because, until at least 1995, dentists across the country were seeing all children. It has only been in the last 15 years that dentists nation-wide have generally declined

1c
C ☐
P ☐
M ☐
N ☐

to take Medicaid/CHIP-eligible children. The ultimate outcome of this measurement project is reduction of caries. That, however, is a long-term consequence of PCPI. A more immediate outcome is to show that across all practices which serve children, starting from the age of the eruption of the first tooth, or by age one, through the age of five, all high-risk children are, as part of the well-child examination, getting fluoride varnish applied quarterly pursuant to the American Dental Association's recommendations. 1c.2-3. **Type of Evidence:** other (specify) Number of EPSDT examinations done without FV as part of well-child care (claims data) 1c.4 **Summary of Evidence** (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:** 1c.5 **Rating of strength/quality of evidence (***also provide narrative description of the rating and by whom***):** 1c.6 **Method for rating evidence:** 1c.7 **Summary of Controversy/Contradictory Evidence:** 1c.8 **Citations for Evidence (***other than guidelines***):** 1c.9 **Quote the Specific guideline recommendation (***including guideline number and/or page number***):** 1c.10 **Clinical Practice Guideline Citation:** 1c.11 **National Guideline Clearinghouse or other URL:** 1c.12 **Rating of strength of recommendation (***also provide narrative description of the rating and by whom***):** 1c.13 **Method for rating strength of recommendation** (*If different from* USPSTF system*, also describe rating and how it relates to USPSTF)***:** 1c.14 **Rationale for using this guideline over others:**	
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Importance to Measure and Report?*	**1**
Steering Committee: Was the threshold criterion, *Importance to Measure and Report***, met?** **Rationale:**	**1** **Y☐** **N☐**
2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	Eval Rating
2a. MEASURE SPECIFICATIONS	
S.1 **Do you have a web page where current detailed measure specifications can be obtained?** S.2 **If yes, provide web page URL:** **2a. Precisely Specified**	**2a-specs** **C☐** **P☐** **M☐**
2a.1 **Numerator Statement (***Brief, text description of the numerator - what is being measured about the*	

target population, e.g. target condition, event, or outcome)**:**
Application of FV is identified by a discrete code (see De.2 above) when applied by a PCMP on the teeth of high-risk children (Medicaid/CHIP-eligible)

2a.2 Numerator Time Window (*The time period in which cases are eligible for inclusion in the numerator***):**
Yearly

2a.3 Numerator Details (*All information required to collect/calculate the numerator, including all codes, logic, and definitions***):**
D-1206 or the CPT codes (whichever each state uses to bill for FV application)

2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured***):**
All high-risk children (Medicaid/CHIP-eligible) who receive well or ill child care from PCMPs. The high-risk child is a child who is covered by Medicaid/CHIP but does not have a dental home (i.e., a dentist who will see the child whenever the child has a problem and for whatever problem the child may have.) If a child is on Medicaid/CHIP but does have a dental home, other risk factors will be considered, e.g. caregiver's oral health status, older siblings' oral health status, presence of caries, use of a toothbrush, continually exposure of the teeth to sugared liquids, etc. In Minnesota, DHS for the first time generated a report in 2008 which shows by provider/clinic (whichever holds the billing provider number) the number of unduplicated C&TC examinations done, and the number of fluoride varnish applications performed (unduplicated and duplicated). A similar report will be generated in 2009 (for 2008 claims data) which will allow a comparison with 2008 outcomes.

2a.5 Target population gender: Female, Male
2a.6 Target population age range: 0-20 (upper end varies by state) see attachment.

2a.7 Denominator Time Window (*The time period in which cases are eligible for inclusion in the denominator***):**
Yearly

2a.8 Denominator Details (*All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions***):**
All but three states use the dental CDT codes D-1206, D-1203 or 99499. Payers have adjusted their computers to recognize the CDT dental code when billed on the CMS-1500 medical billing form. Those states which are not using the D-1206 code to indicate application of FV are using a recognized and approved CPT code.
The codes are single - one for the C&TC examination; the other (D-1206 in Minnesota) for fluoride varnish. The age groupings are arbitrary 0-5; 6-12; 13-20.

2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** None

2a.10 Denominator Exclusion Details (*All information required to collect exclusions to the denominator, including all codes, logic, and definitions***):**
NA

2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions***):**
NA

2a.12-13 Risk Adjustment Type: no risk adjustment necessary

2a.14 Risk Adjustment Methodology/Variables (*List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method***):**
NA

2a.15-17 Detailed risk model available Web page URL or attachment:

2a.18-19 Type of Score:
2a.20 Interpretation of Score: better quality = higher score

N☐

2a.21 Calculation Algorithm (*Describe the calculation of the measure as a flowchart or series of steps***):**
NA

2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**
NA

2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*:
NA

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
Electronic adminstrative data/claims

2a.25 Data source/data collection instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):**
Claims data by state as reported by each state's Department of Human Services, Medicaid Program, EPSDT section. All but three states use the dental CDT codes D-1206, D-1203 or 99499. Payers have adjusted their computers to recognize the CDT dental code when billed on the CMS-1500 medical billing form. Those states which are not using the D-1206 code to indicate application of FV are using a recognized and approved CPT code. The codes are single - one for the C&TC examination; the other (D-1206 in Minnesota) for fluoride varnish. In Minnesota, DHS for the first time generated a report in 2008 which shows by provider/clinic (whichever holds the billing provider number) the number of unduplicated C&TC examinations done, and the number of fluoride varnish applications performed (unduplicated and duplicated). A similar report will be generated in 2009 (for 2008 claims data).

2a.26-28 Data source/data collection instrument reference web page URL or attachment:

2a.29-31 Data dictionary/code table web page URL or attachment:

2a.32-35 Level of Measurement/Analysis (*Check the level(s) for which the measure is specified and tested)*
Clinicians: Individual, Clinicians: Group, Facility/Agency, Health Plan, Population: national

2a.36-37 Care Settings (*Check the setting(s) for which the measure is specified and tested)*
Ambulatory Care: Office, Ambulatory Care: Clinic, Ambulatory Care: Hospital Outpatient

2a.38-41 Clinical Services (*Healthcare services being measured, check all that apply*)
Clinicians: Nurses, Clinicians: PA/NP/Advanced Practice Nurse, Clinicians: Physicians (MD/DO)

TESTING/ANALYSIS

2b. Reliability testing

2b.1 Data/sample *(description of data/sample and size)***:** All children in the state of Minnesota who, according to the Department of Human Services claims data had, during the course of the preceding year, a C&TC examination and whether that examination included FV. In all 35 states that are reimbursing, the FV reimbursement is over and above the reimbursement for the EPSDT examination; but to get that reimbursement, the FV code must be billed. All data will be claims data. To date, only the 2008 report allows a view of what each provider/clinic that bills for a C&TC examination has done in the way of primary caries prevention as part of C&TC in the form of FV application. The 2009 report will allow comparisons to 2008 to see if providers are doing a better job, or not, in offering primary caries prevention as part of well-child care.

2b.2 Analytic Method *(type of reliability & rationale, method for testing)***:**

2b.3 Testing Results *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)***:**
NA

2b
C☐ P☐ M☐ N☐

2c. Validity testing — **2c**

2c.1 Data/sample *(description of data/sample and size)*: See 2b.1 above **2c.2 Analytic Method** *(type of validity & rationale, method for testing)*: NA **2c.3 Testing Results** *(statistical results, assessment of adequacy in the context of norms for the test conducted)*: NA	**C☐ P☐ M☐ N☐**
2d. Exclusions Justified **2d.1 Summary of Evidence supporting exclusion(s):** NA **2d.2 Citations for Evidence:** **2d.3 Data/sample** *(description of data/sample and size)*: **2d.4 Analytic Method** *(type analysis & rationale)*: **2d.5 Testing Results** *(e.g., frequency, variability, sensitivity analyses)*:	**2d C☐ P☐ M☐ N☐ NA☐**
2e. Risk Adjustment for Outcomes/ Resource Use Measures **2e.1 Data/sample** *(description of data/sample and size)*: **2e.2 Analytic Method** *(type of risk adjustment, analysis, & rationale)*: **2e.3 Testing Results** *(risk model performance metrics)*: **2e.4 If outcome or resource use measure is not risk adjusted, provide rationale:**	**2e C☐ P☐ M☐ N☐ NA☐**
2f. Identification of Meaningful Differences in Performance **2f.1 Data/sample from Testing or Current Use** *(description of data/sample and size)*: **2f.2 Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)*: **2f.3 Provide Measure Scores from Testing or Current Use** *(description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)*:	**2f C☐ P☐ M☐ N☐**
2g. Comparability of Multiple Data Sources/Methods **2g.1 Data/sample** *(description of data/sample and size)*: **2g.2 Analytic Method** *(type of analysis & rationale)*: **2g.3 Testing Results** *(e.g., correlation statistics, comparison of rankings)*:	**2g C☐ P☐ M☐ N☐ NA☐**

2h. Disparities in Care 2h.**1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)***:** 2h.2 **If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:**	**2h** **C☐** **P☐** **M☐** **N☐** **NA☐**
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Scientific Acceptability of Measure Properties?*	**2**
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties***, met?** **Rationale:**	*2* **C☐** **P☐** **M☐** **N☐**
3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)	Eval Rating
3a. Meaningful, Understandable, and Useful Information 3a.1 **Current Use:** in use 3a.2 **Use in a public reporting initiative (disclosure of performance results to the public at large)** (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*)**:** 3a.3 **If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years***):** **Testing of Interpretability** (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*) 3a.4 **Data/sample** *(description of data/sample and size)***:** 3a.5 **Methods** *(e.g., focus group, survey, QI project)***:** 3a.6 **Results** *(qualitative and/or quantitative results and conclusions)***:**	**3a** **C☐** **P☐** **M☐** **N☐**
3b/3c. Relation to other NQF-endorsed measures 3b.1 **NQF # and Title of similar or related measures:**	
(for NQF staff use) **Notes on similar/related** endorsed **or submitted measures:**	
3b. Harmonization If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population): 3b.2 **Are the measure specifications harmonized? If not, why?**	**3b** **C☐** **P☐** **M☐** **N☐** **NA☐**
3c. Distinctive or Additive Value 3c.1 **Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:**	**3c** **C☐** **P☐**

5.1 **Competing Measures If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), describe why it is a more valid or efficient way to measure quality:**	**M☐ N☐**
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Usability?*	**3**
Steering Committee: Overall, to what extent was the criterion, *Usability*, **met?** **Rationale:**	**3** **C☐ P☐ M☐ N☐**
4. FEASIBILITY	
Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	Eval Rating
4a. Data Generated as a Byproduct of Care Processes 4a.1-2 **How are the data elements that are needed to compute measure scores generated?** data generated as byproduct of care processes during delivery, coding/abstraction performed by someone other than person obtaining original information,	**4a** **C☐ P☐ M☐ N☐**
4b. Electronic Sources 4b.1 **Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*) Yes 4b.2 **If not, specify the near-term path to achieve electronic capture by most providers.**	**4b** **C☐ P☐ M☐ N☐**
4c. Exclusions 4c.1 **Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** 4c.2 **If yes, provide justification.**	**4c** **C☐ P☐ M☐ N☐ NA☐**
4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences 4d.1 **Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.**	**4d** **C☐ P☐ M☐ N☐**
4e. Data Collection Strategy/Implementation 4e.1 **Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues:** 4e.2 **Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** None. Data will be entirely based on claims data.	**4e** **C☐ P☐ M☐ N☐**

4e.3 Evidence for costs: NA **4e.4 Business case documentation:** NA	
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Feasibility?*	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility*, **met?** **Rationale:**	**4** **C☐** **P☐** **M☐** **N☐**
RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited ☐**
Steering Committee: Do you recommend for endorsement? **Comments:**	**Y☐** **N☐** **A☐**

CONTACT INFORMATION

Co.1 Measure Steward (Intellectual Property Owner)
Co.1 Organization
University of Minnesota | 1729 Morgan Ave S | Minneapolis | Minnesota | 55405

Co.2 Point of Contact
Amos | Deinard, MD, MPH | dein001@umn.edu | 612-377-1020

Measure Developer If different from Measure Steward
Co.3 Organization
University of Minnesota | 1729 Morgan Ave S | Minneapolis | Minnesota | 55405

Co.4 Point of Contact
Amos | Deinard, MD, MPH | dein001@umn.edu | 612-377-1020

Co.5 Submitter If different from Measure Steward POC
Amos | Deinard, MD, MPH | dein001@umn.edu | 612-377-1020- |University of Minnesota

Co.6 Additional organizations that sponsored/participated in measure development

ADDITIONAL INFORMATION

Workgroup/Expert Panel involved in measure development
Ad.1 Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.
NA

Ad.2 If adapted, provide name of original measure: Use of Fluoride Varnish as Part of Well-Child Care
Ad.3-5 If adapted, provide original specifications URL or attachment

Measure Developer/Steward Updates and Ongoing Maintenance
Ad.6 Year the measure was first released:
Ad.7 Month and Year of most recent revision:
Ad.8 What is your frequency for review/update of this measure?
Ad.9 When is the next scheduled review/update for this measure?

Ad.10 Copyright statement/disclaimers:

Ad.11 -13 Additional Information web page URL or attachment:

http://www.meded.umn.edu/apps/pediatrics/FluorideVarnish/index.cfm Attachment - 50 State Survey
Date of Submission (*MM/DD/YY*)**:** 02/02/2010

NATIONAL QUALITY FORUM

Measure Evaluation 4.1
January 2010

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The sub-criteria and most of the footnotes from the evaluation criteria are provided in Word comments and will appear if your cursor is over the highlighted area (or in the margin if your Word program is set to show revisions in balloons). Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all yellow highlighted areas of the form. Evaluate the extent to which each sub-criterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the* sub-criteria *(yellow highlighted areas)*.

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the sub-criterion, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few sub-criteria as indicated)

(for NQF staff use) **NQF Review** #: OT3-050-10 **NQF Project:** Patient Outcomes Measures: Child Health and Mental Health (Phase III)
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Children Who Receive Standardized Developmental and Behavioral Screening
De.2 **Brief description of measure***:* Age specific items to assess whether or not parents received a standardized questionnaire addressing developmental concerns at a health care visit. The Standardized Developmental and Behavioral Screening (SDBS) items in the National Survey of Children's Health are meant to assess whether the parent-completed a standardized, validated screening tool used to identify children at risk for developmental, behavioral or social delays.
1.1-2 **Type of Measure:** process De.3 **If included in a composite or paired with another measure, please identify composite or paired measure**
De.4 **National Priority Partners Priority Area:** patient and family engagement De.5 **IOM Quality Domain**: patient-centered De.6 **Consumer Care Need:** Staying Healthy

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* A.1 **Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes A.2 **Indicate if Proprietary Measure** (*as defined in measure steward agreement*)**:**	**A** **Y**☐ **N**☐

A.3 Measure Steward Agreement: agreement signed and submitted **A.4 Measure Steward Agreement attached:** 2-2-2010 NQF Agreement Form for new measures-634006392392170210.pdf	
B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every 3 years. Yes, information provided in contact section	**B** **Y☐** **N☐**
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** public reporting, quality improvement 0,0,0,	**C** **Y☐** **N☐**
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 24 months of endorsement. **D.1Testing:** Yes, fully developed and tested **D.2 Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** **Y☐** **N☐**
(for NQF staff use) **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	**Met** **Y☐** **N☐**
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. *Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	Eval Rating
(for NQF staff use) Specific NPP goal:	
1a.1 Demonstrated High Impact Aspect of Healthcare: patient/societal consequences of poor quality **1a.2** **1a.3 Summary of Evidence of High Impact:** Nationally, only 19.5% of children age 10 months to 5 years received all of the content to qualify on the standardized developmental and behavioral screener (SDBS) in the past 12 months. In July 2006 the American Academy of Pediatrics issued the Statement on Identifying Infants and Young Children with Developmental Disorders in the Medical Home, calling for pediatric clinicians to routinely screen children for developmental delays using standardized and validated tools. A majority of front-line health care providers who are implementing SDBS tools as part of well-child care are doing so through the use of parent-completed SDBS tools due to their feasibility and validity. **1a.4 Citations for Evidence of High Impact:** The American Academy of Pediatrics, Council on Children With Disabilities, Section on Developmental and Behavioral Pediatrics, Bright Futures Steering Committee, and Medical Home Initiatives for Children With Special Needs. Identifying infants and young children with developmental disorder in the medical home: an algorithm for developmental surveillance and screening. Pediatrics. 2006. 118(1): 405-420.	**1a** **C☐** **P☐** **M☐** **N☐**

Bethell, CD, Reuland, C, Halfon, N, Olsen, L, Schor, E., Measuring the Quality of Preventive and Developmental Services for Young Children: National Estimates and Patterns of Clinicians' Performance. Pediatrics. June 2004.

Pinto-martin, J, Dunkle M, Earls M, Fliedner D, Cynthia L. Developmental States of Developmental Screening: Steps to Implementation of a Successful Program. American Journal of Public Health. 95, 11: 1928-1932.

King T., Trandon, D, Macias, M, et al. Implementing developmental screening and referrals: Lessons learned from a national project. Pediatrics, V 125, No 2, Feb 2010.

Sand N, Silverstein M, Glascoe FP, et al. Pediatrician's reported practices regarding developmental screening: do guidelines work? Do they help? Pediatrics 2005; V116 (1): 174-179

Smith RD. The use of developmental screening tests by primary-care pediatricians. J Pediatrics. 1978; 93(3): 524-527.

Zuckerman KE, Boudreau AA, Lipstein EA, Kuhlthau KA, and Perrin JM. Household Language, Parent Developmental Concerns, and Child Risk for Developmental Disorder. Academic Pediatrics. 2009; 9(2): 97-105.

1b. Opportunity for Improvement

1b.1 Benefits (improvements in quality) envisioned by use of this measure: Research shows that the most reliable and valid approach to identify children at risk for delays is to implement a standardized developmental screening tool. Integral to assuring whether children are being screened in this way is the use of standardized measures to track the current level of screening and to monitor implementation efforts over time. No standardized and validated methods are available to health systems for this purpose. Some health systems examine medical charts for evidence of standardized screening of children. However, it is not known whether this data source is reliable or valid for measurement purposes due to variations in whether and how care providers document their screening activities, including whether or not completed tools are included in the chart. Early identification of developmental disorders is critical to the well-being of children and their families. Early identification should lead to further evaluation, diagnosis, and treatment.

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
Children who have received all of the content to qualify on the standardized developmental and behavioral screener ranges across states from 10.7% of children in Pennsylvania to 47% of children in North Carolina.

1b.3 Citations for data on performance gap:
The American Academy of Pediatrics, Council on Children With Disabilities, Section on Developmental and Behavioral Pediatrics, Bright Futures Steering Committee, and Medical Home Initiatives for Children With Special Needs. Identifying infants and young children with developmental disorder in the medical home: an algorithm for developmental surveillance and screening. Pediatrics. 2006. 118(1): 405-420.

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King T., Trandon, D, Macias, M, et al. Implementing developmental screening and referrals: Lessons learned from a national project. Pediatrics, V 125, No 2, Feb 2010.

1b
C☐
P☐
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N☐

Sand N, Silverstein M, Glascoe FP, et al. Pediatrician's reported practices regarding developmental screening: do guidelines work? Do they help? Pediatrics 2005; V116 (1): 174-179

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1b.4 Summary of Data on disparities by population group:
Children who currently have public insurance are more likely (23.6%) to have received all of the content to qualify on the standardized developmental and behavioral screener than children who currently have private insurance (17.8%) or who are currently uninsured (14.8%).

1b.5 Citations for data on Disparities:

The American Academy of Pediatrics, Council on Children With Disabilities, Section on Developmental and Behavioral Pediatrics, Bright Futures Steering Committee, and Medical Home Initiatives for Children With Special Needs. Identifying infants and young children with developmental disorder in the medical home: an algorithm for developmental surveillance and screening. Pediatrics. 2006. 118(1): 405-420.

Bethell, CD, Reuland, C, Halfon, N, Olsen, L, Schor, E., Measuring the Quality of Preventive and Developmental Services for Young Children: National Estimates and Patterns of Clinicians' Performance. Pediatrics. June 2004.

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1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*)**:** It is recommended that developmental surveillance be incorporated at every well-child preventive care visit. Any concerns raised during surveillance should be promptly addressed with standardized developmental screening tests. In addition, screening tests should be administered regularly at the 9-, 18-, and 30-month visits. Surveillance can be useful for determining appropriate referrals, providing patient education and family-centered care in support of healthy development, and monitoring the effects of developmental health promotion through early intervention and therapy.

1c.2-3. Type of Evidence: other (specify) Population based research

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**

1c
C ☐
P ☐
M ☐
N ☐

Administration of developmental screenings happens in ambulatory settings. Health care providers interact with developing children on a regular basis at well-child visit and are thus in the best position to implement standardized behavioral screening. **1c.5 Rating of strength/quality of evidence (***also provide narrative description of the rating and by whom***):** **1c.6 Method for rating evidence:** **1c.7 Summary of Controversy/Contradictory Evidence:** **1c.8 Citations for Evidence (***other than guidelines***):** **1c.9 Quote the Specific guideline recommendation (***including guideline number and/or page number***):** **1c.10 Clinical Practice Guideline Citation:** The American Academy of Pediatrics, Council on Children With Disabilities, Section on Developmental and Behavioral Pediatrics, Bright Futures Steering Committee, and Medical Home Initiatives for Children With Special Needs. Identifying infants and young children with developmental disorder in the medical home: an algorithm for developmental surveillance and screening. Pediatrics. 2006. 118(1): 405-420. **1c.11 National Guideline Clearinghouse or other URL:** **1c.12 Rating of strength of recommendation (***also provide narrative description of the rating and by whom***):** **1c.13 Method for rating strength of recommendation** (*If different from* USPSTF system*, also describe rating and how it relates to USPSTF)***:** **1c.14 Rationale for using this guideline over others:**	
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Importance to Measure and Report?*	**1**
Steering Committee: Was the threshold criterion, *Importance to Measure and Report***, met?** **Rationale:**	**1** **Y☐** **N☐**
2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	Eval Rating
2a. MEASURE SPECIFICATIONS	
S.1 Do you have a web page where current detailed measure specifications can be obtained? **S.2 If yes, provide web page URL:** **2a. Precisely Specified**	**2a-specs** **C☐** **P☐** **M☐** **N☐**
2a.1 Numerator Statement (*Brief, text description of the numerator - what is being measured about the target population, e.g. target condition, event, or outcome***):** Percentage of parents who completed a Standardized Developmental and Behavioral Screening tool at a	

health care visit during the previous 12 months

2a.2 Numerator Time Window (*The time period in which cases are eligible for inclusion in the numerator***):**
Encounter or point in time.

2a.3 Numerator Details (*All information required to collect/calculate the numerator, including all codes, logic, and definitions***):**
The three items begin with a stem question asking whether or not the parent/guardian ever received a questionnaire about concerns with their child's development, communication or social behaviors (K6Q12) at a health care visit.
Two age-specific questions follow: Parents of children age 10-23 months receive two questions (K6Q13 and K6Q13A) to ascertain whether the questionnaire they received contained questions about concerns around speech/making sounds and child's interaction with others.
Parents of children age 24-71 months receive two questions (K6Q14A and K6Q14B) to ascertain whether the questionnaire they received contained questions about concerns around words/phrases that the child understands and how the child gets along with others.
Parents must answer all three questions they receive in the affirmative to be coded as "received standardized developmental screening."

2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured***):**
Children age 10 months - 5 years (71 months)

2a.5 Target population gender: Female, Male
2a.6 Target population age range: Children age 10 months - 5 years

2a.7 Denominator Time Window (*The time period in which cases are eligible for inclusion in the denominator***):**
Denominator window is a fixed point in time.

2a.8 Denominator Details (*All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions***):**
Children age 10 months - 5 years

2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** Child excluded from denominator if age is less than 10 months or more than 5 years and did not have at least one health care visit in the past 12 months

2a.10 Denominator Exclusion Details (*All information required to collect exclusions to the denominator, including all codes, logic, and definitions***):**

2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions***):**

2a.12-13 Risk Adjustment Type: no risk adjustment necessary

2a.14 Risk Adjustment Methodology/Variables (*List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method***):**

2a.15-17 Detailed risk model available Web page URL or attachment:

2a.18-19 Type of Score: rate/proportion
2a.20 Interpretation of Score: better quality = higher score
2a.21 Calculation Algorithm (*Describe the calculation of the measure as a flowchart or series of steps***):**
To receive numerator of parent did complete the standardized developmental and behavioral screening:
Children age 10 months-5 years:
-Parent/guardian received a questionnaire about concerns with their child's development, communication or social behaviors in the past 12 months (K6Q12= Yes).

Children age 10-23 months:
-Questionnaire contained questions about concerns around how child talks or makes speech sounds (K6Q13A= Yes)
-Questionnaire contained questions about concerns around how child interacts with others (K6Q13B= Yes)
Children age 24-71 months:
-Questionnaire contained questions about concerns around words and phrases child uses and understands (K6Q14A= Yes)
-Questionnaire contained questions about concerns around how child behaves and gets along with others (K6Q14B= Yes)

To receive numerator of parent did NOT complete the standardized developmental and behavioral screening, parent must respond "No" to one or more of the above items.

2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**

2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*:
Best guideline to follow is the survey methodology used in the 2007 National Survey of Children's Health.

The goal of the NSCH sample design was to generate samples representative of populations of children within each state. An additional goal of the NSCH was to obtain state-specific sample sizes that were sufficiently large to permit reasonably precise estimates of the health characteristics of children in each state.
To achieve these goals, state samples were designed to obtain a minimum of 1,700 completed interviews. The number of children to be selected in each National Immunization Survey (NIS) estimation area was determined by allocating the total of 1,700 children in the state to each National Immunization Survey (NIS) estimation area within the state in proportion to the total estimated number of households with children in the NIS estimation area. Given this allocation, the number of households that needed to be screened in each NIS estimation area was calculated using the expected proportion of households with children under 18 years of age in the area. Then, the number of telephone numbers that needed to be called was computed using the expected working residential number rate, adjusted for expected nonresponse.

A total of 91,642 interviews were completed from April 2007 to July 2008 for the 2007 National Survey of Children's Health. A random-digit-dialed sample of households with children less than 18 years of age was selected from each of the 50 states and the District of Columbia. One child was randomly selected from all children in each identified household to be the subject of the survey. The respondent was a parent or guardian who knew about the child's health and health care.

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
registry data

2a.25 Data source/data collection instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):**
2007 National Survey of Children's Health

2a.26-28 Data source/data collection instrument reference web page URL or attachment: URL
ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/slaits/nsch07/1a_Survey_Instrument_English/NSCH_Questionnaire_052109.pdf

2a.29-31 Data dictionary/code table web page URL or attachment: URL
http://nschdata.org/Viewdocument.aspx?item=519

2a.32-35 Level of Measurement/Analysis (*Check the level(s) for which the measure is specified and tested)*
Population: national, Population: regional/network, Population: states

2a.36-37 Care Settings (*Check the setting(s) for which the measure is specified and tested)*
Other (specify) Survey was conducted over a telephone

2a.38-41 Clinical Services (*Healthcare services being measured, check all that apply*) Other Patient experience	
TESTING/ANALYSIS	
2b. Reliability testing **2b.1 Data/sample** *(description of data/sample and size)*: The Child and Adolescent Health Measurement Initiative (CAHMI), with funding from the Commonwealth Fund and in conjunction with the Maternal and Child Health Bureau led the development and testing of the items. The findings from the cognitive testing yielded this 3-item, stand-alone measure that is also part of the Promoting Healthy Development Survey© (PHDS) or can be administered as part of an existing survey. Additonally, qualitative testing of the most recent version of the standardized developmental and behavioral screening items (from the 2007 National Survey of Children's Health) was conducted by the National Center for Health Statistics. They conducted cognitive interviews with the 2007 NSCH Computer-Assisted Telephone Interview (CATI) to make sure the entire survey instrument was functioning properly. N=640 interviews were completed over 3 days in December 2006. The questionnaire was then revised and finalized based on feedback from participants in these interviews. **2b.2 Analytic Method** *(type of reliability & rationale, method for testing)*: Cognitive testing was conducted to test reliability and interpretability of questions across population. **2b.3 Testing Results** *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)*:	**2b** C☐ P☐ M☐ N☐
2c. Validity testing **2c.1 Data/sample** *(description of data/sample and size)*: 640 interviews were completed over 3 days in December 2006 **2c.2 Analytic Method** *(type of validity & rationale, method for testing)*: **2c.3 Testing Results** *(statistical results, assessment of adequacy in the context of norms for the test conducted)*:	**2c** C☐ P☐ M☐ N☐
2d. Exclusions Justified **2d.1 Summary of Evidence supporting exclusion(s):** **2d.2 Citations for Evidence:** **2d.3 Data/sample** *(description of data/sample and size)*: **2d.4 Analytic Method** *(type analysis & rationale)*: **2d.5 Testing Results** *(e.g., frequency, variability, sensitivity analyses)*:	**2d** C☐ P☐ M☐ N☐ NA☐
2e. Risk Adjustment for Outcomes/ Resource Use Measures **2e.1 Data/sample** *(description of data/sample and size)*: **2e.2 Analytic Method** *(type of risk adjustment, analysis, & rationale)*:	**2e** C☐ P☐ M☐ N☐

2e.3 Testing Results *(risk model performance metrics)*: **2e.4 If outcome or resource use measure is not risk adjusted, provide rationale:**	**NA**☐
2f. Identification of Meaningful Differences in Performance **2f.1 Data/sample from Testing or Current Use** *(description of data/sample and size)*: **2f.2 Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)*: **2f.3 Provide Measure Scores from Testing or Current Use** *(description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)*:	**2f** **C**☐ **P**☐ **M**☐ **N**☐
2g. Comparability of Multiple Data Sources/Methods **2g.1 Data/sample** *(description of data/sample and size)*: **2g.2 Analytic Method** *(type of analysis & rationale)*: **2g.3 Testing Results** *(e.g., correlation statistics, comparison of rankings)*:	**2g** **C**☐ **P**☐ **M**☐ **N**☐ **NA**☐
2h. Disparities in Care **2h.1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)*: **2h.2 If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:**	**2h** **C**☐ **P**☐ **M**☐ **N**☐ **NA**☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Scientific Acceptability of Measure Properties*?	**2**
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties*, **met?** **Rationale:**	*2* **C**☐ **P**☐ **M**☐ **N**☐
3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)	Eval Rating
3a. Meaningful, Understandable, and Useful Information **3a.1 Current Use:** in use **3a.2 Use in a public reporting initiative (disclosure of performance results to the public at large)** (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*): U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. The Health and Well-Being of Children: A Portrait of States and the Nation 2007.	**3a** **C**☐ **P**☐ **M**☐ **N**☐

Chartbook based on data from the 2007 National Survey of Children's Health. **3a.3 If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years***):** Copper, Janice L & Vick, Jessica. Promoting Social-Emotional Wellbeing in Early Intervention Services: A Fifty-State View. National Center for Children in Poverty, September 2009. Hagan JF, Shaw, JS, Duncan PM, eds. 2008. Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents, 3rd Edition. Elk Grove Village, IL: American Academy of Pediatrics. Earls, ME, Andrews JE, Hay, SS. A Longitudinal Study of Developmental and Behavioral Screening and Referral in North Carolina's Assuring Better Child Health and Development Participating Practices. Clinical Pediatrics. **Testing of Interpretability** (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*) **3a.4 Data/sample** *(description of data/sample and size)***:** Focus groups were held with numerous stakeholder groups—family advocates, clinicians, Title V leaders, researchers—to obtain feedback on report formats. The Child and Adolescent Health Measurement Initiative led the focus groups and developed reports in accordance with a general consumer information framework. Additional focus groups were held when preparing data and reports for display on the Data Resource Center website. The Data Resource Center executive committee also reviewed report formats for interpretability and applicability. **3a.5 Methods** *(e.g., focus group, survey, QI project)***:** Focus groups **3a.6 Results** *(qualitative and/or quantitative results and conclusions)***:**	
3b/3c. Relation to other NQF-endorsed measures **3b.1 NQF # and Title of similar or related measures:**	
(for NQF staff use) **Notes on similar/related** endorsed **or submitted measures:**	
3b. Harmonization If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population): **3b.2 Are the measure specifications harmonized? If not, why?**	**3b** **C☐** **P☐** **M☐** **N☐** **NA☐**
3c. Distinctive or Additive Value **3c.1 Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:** **5.1 Competing Measures If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), describe why it is a more valid or efficient way to measure quality:**	**3c** **C☐** **P☐** **M☐** **N☐**
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Usability*?	**3**
Steering Committee: Overall, to what extent was the criterion, *Usability***, met?** **Rationale:**	**3** **C☐** **P☐** **M☐**

	N☐
4. FEASIBILITY	
Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	Eval Rating
4a. Data Generated as a Byproduct of Care Processes 4a.1-2 **How are the data elements that are needed to compute measure scores generated?** Survey,	**4a** **C☐** **P☐** **M☐** **N☐**
4b. Electronic Sources 4b.1 **Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*) Yes 4b.2 **If not, specify the near-term path to achieve electronic capture by most providers.**	**4b** **C☐** **P☐** **M☐** **N☐**
4c. Exclusions 4c.1 **Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** No 4c.2 **If yes, provide justification.**	**4c** **C☐** **P☐** **M☐** **N☐** **NA☐**
4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences 4d.1 **Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.**	**4d** **C☐** **P☐** **M☐** **N☐**
4e. Data Collection Strategy/Implementation 4e.1 **Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues:** 4e.2 **Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** 4e.3 **Evidence for costs:** 4e.4 **Business case documentation:**	**4e** **C☐** **P☐** **M☐** **N☐**
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Feasibility*?	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility*, **met?** **Rationale:**	**4** **C☐** **P☐** **M☐**

	N☐
RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited** ☐
Steering Committee: Do you recommend for endorsement? **Comments:**	**Y**☐ **N**☐ **A**☐

CONTACT INFORMATION

Co.1 Measure Steward (Intellectual Property Owner)
Co.1 Organization
Child and Adolescent Health Measurement Initiative on behalf of the Maternal and Child Health Bureau | Oregon Health & Science University, 707 SW Gaines Street | Portland | Oregon | 97239

Co.2 Point of Contact
Christina | Bethell, Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892

Measure Developer If different from Measure Steward
Co.3 Organization
Maternal and Child Health Bureau | Parklawn Building Room 18-05, 5600 Fishers Lane | Rockville | Maryland | 20857

Co.4 Point of Contact
Christina | Bethell, Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892

Co.5 Submitter If different from Measure Steward POC
Christina | Bethell, Ph.D., MPH, MBA | bethellc@ohsu.edu | 503-494-1892- |Child and Adolescent Health Measurement Initiative on behalf of the Maternal and Child Health Bureau

Co.6 Additional organizations that sponsored/participated in measure development
The Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Dept of Health & Human Services.
The National Center of Health Statistics, Centers for Disease Control and Prevention.

ADDITIONAL INFORMATION

Workgroup/Expert Panel involved in measure development
Ad.1 Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.

Ad.2 If adapted, provide name of original measure:
Ad.3-5 If adapted, provide original specifications URL or attachment

Measure Developer/Steward Updates and Ongoing Maintenance
Ad.6 Year the measure was first released: 2007
Ad.7 Month and Year of most recent revision: 2007-04
Ad.8 What is your frequency for review/update of this measure? Updated every 4 years when a new National Survey of Children's Health is developed
Ad.9 When is the next scheduled review/update for this measure? 2011-01

Ad.10 Copyright statement/disclaimers: CAHMI- The Child and Adolescent Health Measurement Initiative.

Ad.11 -13 Additional Information web page URL or attachment:

Date of Submission (*MM/DD/YY*)**:** 02/02/2010

NATIONAL QUALITY FORUM

Measure Evaluation 4.1
January 2010

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The sub-criteria and most of the footnotes from the evaluation criteria are provided in Word comments and will appear if your cursor is over the highlighted area (or in the margin if your Word program is set to show revisions in balloons). Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all yellow highlighted areas of the form. Evaluate the extent to which each sub-criterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the* sub-criteria *(yellow highlighted areas)*.

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the sub-criterion, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few sub-criteria as indicated)

(for NQF staff use) **NQF Review** #: OT3-051-10 **NQF Project:** Patient Outcomes Measures: Child Health and Mental Health (Phase III)
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Pediatric Pain Assessment, Intervention, and Reassessment (AIR) cycle (All Pediatric Patients)
De.2 **Brief description of measure***:* This measure is a process measure that represents a cross-sectional count (percent) of complete pain AIR cycles in hospitalized pediatric and neonatal populations.
1.1-2 **Type of Measure:** process De.3 **If included in a composite or paired with another measure, please identify composite or paired measure** n/a
De.4 **National Priority Partners Priority Area:** care coordination, Palliative and End of Life De.5 **IOM Quality Domain**: patient-centered De.6 **Consumer Care Need:** Getting Better

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* A.1 **Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes A.2 **Indicate if Proprietary Measure** (*as defined in measure steward agreement*)**:** proprietary measure A.3 **Measure Steward Agreement:** agreement signed and submitted A.4 **Measure Steward Agreement attached:** MeasureStewardForm - ANA 020210-634007279296966696.pdf	**A** **Y**☐ **N**☐

B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every 3 years. Yes, information provided in contact section	**B** Y☐ N☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** public reporting, quality improvement 0,0,0,	**C** Y☐ N☐
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 24 months of endorsement. D.1**Testing:** No, testing will be completed within 24 months D.2 **Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** Y☐ N☐
(for NQF staff use**)** **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	**Met** Y☐ N☐
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. *Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	Eval Rating
(for NQF staff use) Specific NPP goal:	
1a.1 **Demonstrated High Impact Aspect of Healthcare:** frequently performed procedure, affects large numbers 1a.2 1a.3 **Summary of Evidence of High Impact:** Pain is an international issue, reported across disease states and present in all age cohorts. (1-5) Pain management can be viewed as a human right….unreasonable failure to treat pain is viewed worldwide as poor medicine, unethical practice, and an abrogation of a fundamental human right.(6) A number of painful procedures (albeit some minor) are commonly performed on children in the emergency department and other areas without pain management.(7) In one study, only 27% of children had any pain score documented in the preceding 24 h. It was concluded that pain was infrequently assessed, yet occurred commonly across all age groups and services and was often moderate or severe. Although effective, analgesic therapy was largely single-agent and intermittent…pain assessment is the cornerstone of pain management and its documentation is important and will help make the pain problem more visible. It would seem logical that until pain assessment documentation is routine, the treatment of pain may remain suboptimal.(8) Assessment is key to pain management, in particular with infants and children. "For adults to consider whether pain treatment is indicated for a newborn, they must recognize and interpret the signals given by the neonate who is facing a painful stimulus. It is by means of these signals, such as facial expressions, body movements, crying, and level of consciousness, that neonates establish interpersonal communication via their pain "language." However, the acquisition of knowledge and the	**1a** C☐ P☐ M☐ N☐

training of health-care professionals about pain assessment are not sufficient for appropriate pain evaluation in newborns. Any attempt to evaluate a painful event should take into consideration that the recognition of pain in the preverbal infant is subjective and, therefore, subject to multiple factors that can influence the observer's perception and assessment. Because personal, professional, and socioeconomic characteristics of the adults responsible for neonatal care, along with characteristics of the observed patients, influence the capacity of caregivers to interpret nonverbal communication of pain expressed by the neonate, the systematic use of validated pain assessment tools is important to make the perceptions of neonatal pain more homogeneous among health professionals".(9)

In addition to lack of assessment, there are disparities in pain management. "Consistent with the Institute of Medicine's report on health care disparities, racial and ethnic disparities in pain perception, assessment, and treatment were found in all settings (i.e., postoperative, emergency room) and across all types of pain (i.e., acute, cancer, chronic nonmalignant, and experimental). The literature suggests that the sources of pain disparities among racial and ethnic minorities are complex, involving patient (e.g., patient/health care provider communication, attitudes), health care provider (e.g., decision making), and health care system (e.g., access to pain medication) factors. There is a need for improved training for health care providers and educational interventions for patients. A comprehensive pain research agenda is necessary to address pain disparities among racial and ethnic minorities".(10)

1a.4 Citations for Evidence of High Impact:

1. Schmidt, CO, Raspe, H, Pfingsten, M, Hasenbring, M, Basler, HD, Eich, W and Kohlmann, T. (2007). Back Pain in the German Adult Population: Prevalence, Severity, and Sociodemographic Correlates in a Multiregional Survey. Spine 32(18), 2005-2011.
2. Miró, J, Paredes, S, Rull, M Queral, R, Miralles, R, Nieto, R, Huguet, A and Baos, J. (). Pain in older adults: A prevalence study in the Mediterranean region of Catalonia. European Journal of Pain,: 11(1), Pages 83-92.
3. Huguet, A and Miró, J. The Severity of Chronic Pediatric Pain: An Epidemiological Study The Journal of Pain,; 9(3), 226-236.
4. Nampiaparampil, DE.(2008). Prevalence of chronic pain after traumatic brain injury: A systematic review JAMA300(6), 711-719.
5. Jeffries, LJ, Milanese, SF and Grimmer-Somers, KA (2007). Epidemiology of adolescent spinal pain: A systematic overview of the research literature. Spine; 32(23), 2630-2637.
6. Brennan, F, Carr, DB and Cousins, M. (2007). Pain management: A fundamental human right. Anesth Analg; 105:205-221.
7. MacLean, S, Obispo, J and Young, K. (2007). The gap between pediatric emergency department procedural pain management treatments available and actual practice. Pediatric Emergency Care; 23(2), 87-93.
8. Taylor, EM, Boyer, K and Campbell, FA. (2008). Pain in hospitalized children: A prospective cross-sectional survey of pain prevalence, intensity, assessment and management in a Canadian pediatric teaching hospital. Pain Res Manag; 13(1): 25–32.
9. Balda, RdCX and Guinsburg, R. (2007). Perceptions of neonatal pain. American Academy of Pediatrics NeoReviews; 8(1)2.
10. Green, CR, Anderson, KO, Baker, TA, Campbell, LC, Decker, S, Fillingim, RB, Kaloukalani, DA, Lasch, KE, Myers, C, Tait, RC, Todd, KH and Vallerand, AH. (2003). The unequal burden of pain: Confronting racial and ethnic disparities in pain. Pain Medicine; 4(3), 277-294.

1b. Opportunity for Improvement

1b.1 Benefits (improvements in quality) envisioned by use of this measure: This measure will assist nursing units to explore their compliance with the complete nursing process related to pain control in children. Poor overall performance on this measure may be used as a trigger to further drill down and discover what elements in the AIR cycle are most under-performed.

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
Data tables provided in an attachment show there is room for improvement among the lower percentile rankings. See attachment in section Ad.11.

1b
C☐
P☐
M☐
N☐

1b.3 Citations for data on performance gap:
This information not available

1b.4 Summary of Data on disparities by population group:
This information not available

1b.5 Citations for data on Disparities:
This information not available

1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*)**:** The completeness of the Pain AIR Cycle is a process measure. According to the Donabedian (1988) quality improvement model, structure measures (such as nursing care hours on the units and percent of hours supplied by RNs) should be related to the completeness of the pain assessment cycle. Both nursing workforce characteristics and the pain assessment process would be related to the degree of pain management.
Donabedian, A. (1988). The quality of care: How can it be assessed? Journal of the American Medical Association, 260, 1743-48.

1c.2-3. Type of Evidence:

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**
More complete pain cycles are expected to translate into better pain management.

1c.5 Rating of strength/quality of evidence (*also provide narrative description of the rating and by whom***):**
This information not available

1c.6 Method for rating evidence: This information not available

1c.7 Summary of Controversy/Contradictory Evidence: This information not available

1c.8 Citations for Evidence (*other than guidelines***):** This information not available

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number***):**
This information not available

1c.10 Clinical Practice Guideline Citation: This information not available
1c.11 National Guideline Clearinghouse or other URL: This information not available

1c.12 Rating of strength of recommendation (*also provide narrative description of the rating and by whom***):**
This information not available

1c.13 Method for rating strength of recommendation (*If different from* USPSTF system*, also describe rating and how it relates to USPSTF)***:**
This information not available

1c.14 Rationale for using this guideline over others:
This information not available

1c
C☐
P☐
M☐
N☐

TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Importance to Measure and Report?*

1

Steering Committee: Was the threshold criterion, *Importance to Measure and Report***, met?**
Rationale:

1
Y☐
N☐

2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	Eval Rating
2a. MEASURE SPECIFICATIONS	
S.1 Do you have a web page where current detailed measure specifications can be obtained? **S.2 If yes, provide web page URL:** **2a. Precisely Specified**	
2a.1 Numerator Statement (*Brief, text description of the numerator - what is being measured about the target population, e.g. target condition, event, or outcome***):** Number of complete pain AIR cycles **2a.2 Numerator Time Window (***The time period in which cases are eligible for inclusion in the numerator***):** Data collection occurs during a one-day quarterly study. The cycles evaluated are the first two cycles reported of the 24 hour reporting period. For example, if the 24 hour data collection period began at 9am Monday, the first two pain cycles that were initiated after 9am Monday would be evaluated for inclusion in the numerator. **2a.3 Numerator Details (***All information required to collect/calculate the numerator, including all codes, logic, and definitions***):** The source of the numerator data is a one-day quarterly prevalence data collection, that includes all patients who have been present on the unit for at least 24 hours. Include all patients regardless of illness acuity, diagnosis, or resuscitation status. Patients who are pharmacologically paralyzed and/or continuously sedated are included. Patients who have made temporary trips off the unit within the 24 hour period are included; however if the patient record is unavailable at the time of the data collection because the patient is off the unit, the patient may be exlcuded. On the day of the quarterly prevalence study, obtain a list of all patients that have been present on the unit for at least 24 hours. The 24 hour study period begins exactly 24 hours previous to the time data collection begins. For example, if the data collection begins on a Tuesday at 9am, the 24 hour period starts at 9am Monday and ends at 8:59am on Tuesday. The 24 hour period is the same for all patients on the unit. A complete pain AIR cycle is defined as any cycle where a pain assessment is followed by an intervention and the intervention is followed by a reassessment. If patients are assessed to be “not in pain” or “sleeping” at the time of the pain assessment, that assessment cycle is also considered complete.	
2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured***):** Total number of cycles initiated **2a.5 Target population gender:** Male, Female **2a.6 Target population age range:** Newborn to age 18. Patients over the age of 18 may be included in the measure if admitted to a pediatric unit with a childhood disorder. **2a.7 Denominator Time Window (***The time period in which cases are eligible for inclusion in the denominator***):** Same as numerator **2a.8 Denominator Details (***All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions***):** Same as numerator	**2a-specs** **C**☐ **P**☐ **M**☐ **N**☐
2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** Patients on the unit < 24 hours.	

2a.10 Denominator Exclusion Details (*All information required to collect exclusions to the denominator, including all codes, logic, and definitions***):**
See 2a.3

2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions***):**
The measure is stratified based on unit type: pediatric critical care, pediatric step down, pediatric medical, pediatric surgical, pediatric med/surg, NICU Level II, NICU Level III

2a.12-13 Risk Adjustment Type: no risk adjustment necessary

2a.14 Risk Adjustment Methodology/Variables (*List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method***):**
N/A

2a.15-17 Detailed risk model available Web page URL or attachment:

2a.18-19 Type of Score: rate/proportion
2a.20 Interpretation of Score: better quality = higher score
2a.21 Calculation Algorithm (*Describe the calculation of the measure as a flowchart or series of steps***):**
(# of complete pain AIR cycles/ total # of cycles initiated) x 100

2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**
Significance testing is not recommended for evaluating performance. Units should compare themselves against the median or other percentile rankings provided from national convenience samples.

2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*:
See 2.a.3.

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
lab data

2a.25 Data source/data collection instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):**
Microsoft Excel® Data collection instrument available from NDNQI.

2a.26-28 Data source/data collection instrument reference web page URL or attachment: Attachment Pain Data Collection Form.xls

2a.29-31 Data dictionary/code table web page URL or attachment: Attachment CODEBOOK for PEDIATRIC PAIN.docx

2a.32-35 Level of Measurement/Analysis (*Check the level(s) for which the measure is specified and tested)*
Clinicians: Group, Population: national

2a.36-37 Care Settings (*Check the setting(s) for which the measure is specified and tested)*
Hospital

2a.38-41 Clinical Services (*Healthcare services being measured, check all that apply*)
Clinicians: Nurses

TESTING/ANALYSIS

2b. Reliability testing

2b.1 Data/sample *(description of data/sample and size)***:** Reliability testing will be conducted within 24 months.

2b
C☐
P☐
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N☐

2b.2 Analytic Method *(type of reliability & rationale, method for testing)*: N/A **2b.3 Testing Results** *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)*: N/A	
2c. Validity testing **2c.1 Data/sample** *(description of data/sample and size)*: Face validity was initially verified by pediatric nursing experts from research, practice, and administration (Lacey, et al.) The indicator was subsequently posted on the NDNQI member internet bulletin board for member comment regarding validity and feasibility. Following the external reviews, pilot testing was conducted using 10 hospitals with a total of 91 NICU, PICU, and medical surgical units. Lacey, S.R., Klaus, S.F., Smith, J.B., Cox, K.S., & Dunton, N.E. (2006). Developing measures of pediatric nursing quality. Journal of Nursing Care Quality, 21(3), 210-220. **2c.2 Analytic Method** *(type of validity & rationale, method for testing)*: Described in 2c.1 **2c.3 Testing Results** *(statistical results, assessment of adequacy in the context of norms for the test conducted)*: Described in 2c.1	**2c** C☐ P☐ M☐ N☐
2d. Exclusions Justified **2d.1 Summary of Evidence supporting exclusion(s):** not available **2d.2 Citations for Evidence:** N/A **2d.3 Data/sample** *(description of data/sample and size)*: N/A **2d.4 Analytic Method** *(type analysis & rationale)*: N/A **2d.5 Testing Results** *(e.g., frequency, variability, sensitivity analyses)*: N/A	**2d** C☐ P☐ M☐ N☐ NA☐
2e. Risk Adjustment for Outcomes/ Resource Use Measures **2e.1 Data/sample** *(description of data/sample and size)*: N/A **2e.2 Analytic Method** *(type of risk adjustment, analysis, & rationale)*: N/A **2e.3 Testing Results** *(risk model performance metrics)*: N/A **2e.4 If outcome or resource use measure is not risk adjusted, provide rationale:** N/A	**2e** C☐ P☐ M☐ N☐ NA☐
2f. Identification of Meaningful Differences in Performance **2f.1 Data/sample from Testing or Current Use** *(description of data/sample and size)*: Data collected by NDNQI from the 3rd quarter of 2007 through the 1st quarter of 2009 is presented in an attachment (section Ad.11) several types of pediatric units. The data are from 317 hospitals with 578 reporting units. While high levels of performance are demonstrated by the majority of units, one quarter of units could improve the completeness of pain assessment.	**2f** C☐ P☐ M☐ N☐

2f.2 Methods to identify statistically significant and practically/meaningfully differences in performance *(type of analysis & rationale)***:** Descriptive statistics, for use by patient care units for quality improvement. **2f.3 Provide Measure Scores from Testing or Current Use** *(description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)***:** See attachment Ad.11	
2g. Comparability of Multiple Data Sources/Methods **2g.1 Data/sample** *(description of data/sample and size)***:** not available **2g.2 Analytic Method** *(type of analysis & rationale)***:** not available **2g.3 Testing Results** *(e.g., correlation statistics, comparison of rankings)***:** not available	**2g** **C**☐ **P**☐ **M**☐ **N**☐ **NA**☐
2h. Disparities in Care **2h.1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)***:** not available **2h.2 If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:** N/A	**2h** **C**☐ **P**☐ **M**☐ **N**☐ **NA**☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Scientific Acceptability of Measure Properties*?	**2**
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties***, met?** **Rationale:**	*2* **C**☐ **P**☐ **M**☐ **N**☐
3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)	Eval Rating
3a. Meaningful, Understandable, and Useful Information **3a.1 Current Use:** in use **3a.2 Use in a public reporting initiative (disclosure of performance results to the public at large)** (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*)**:** none identified to date **3a.3 If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years***):** Currently, hospitals use this measure for unit-level quality improvement initiatives. Sites have published the use of this measure, eg. Hall, G., Timmons,J., Hopwood, K., Ridder, P., Teaford, K., Johnson-Carlson, P., & Belfiore, D. (2007). Rapid cycle performance teams use NDNQI data in balanced scorecare to improve pain management in children. In: Transforming Nursing Data into Quality Care: Profiles of Quality Improvement in U.S. Healthcare Facilities. Silver Springs, MD: American Nurses Association.	**3a** **C**☐ **P**☐ **M**☐ **N**☐

Testing of Interpretability (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*) **3a.4 Data/sample** *(description of data/sample and size)*: N/A **3a.5 Methods** *(e.g., focus group, survey, QI project)*: N/A **3a.6 Results** *(qualitative and/or quantitative results and conclusions)*: N/A	
3b/3c. Relation to other NQF-endorsed measures **3b.1 NQF # and Title of similar or related measures:** NQF 0341- PICU pain assessment on admission	
(for NQF staff use) **Notes on similar/related** endorsed **or submitted measures:**	
3b. Harmonization If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population): **3b.2 Are the measure specifications harmonized? If not, why?** Not harmonized. This measure is applicable to all acute care pediatric inpatient settings, whereas the currently endorsed, but related measure, (0341) applies only to the PICU.	**3b** C☐ P☐ M☐ N☐ NA☐
3c. Distinctive or Additive Value **3c.1 Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:** This measure evaluates general completeness of the processes, rather than compliance at a particular point in time. In order for pain management to be effective, interventions must be administered consistently and appropriately assessed. This would be a prequel to effective pain management. **5.1 Competing Measures If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), describe why it is a more valid or efficient way to measure quality:** N/A- this measure targets a different population.	**3c** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Usability?*	**3**
Steering Committee: Overall, to what extent was the criterion, *Usability*, **met?** **Rationale:**	**3** C☐ P☐ M☐ N☐
4. FEASIBILITY	
Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	Eval Rating
4a. Data Generated as a Byproduct of Care Processes **4a.1-2 How are the data elements that are needed to compute measure scores generated?** data generated as byproduct of care processes during delivery,	**4a** C☐ P☐ M☐ N☐
4b. Electronic Sources **4b.1 Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*) No	**4b** C☐ P☐ M☐ N☐

4b.2 **If not, specify the near-term path to achieve electronic capture by most providers.** Because most of the data elements are patient level, units with electronic health records should be able to extract the appropriate data elements. Quantitative information on the universal availability of the data from EHR has yet to be tested.	
4c. Exclusions 4c.1 **Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** No 4c.2 **If yes, provide justification.**	**4c** C☐ P☐ M☐ N☐ NA☐
4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences 4d.1 **Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.** Anecdotally, poor performance is reported in some cases to be related to ineffective documentation rather than lapses in patient care.	**4d** C☐ P☐ M☐ N☐
4e. Data Collection Strategy/Implementation 4e.1 **Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues:** N/A 4e.2 **Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** Relatively low cost as the data are obtained from patient hospital records. The one-day data collection also minimizes the costs associated with data collection. 4e.3 **Evidence for costs:** During pilot testing in 2004, data collectors were asked to provide information regarding how much time was typical for data collection. On average, it required 13 minutes per patient. This would equate to approximately 4 hours and 20 minutes per quarter for a 20 patient pediatric unit. 4e.4 **Business case documentation:** N/A	**4e** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Feasibility*?	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility*, **met?** **Rationale:**	**4** C☐ P☐ M☐ N☐
RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited** ☐
Steering Committee: Do you recommend for endorsement? **Comments:**	**Y**☐ **N**☐ **A**☐
CONTACT INFORMATION	

Co.1 Measure Steward (Intellectual Property Owner)
Co.1 Organization
American Nurses Association | 8515 Georgia Ave., Suite 400 | Silver Spring | Maryland | 20910-3492

Co.2 Point of Contact
Isis | Montalvo, MBA, MS, RN | Isis.Montalvo@ana.org | 301-628-5047

Measure Developer If different from Measure Steward
Co.3 Organization
American Nurses Association | 8515 Georgia Ave., Suite 400 | Silver Spring | Maryland | 20910-3492

Co.4 Point of Contact
Isis | Montalvo, MBA, MS, RN | Isis.Montalvo@ana.org | 301-628-5047

Co.5 Submitter If different from Measure Steward POC
Isis | Montalvo, MBA, MS, RN | Isis.Montalvo@ana.org | 301-628-5047- |American Nurses Association

Co.6 Additional organizations that sponsored/participated in measure development

ADDITIONAL INFORMATION

Workgroup/Expert Panel involved in measure development
Ad.1 Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.
Susan Lacey, PhD, RN, FAAN
Children's Mercy Hospital, Kansas City, MO
Dr. Lacey conducted the initial literature review and developed the draft measures that were later pilot tested and modified.

Ad.2 If adapted, provide name of original measure: N/A
Ad.3-5 If adapted, provide original specifications URL or attachment

Measure Developer/Steward Updates and Ongoing Maintenance
Ad.6 Year the measure was first released: 2004
Ad.7 Month and Year of most recent revision:
Ad.8 What is your frequency for review/update of this measure? Reliability testing scheduled within 24 months
Ad.9 When is the next scheduled review/update for this measure?

Ad.10 Copyright statement/disclaimers: The American Nurses Association (ANA) National Database of Nursing Quality Indicators® ("The NDNQI® Database") is a repository of data related to health care facilities, including data collected from NDNQI® Participating Facilities with respect to the ANA Quality Measures and Complex Measures. "NDNQI® Participating Facility" shall mean any health care facility that has contracted to receive services from ANA, ANA's National Center for Nursing Quality (NCNQ®) or ANA's subcontractors that are related to the NDNQI® Database. The NDNQI® Database shall not be considered a Measure, and no aspect of the development of the NDNQI® Database, including the collection of data from NDNQI® Participating Facilities shall be considered a non-proprietary Measure. Nothing in the foregoing Agreement with Measure Stewards, these Exhibits and the Measure Submission Forms shall implicate or diminish ANA's intellectual property rights in the NDNQI® Database, including but not limited to data and benchmarks. Similarly, nothing in the foregoing Agreement with Measure Stewards, these Exhibits and the Measure Submission Forms shall implicate or diminish ANA's intellectual property rights with respect to refinements and improvements to the Measures and Complex Measures, or the application of the Measures and Complex Measures, that are related to the NDNQI® Database, including but not limited to the NDNQI® guidelines and tutorials, stratification details, definitions and data collection methodologies. ANA expressly reserves all copyright, patent and trademark rights with respect to its Measures, Complex Measures and related materials.
ANA's standard copyright statement, as follows, should be accompany the indicator when used by organizations.
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Ad.11 -13 Additional Information web page URL or attachment: Attachment PainAIR_all_allDataTables.docx

Date of Submission (*MM/DD/YY*)**:** 02/02/2010

NATIONAL QUALITY FORUM

Measure Evaluation 4.1
January 2010

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The sub-criteria and most of the footnotes from the evaluation criteria are provided in Word comments and will appear if your cursor is over the highlighted area (or in the margin if your Word program is set to show revisions in balloons). Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all yellow highlighted areas of the form. Evaluate the extent to which each sub-criterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the* sub-criteria *(yellow highlighted areas)*.

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the sub-criterion, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few sub-criteria as indicated)

(for NQF staff use) **NQF Review** #: OT3-052-10 **NQF Project:** Patient Outcomes Measures: Child Health and Mental Health (Phase III)
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Pediatric Pain Assessment, Intervention, and Reassessment (AIR) cycle (Pediatric Patients in Pain)
De.2 **Brief description of measure***:* This measure is a process measure that represents a cross-sectional count (percent) of complete pain AIR cycles in hospitalized pediatric and neonatal populations where pain has been identified.
1.1-2 **Type of Measure:** process De.3 **If included in a composite or paired with another measure, please identify composite or paired measure**
De.4 **National Priority Partners Priority Area:** care coordination, Palliative and End of Life De.5 **IOM Quality Domain**: patient-centered De.6 **Consumer Care Need:** Getting Better

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* A.1 **Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes A.2 **Indicate if Proprietary Measure** (*as defined in measure steward agreement*)**:** proprietary measure A.3 **Measure Steward Agreement:** agreement signed and submitted A.4 **Measure Steward Agreement attached:** MeasureStewardForm - ANA 020210.pdf	**A** **Y**☐ **N**☐

B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every 3 years. Yes, information provided in contact section	**B** Y☐ N☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** public reporting, quality improvement 0,0,0,	**C** Y☐ N☐
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 24 months of endorsement. D.1**Testing:** No, testing will be completed within 24 months D.2 **Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** Y☐ N☐
(for NQF staff use**)** **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	**Met** Y☐ N☐
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. *Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	Eval Rating
(for NQF staff use) Specific NPP goal:	
1a.1 **Demonstrated High Impact Aspect of Healthcare:** affects large numbers, frequently performed procedure 1a.2 1a.3 **Summary of Evidence of High Impact:** Pain is an international issue, reported across disease states and present in all age cohorts. (1-5) Pain management can be viewed as a human right….unreasonable failure to treat pain is viewed worldwide as poor medicine, unethical practice, and an abrogation of a fundamental human right.(6) A number of painful procedures (albeit some minor) are commonly performed on children in the emergency department and other areas without pain management.(7) In one study, only 27% of children had any pain score documented in the preceding 24 h. It was concluded that pain was infrequently assessed, yet occurred commonly across all age groups and services and was often moderate or severe. Although effective, analgesic therapy was largely single-agent and intermittent…pain assessment is the cornerstone of pain management and its documentation is important and will help make the pain problem more visible. It would seem logical that until pain assessment documentation is routine, the treatment of pain may remain suboptimal.(8) Assessment is key to pain management, in particular with infants and children. "For adults to consider whether pain treatment is indicated for a newborn, they must recognize and interpret the signals given by the neonate who is facing a painful stimulus. It is by means of these signals, such as facial expressions, body movements, crying, and level of consciousness, that neonates establish interpersonal communication via their pain "language." However, the acquisition of knowledge and the	**1a** C☐ P☐ M☐ N☐

training of health-care professionals about pain assessment are not sufficient for appropriate pain evaluation in newborns. Any attempt to evaluate a painful event should take into consideration that the recognition of pain in the preverbal infant is subjective and, therefore, subject to multiple factors that can influence the observer's perception and assessment. Because personal, professional, and socioeconomic characteristics of the adults responsible for neonatal care, along with characteristics of the observed patients, influence the capacity of caregivers to interpret nonverbal communication of pain expressed by the neonate, the systematic use of validated pain assessment tools is important to make the perceptions of neonatal pain more homogeneous among health professionals".(9)

In addition to lack of assessment, there are disparities in pain management. "Consistent with the Institute of Medicine's report on health care disparities, racial and ethnic disparities in pain perception, assessment, and treatment were found in all settings (i.e., postoperative, emergency room) and across all types of pain (i.e., acute, cancer, chronic nonmalignant, and experimental). The literature suggests that the sources of pain disparities among racial and ethnic minorities are complex, involving patient (e.g., patient/health care provider communication, attitudes), health care provider (e.g., decision making), and health care system (e.g., access to pain medication) factors. There is a need for improved training for health care providers and educational interventions for patients. A comprehensive pain research agenda is necessary to address pain disparities among racial and ethnic minorities".(10)

1a.4 Citations for Evidence of High Impact:

1. Schmidt, CO, Raspe, H, Pfingsten, M, Hasenbring, M, Basler, HD, Eich, W and Kohlmann, T. (2007). Back Pain in the German Adult Population: Prevalence, Severity, and Sociodemographic Correlates in a Multiregional Survey. Spine 32(18), 2005-2011.
2. Miró, J, Paredes, S, Rull, M Queral, R, Miralles, R, Nieto, R, Huguet, A and Baos, J. (). Pain in older adults: A prevalence study in the Mediterranean region of Catalonia. European Journal of Pain,: 11(1), Pages 83-92.
3. Huguet, A and Miró, J. The Severity of Chronic Pediatric Pain: An Epidemiological Study The Journal of Pain,; 9(3), 226-236.
4. Nampiaparampil, DE.(2008). Prevalence of chronic pain after traumatic brain injury: A systematic review JAMA300(6), 711-719.
5. Jeffries, LJ, Milanese, SF and Grimmer-Somers, KA (2007). Epidemiology of adolescent spinal pain: A systematic overview of the research literature. Spine; 32(23), 2630-2637.
6. Brennan, F, Carr, DB and Cousins, M. (2007). Pain management: A fundamental human right. Anesth Analg; 105:205-221.
7. MacLean, S, Obispo, J and Young, K. (2007). The gap between pediatric emergency department procedural pain management treatments available and actual practice. Pediatric Emergency Care; 23(2), 87-93.
8. Taylor, EM, Boyer, K and Campbell, FA. (2008). Pain in hospitalized children: A prospective cross-sectional survey of pain prevalence, intensity, assessment and management in a Canadian pediatric teaching hospital. Pain Res Manag; 13(1): 25–32.
9. Balda, RdCX and Guinsburg, R. (2007). Perceptions of neonatal pain. American Academy of Pediatrics NeoReviews; 8(1)2.
10. Green, CR, Anderson, KO, Baker, TA, Campbell, LC, Decker, S, Fillingim, RB, Kaloukalani, DA, Lasch, KE, Myers, C, Tait, RC, Todd, KH and Vallerand, AH. (2003). The unequal burden of pain: Confronting racial and ethnic disparities in pain. Pain Medicine; 4(3), 277-294.

1b. Opportunity for Improvement

1b.1 Benefits (improvements in quality) envisioned by use of this measure: This measure will assist nursing units to explore their compliance with the complete nursing process related to pain control in children. Poor overall performance on this measure may be used as a trigger to further drill down and discover what elements in the AIR cycle are most under-performed.

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
Attached (section Ad.11) are tables containing 8 quarters of Pain AIR data by unit type, reported for units that evaluate pain cycles of children/neonates in pain. The data show there is room for improvement among half of the reporting units.

1b
C☐
P☐
M☐
N☐

1b.3 Citations for data on performance gap:
not available

1b.4 Summary of Data on disparities by population group:
not available

1b.5 Citations for data on Disparities:
not available

1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*)**:** The completeness of the Pain AIR Cycle is a process measure. According to the Donabedian (1988) quality improvement model, structure measures (such as nursing care hours on the units and percent of hours supplied by RNs) should be related to the completeness of the pain assessment cycle. Both nursing workforce characteristics and the pain assessment process would be related to the degree of pain management.
Donabedian, A. (1988). The quality of care: How can it be assessed? Journal of the American Medical Association, 260, 1743-48.

1c.2-3. Type of Evidence: other (specify) Exploratory correlational analyses

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**
Preliminary analyses were conducted using NDNQI data collected during 3rd quarter, 2009. We performed exploratory bivariate correlations, stratified by unit type, between NDNQI nurse staffing variables and the % of complete pain AIR cycles for children in pain. Because both staffing and Pain AIR was required, the unit sample size by type was relatively small. Despite the small sample sizes, several correlations reached or nearly reached significance.

In Level II NICUs (n=20) we found a positive relationship between skill mix (% RN) and the % of complete pain AIR cycles for children in pain (r = 0.48, p = .03). Also in pediatric step down (n = 18) we found a negative relationhip between the percent of agency nursing staff and the % of complete pain AIR cycles for children in pain (r = -0.41, p = .09). A significant relationship that warrents further investigation was discovered in pediatric surgical units (n = 31) where the total nursing hppd (r = -0.42, p = .01) and RN hppd (r = -0.38, p = .03) were significantly inversely related to the % of complete pain AIR cycles.

1c.5 Rating of strength/quality of evidence (*also provide narrative description of the rating and by whom***):**
not available

1c.6 Method for rating evidence: not available

1c.7 Summary of Controversy/Contradictory Evidence: not available

1c.8 Citations for Evidence (*other than guidelines***):** not available

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number***):**
not available

1c.10 Clinical Practice Guideline Citation: not available
1c.11 National Guideline Clearinghouse or other URL: not available

1c.12 Rating of strength of recommendation (*also provide narrative description of the rating and by whom***):**
not available

1c
C ☐
P ☐
M ☐
N ☐

1c.13 Method for rating strength of recommendation (*If different from* USPSTF system, *also describe rating and how it relates to USPSTF)*: not available **1c.14 Rationale for using this guideline over others:** not available	
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Importance to Measure and Report?*	**1**
Steering Committee: Was the threshold criterion, *Importance to Measure and Report*, **met?** **Rationale:**	**1** **Y☐** **N☐**
2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	Eval Rating
2a. MEASURE SPECIFICATIONS	
S.1 Do you have a web page where current detailed measure specifications can be obtained? **S.2 If yes, provide web page URL:** **2a. Precisely Specified**	
2a.1 Numerator Statement (*Brief, text description of the numerator - what is being measured about the target population, e.g. target condition, event, or outcome***):** Number of complete pain AIR cycles in children where pain was identified **2a.2 Numerator Time Window (***The time period in which cases are eligible for inclusion in the numerator***):** The data collection occurs as a one-day quarterly study. The cycles evaluated are the first two cycles reported of the 24 hour reporting period. For example, if the 24 hour data collection period began at 9am Monday, the first two pain cycles that were initiated after 9am Monday would be evaluated for inclusion in the numerator. **2a.3 Numerator Details (***All information required to collect/calculate the numerator, including all codes, logic, and definitions***):** The source of the numerator data is a one-day quarterly prevalence data collection, that includes all patients who have been present on the unit for at least 24 hours. Include all patients determined to be in pain on the initial assessment, regardless of illness acuity, diagnosis, or resuscitation status. Patients who are pharmacologically paralyzed and/or continuously sedated are included. Patients who have made temporary trips off the unit within the 24 hour period are included; however if the patient record is unavailable at the time of the data collection because the patient is off the unit, the patient may be exlcuded. On the day of the quarterly prevalence study, obtain a list of all patients that have been present on the unit for at least 24 hours. The 24 hour study period begins exactly 24 hours previous to the time data collection begins. For example, if the data collection begins on a Tuesday at 9am, the 24 hour period starts at 9am Monday and ends at 8:59am on Tuesday. The 24 hour period is the same for all patients on the unit. A complete pain AIR cycle is defined as any cycle where a pain assessment is performed, the child is found to be in pain, and is followed by an intervention and the intervention is followed by a reassessment. If patients are assessed to be “not in pain” or “sleeping” at the time of the pain assessment, that assessment cycle is excluded.	**2a-specs** **C☐** **P☐** **M☐** **N☐**
2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured***):**	

Total number of pain cycles initiated where pain was identified

2a.5 Target population gender: Female, Male
2a.6 Target population age range: Newborn to age 18. Patients over the age of 18 if they have been purposefully admitted to a pediatric unit with a childhood disorder.

2a.7 Denominator Time Window (*The time period in which cases are eligible for inclusion in the denominator***):**
Same as numerator

2a.8 Denominator Details (*All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions***):**
Same as numerator

2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** Patients on the unit < 24 hours.

2a.10 Denominator Exclusion Details (*All information required to collect exclusions to the denominator, including all codes, logic, and definitions***):**
See 2a.3

2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions***):**
The measure is stratified based on unit type: pediatric critical care, pediatric step down, pediatric medical, pediatric surgical, pediatric med/surg, NICU Level II, NICU Level III

2a.12-13 Risk Adjustment Type: no risk adjustment necessary

2a.14 Risk Adjustment Methodology/Variables (*List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method***):**
N/A

2a.15-17 Detailed risk model available Web page URL or attachment:

2a.18-19 Type of Score: rate/proportion
2a.20 Interpretation of Score: better quality = higher score
2a.21 Calculation Algorithm (*Describe the calculation of the measure as a flowchart or series of steps***):**
(# of complete pain AIR cycles where pain was identified/ total # of cycles initiated where pain was identified) x 100

2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**
Significance testing is not recommended for evaluating performance. Units should compare themselves against the median or other percentile rankings provided from national convenience samples.

2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*:
N/A

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
lab data

2a.25 Data source/data collection instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):**
Microsoft Excel® Data collection instrument available from NDNQI.

2a.26-28 Data source/data collection instrument reference web page URL or attachment: Attachment Pain Data Collection Form-634007031950258536.xls

2a.29-31 Data dictionary/code table web page URL or attachment: Attachment CODEBOOK for PEDIATRIC PAIN-634007032101351319.docx

2a.32-35 Level of Measurement/Analysis (*Check the level(s) for which the measure is specified and*

tested) Clinicians: Group, Population: national **2a.36-37 Care Settings (***Check the setting(s) for which the measure is specified and tested)* Hospital **2a.38-41 Clinical Services** (*Healthcare services being measured, check all that apply*) Clinicians: Nurses	
TESTING/ANALYSIS	
2b. Reliability testing **2b.1 Data/sample** *(description of data/sample and size)*: Reliability testing will be conducted within the next 24 months. **2b.2 Analytic Method** *(type of reliability & rationale, method for testing)*: **2b.3 Testing Results** *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)*:	**2b** C☐ P☐ M☐ N☐
2c. Validity testing **2c.1 Data/sample** *(description of data/sample and size)*: Face validity was initially verified by pediatric nursing experts from research, practice, and administration (Lacey, et al.) The indicator was subsequently posted on the NDNQI member internet bulletin board for member comment regarding validity and feasibility. Following the external reviews, pilot testing was conducted using 10 hospitals with a total of 91 NICU, PICU, and medical surgical units. Lacey, S.R., Klaus, S.F., Smith, J.B., Cox, K.S., & Dunton, N.E. (2006). Developing measures of pediatric nursing quality. Journal of Nursing Care Quality, 21(3), 210-220. **2c.2 Analytic Method** *(type of validity & rationale, method for testing)*: face validity, see 2c.1. **2c.3 Testing Results** *(statistical results, assessment of adequacy in the context of norms for the test conducted)*: see 2c.1.	**2c** C☐ P☐ M☐ N☐
2d. Exclusions Justified **2d.1 Summary of Evidence supporting exclusion(s):** not available **2d.2 Citations for Evidence:** not available **2d.3 Data/sample** *(description of data/sample and size)*: not available **2d.4 Analytic Method** *(type analysis & rationale)*: not available **2d.5 Testing Results** *(e.g., frequency, variability, sensitivity analyses)*: not available	**2d** C☐ P☐ M☐ N☐ NA☐
2e. Risk Adjustment for Outcomes/ Resource Use Measures	**2e**

2e.1 Data/sample *(description of data/sample and size)*: This measure is not risk adjusted **2e.2 Analytic Method** *(type of risk adjustment, analysis, & rationale)*: N/A **2e.3 Testing Results** *(risk model performance metrics)*: N/A **2e.4 If outcome or resource use measure is not risk adjusted, provide rationale:** N/A	**C☐ P☐ M☐ N☐ NA☐**
2f. Identification of Meaningful Differences in Performance **2f.1 Data/sample from Testing or Current Use** *(description of data/sample and size)*: Data collected by NDNQI from the 4th quarter of 2007 through the 3rd quarter of 2009 is presented in an attachment for several types of pediatric units. The data are from 317 hospitals with 578 reporting units. While high levels of performance are demonstrated by the majority of units, one quarter of units could improve the completeness of pain assessment. See attachment Section Ad.11 **2f.2 Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)*: not applicable **2f.3 Provide Measure Scores from Testing or Current Use** *(description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)*: See attachment Ad.11 for complete descriptive statistics.	**2f** **C☐ P☐ M☐ N☐**
2g. Comparability of Multiple Data Sources/Methods **2g.1 Data/sample** *(description of data/sample and size)*: not available **2g.2 Analytic Method** *(type of analysis & rationale)*: not available **2g.3 Testing Results** *(e.g., correlation statistics, comparison of rankings)*: not available	**2g** **C☐ P☐ M☐ N☐ NA☐**
2h. Disparities in Care **2h.1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)*: N/A **2h.2 If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:** N/A	**2h** **C☐ P☐ M☐ N☐ NA☐**
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Scientific Acceptability of Measure Properties?*	**2**
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties*, **met?** **Rationale:**	*2* **C☐ P☐ M☐ N☐**
3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)	Eval Rating
3a. Meaningful, Understandable, and Useful Information **3a.1 Current Use:** in use	**3a** **C☐ P☐**

3a.2 Use in a public reporting initiative (disclosure of performance results to the public at large) (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*)**:** None identified **3a.3 If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years***):** Currently, hospitals use this measure for unit-level quality improvement initiatives. Sites have published the use of this measure, eg. Hall, G., Timmons,J., Hopwood, K., Ridder, P., Teaford, K., Johnson-Carlson, P., & Belfiore, D. (2007). Rapid cycle performance teams use NDNQI data in balanced scorecare to improve pain management in children. In: Transforming Nursing Data into Quality Care: Profiles of Quality Improvement in U.S. Healthcare Facilities. Silver Springs, MD: American Nurses Association. **Testing of Interpretability** (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*) **3a.4 Data/sample** *(description of data/sample and size)***:** not available **3a.5 Methods** *(e.g., focus group, survey, QI project)***:** not available **3a.6 Results** *(qualitative and/or quantitative results and conclusions)***:** not available	**M☐** **N☐**
3b/3c. Relation to other NQF-endorsed measures **3b.1 NQF # and Title of similar or related measures:** NQF 0341- PICU pain assessment on admission	
(for NQF staff use) **Notes on similar/related** endorsed **or submitted measures:**	
3b. Harmonization If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population): **3b.2 Are the measure specifications harmonized? If not, why?** Not harmonized. This measure evaluates general completeness of the processes, rather than compliance at a particular point in time. In order for pain management to be effective, interventions must be administered consistently and appropriately assessed. This would be a prequel to effective pain management.	**3b** **C☐** **P☐** **M☐** **N☐** **NA☐**
3c. Distinctive or Additive Value **3c.1 Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:** Targets a different population **5.1 Competing Measures If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), describe why it is a more valid or efficient way to measure quality:** N/A	**3c** **C☐** **P☐** **M☐** **N☐**
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Usability*?	**3**
Steering Committee: Overall, to what extent was the criterion, *Usability***, met?** **Rationale:**	**3** **C☐** **P☐** **M☐** **N☐**

4. FEASIBILITY	
Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	Eval Rating
4a. Data Generated as a Byproduct of Care Processes 4a.1-2 **How are the data elements that are needed to compute measure scores generated?** data generated as byproduct of care processes during delivery,	**4a** C☐ P☐ M☐ N☐
4b. Electronic Sources 4b.1 **Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*) No 4b.2 **If not, specify the near-term path to achieve electronic capture by most providers.** Because most of the data elements are patient level, units with electronic health records should be able to extract the appropriate data elements. Quantitative information on the universal availability of the data from EHR has yet to be tested.	**4b** C☐ P☐ M☐ N☐
4c. Exclusions 4c.1 **Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** No 4c.2 **If yes, provide justification.**	**4c** C☐ P☐ M☐ N☐ NA☐
4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences 4d.1 **Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.** Anecdotally, poor performance is reported in some cases to be related to ineffective documentation rather than lapses in patient care.	**4d** C☐ P☐ M☐ N☐
4e. Data Collection Strategy/Implementation 4e.1 **Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues:** N/A 4e.2 **Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** Relatively low cost as the data are extracted out of patient hospital records. The one-day data collection also minimizes the costs associated with data collection. 4e.3 **Evidence for costs:** During pilot testing in 2004, data collectors were asked to provide information regarding how much time was typically required for data collection. On average, it required 13 minutes per patient. This would equate to approximately 4 hours and 20 minutes per quarter for a 20 patient pediatric unit. 4e.4 **Business case documentation:** N/A	**4e** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Feasibility*?	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility*, **met?**	**4**

Rationale:	**C☐ P☐ M☐ N☐**
RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited ☐**
Steering Committee: Do you recommend for endorsement? **Comments:**	**Y☐ N☐ A☐**

CONTACT INFORMATION

Co.1 Measure Steward (Intellectual Property Owner)
Co.1 Organization
American Nurses Association | 8515 Gerogia Ave, Suite 400 | Silver Spring | Maryland | 20910-3492

Co.2 Point of Contact
Isis | Montalvo, MBA, MS, RN | Isis.Montalvo@ana.org | 301-628-5047

Measure Developer If different from Measure Steward
Co.3 Organization
American Nurses Association | 8515 Gerogia Ave, Suite 400 | Silver Spring | Maryland | 20910-3492

Co.4 Point of Contact
Isis | Montalvo, MBA, MS, RN | Isis.Montalvo@ana.org | 301-628-5047

Co.5 Submitter If different from Measure Steward POC
Isis | Montalvo, MBA, MS, RN | Isis.Montalvo@ana.org | 301-628-5047- |American Nurses Association

Co.6 Additional organizations that sponsored/participated in measure development

ADDITIONAL INFORMATION

Workgroup/Expert Panel involved in measure development
Ad.1 Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.
Susan Lacey, PhD, RN, FAAN
Children's Mercy Hospital, Kansas City, MO
Dr. Lacey conducted the initial literature review and developed the draft measures that were later pilot tested and modified.

Ad.2 If adapted, provide name of original measure:
Ad.3-5 If adapted, provide original specifications URL or attachment

Measure Developer/Steward Updates and Ongoing Maintenance
Ad.6 Year the measure was first released: 2004
Ad.7 Month and Year of most recent revision:
Ad.8 What is your frequency for review/update of this measure? Reliability testing within 24 months
Ad.9 When is the next scheduled review/update for this measure?

Ad.10 Copyright statement/disclaimers: The American Nurses Association (ANA) National Database of Nursing Quality Indicators® ("The NDNQI® Database") is a repository of data related to health care facilities, including data collected from NDNQI® Participating Facilities with respect to the ANA Quality Measures and Complex Measures. "NDNQI® Participating Facility" shall mean any health care facility that has contracted to receive services from ANA, ANA's National Center for Nursing Quality (NCNQ®) or ANA's subcontractors that are related to the NDNQI® Database. The NDNQI® Database shall not be considered a Measure, and no aspect of the development of the NDNQI® Database, including the collection of data from NDNQI® Participating Facilities shall

be considered a non-proprietary Measure. Nothing in the foregoing Agreement with Measure Stewards, these Exhibits and the Measure Submission Forms shall implicate or diminish ANA's intellectual property rights in the NDNQI® Database, including but not limited to data and benchmarks. Similarly, nothing in the foregoing Agreement with Measure Stewards, these Exhibits and the Measure Submission Forms shall implicate or diminish ANA's intellectual property rights with respect to refinements and improvements to the Measures and Complex Measures, or the application of the Measures and Complex Measures, that are related to the NDNQI® Database, including but not limited to the NDNQI® guidelines and tutorials, stratification details, definitions and data collection methodologies. ANA expressly reserves all copyright, patent and trademark rights with respect to its Measures, Complex Measures and related materials. ANA's standard copyright statement, as follows, should be accompany the indicator when used by organizations. © Copyright 2009 American Nurses Association. All rights reserved.
Ad.11 -13 Additional Information web page URL or attachment: Attachment PainAIRwPain_allDataTables.docx
Date of Submission (*MM/DD/YY*)**:** 02/02/2010

NATIONAL QUALITY FORUM

Measure Evaluation 4.1
January 2010

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The sub-criteria and most of the footnotes from the evaluation criteria are provided in Word comments and will appear if your cursor is over the highlighted area (or in the margin if your Word program is set to show revisions in balloons). Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all yellow highlighted areas of the form. Evaluate the extent to which each sub-criterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the* sub-criteria *(yellow highlighted areas)*.

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the sub-criterion, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few sub-criteria as indicated)

(for NQF staff use) **NQF Review** #: OT3-053-10 **NQF Project:** Patient Outcomes Measures: Child Health and Mental Health (Phase III)
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Pediatric Pain Assessment Frequency per 24 hours
De.2 **Brief description of measure***:* This measure is a process measure that represents a cross-sectional evaluation of the average number of pain assessments received by hospitalized pediatric and neonatal patients.
1.1-2 **Type of Measure:** process De.3 **If included in a composite or paired with another measure, please identify composite or paired measure** N/A
De.4 **National Priority Partners Priority Area:** care coordination, Palliative and End of Life De.5 **IOM Quality Domain**: patient-centered De.6 **Consumer Care Need:** Getting Better

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* A.1 **Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes A.2 **Indicate if Proprietary Measure** (*as defined in measure steward agreement*)**:** proprietary measure A.3 **Measure Steward Agreement:** agreement signed and submitted A.4 **Measure Steward Agreement attached:** MeasureStewardForm - ANA 020210-634007284531464445.pdf	**A** **Y** ☐ **N** ☐

B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every 3 years. Yes, information provided in contact section	**B** Y☐ N☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** public reporting, quality improvement 0,0,0,	**C** Y☐ N☐
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 24 months of endorsement. D.1**Testing:** No, testing will be completed within 24 months D.2 **Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** Y☐ N☐
(for NQF staff use**)** **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	**Met** Y☐ N☐
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. *Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	Eval Rating
(for NQF staff use) Specific NPP goal:	
1a.1 **Demonstrated High Impact Aspect of Healthcare:** affects large numbers, frequently performed procedure 1a.2 1a.3 **Summary of Evidence of High Impact:** Pain is an international issue, reported across disease states and present in all age cohorts (1-5). Pain management can be viewed as a human right….unreasonable failure to treat pain is viewed worldwide as poor medicine, unethical practice, and an abrogation of a fundamental human right.(6) A number of painful procedures (albeit some minor) are commonly performed on children in the emergency department and other areas without pain management.(7) In one study, only 27% of children had any pain score documented in the preceding 24 h. It was concluded that pain was infrequently assessed, yet occurred commonly across all age groups and services and was often moderate or severe. Although effective, analgesic therapy was largely single-agent and intermittent…pain assessment is the cornerstone of pain management and its documentation is important and will help make the pain problem more visible. It would seem logical that until pain assessment documentation is routine, the treatment of pain may remain suboptimal.(8) Assessment is key to pain management, in particular with infants and children. "For adults to consider whether pain treatment is indicated for a newborn, they must recognize and interpret the signals given by the neonate who is facing a painful stimulus. It is by means of these signals, such as facial expressions, body movements, crying, and level of consciousness, that neonates establish interpersonal communication via their pain "language." However, the acquisition of knowledge and the	**1a** C☐ P☐ M☐ N☐

training of health-care professionals about pain assessment are not sufficient for appropriate pain evaluation in newborns. Any attempt to evaluate a painful event should take into consideration that the recognition of pain in the preverbal infant is subjective and, therefore, subject to multiple factors that can influence the observer's perception and assessment. Because personal, professional, and socioeconomic characteristics of the adults responsible for neonatal care, along with characteristics of the observed patients, influence the capacity of caregivers to interpret nonverbal communication of pain expressed by the neonate, the systematic use of validated pain assessment tools is important to make the perceptions of neonatal pain more homogeneous among health professionals".(9)

In addition to lack of assessment, there are disparities in pain management. "Consistent with the Institute of Medicine's report on health care disparities, racial and ethnic disparities in pain perception, assessment, and treatment were found in all settings (i.e., postoperative, emergency room) and across all types of pain (i.e., acute, cancer, chronic nonmalignant, and experimental). The literature suggests that the sources of pain disparities among racial and ethnic minorities are complex, involving patient (e.g., patient/health care provider communication, attitudes), health care provider (e.g., decision making), and health care system (e.g., access to pain medication) factors. There is a need for improved training for health care providers and educational interventions for patients. A comprehensive pain research agenda is necessary to address pain disparities among racial and ethnic minorities".(10)

1a.4 Citations for Evidence of High Impact:

1. Schmidt, CO, Raspe, H, Pfingsten, M, Hasenbring, M, Basler, HD, Eich, W and Kohlmann, T. (2007). Back Pain in the German Adult Population: Prevalence, Severity, and Sociodemographic Correlates in a Multiregional Survey. Spine 32(18), 2005-2011.
2. Miró, J, Paredes, S, Rull, M Queral, R, Miralles, R, Nieto, R, Huguet, A and Baos, J. (). Pain in older adults: A prevalence study in the Mediterranean region of Catalonia. European Journal of Pain,: 11(1), Pages 83-92.
3. Huguet, A and Miró, J. The Severity of Chronic Pediatric Pain: An Epidemiological Study The Journal of Pain,; 9(3), 226-236.
4. Nampiaparampil, DE.(2008). Prevalence of chronic pain after traumatic brain injury: A systematic review JAMA300(6), 711-719.
5. Jeffries, LJ, Milanese, SF and Grimmer-Somers, KA (2007). Epidemiology of adolescent spinal pain: A systematic overview of the research literature. Spine; 32(23), 2630-2637.
6. Brennan, F, Carr, DB and Cousins, M. (2007). Pain management: A fundamental human right. Anesth Analg; 105:205-221.
7. MacLean, S, Obispo, J and Young, K. (2007). The gap between pediatric emergency department procedural pain management treatments available and actual practice. Pediatric Emergency Care; 23(2), 87-93.
8. Taylor, EM, Boyer, K and Campbell, FA. (2008). Pain in hospitalized children: A prospective cross-sectional survey of pain prevalence, intensity, assessment and management in a Canadian pediatric teaching hospital. Pain Res Manag; 13(1): 25–32.
9. Balda, RdCX and Guinsburg, R. (2007). Perceptions of neonatal pain. American Academy of Pediatrics NeoReviews; 8(1)2.
10. Green, CR, Anderson, KO, Baker, TA, Campbell, LC, Decker, S, Fillingim, RB, Kaloukalani, DA, Lasch, KE, Myers, C, Tait, RC, Todd, KH and Vallerand, AH. (2003). The unequal burden of pain: Confronting racial and ethnic disparities in pain. Pain Medicine; 4(3), 277-294.

1b. Opportunity for Improvement

1b.1 Benefits (improvements in quality) envisioned by use of this measure: This measure will assist nursing units to explore their frequency of assessment in neonatal and pediatric populations.

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
The attached tables contains 8 quarters of data for average pain assessments in a 24 hour period, reported for all eligible unit types. The data demonstrate a large amount of variability within and between homogenous units. See attachment in section Ad.11

1b.3 Citations for data on performance gap:

1b
C☐
P☐
M☐
N☐

See attached NDNQI data analysis **1b.4 Summary of Data on disparities by population group:** not available **1b.5 Citations for data on Disparities:** not available	
1c. Outcome or Evidence to Support Measure Focus **1c.1 Relationship to Outcomes** (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*)**:** The average number of pain assessments in 24 hours is a process measure. According to the Donabedian (1988) quality improvement model, structure measures (such as nursing care hours on the units and percent of hours supplied by RNs) should be related to frequency of pain assessment. Both nursing workforce characteristics and the pain assessment process would be related to the degree of pain management. Donabedian, A. (1988). The quality of care: How can it be assessed? Journal of the American Medical Association, 260, 1743-48. **1c.2-3. Type of Evidence:** **1c.4 Summary of Evidence** (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:** not available **1c.5 Rating of strength/quality of evidence (***also provide narrative description of the rating and by whom***):** not available **1c.6 Method for rating evidence:** not available **1c.7 Summary of Controversy/Contradictory Evidence:** not available **1c.8 Citations for Evidence (***other than guidelines***):** not available **1c.9 Quote the Specific guideline recommendation (***including guideline number and/or page number***):** not available **1c.10 Clinical Practice Guideline Citation:** not available **1c.11 National Guideline Clearinghouse or other URL:** not available **1c.12 Rating of strength of recommendation (***also provide narrative description of the rating and by whom***):** not available **1c.13 Method for rating strength of recommendation** (*If different from* USPSTF system*, also describe rating and how it relates to USPSTF)***:** not available **1c.14 Rationale for using this guideline over others:** not available	**1c** **C☐** **P☐** **M☐** **N☐**
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Importance to Measure and Report?*	**1**
Steering Committee: Was the threshold criterion, *Importance to Measure and Report***, met?** **Rationale:**	**1** **Y☐** **N☐**

2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	Eval Rating
2a. MEASURE SPECIFICATIONS	
S.1 Do you have a web page where current detailed measure specifications can be obtained? **S.2 If yes, provide web page URL:** **2a. Precisely Specified**	
2a.1 Numerator Statement (*Brief, text description of the numerator - what is being measured about the target population, e.g. target condition, event, or outcome***):** Sum of all pain assessments initiated **2a.2 Numerator Time Window (***The time period in which cases are eligible for inclusion in the numerator***):** Once per quarter, selected 24 hour period. **2a.3 Numerator Details (***All information required to collect/calculate the numerator, including all codes, logic, and definitions***):** On the selected study day, a list of all patients that have been on the unit for the past 24 hours is generated. The data collector will record the total number of initial pain assessments documented for the last 24 hours for each eligible patient. The number for each patient is summed to obtain the numerator for this measure.	
2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured***):** Total number of eligible patients. **2a.5 Target population gender:** Female, Male **2a.6 Target population age range:** Newborn to age 18. Patients over the age of 18 included in the measure if they have been admitted to a pediatric unit with a childhood disorder **2a.7 Denominator Time Window (***The time period in which cases are eligible for inclusion in the denominator***):** Same as numerator **2a.8 Denominator Details (***All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions***):** Same as numerator	
2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** Patients on the unit < 24 hours. **2a.10 Denominator Exclusion Details (***All information required to collect exclusions to the denominator, including all codes, logic, and definitions***):** See 2a.3	
2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions***):**	
2a.12-13 Risk Adjustment Type: **2a.14 Risk Adjustment Methodology/Variables (***List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method***):** The measure is stratified based on unit type: pediatric critical care, pediatric step down, pediatric medical, pediatric surgical, pediatric med/surg, NICU Level II, NICU Level III	**2a-specs** **C**☐ **P**☐ **M**☐ **N**☐

2a.15-17 Detailed risk model available Web page URL or attachment:

2a.18-19 Type of Score: ratio
2a.20 Interpretation of Score: better quality = higher score
2a.21 Calculation Algorithm (*Describe the calculation of the measure as a flowchart or series of steps***):**
Sum of pain assessments inititated/ Number of eligible patients

2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**
Significance testing is not recommended for evaluating performance. Units should compare themselves against the median or other percentile rankings provided from national convenience samples. In addition there may be unit or hospital patient care standards to compare against or practice guidelines from outside entities such as The Joint Commission or nursing specialty organizations.

2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*:
See 2.a.3.

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
lab data

2a.25 Data source/data collection instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):**
Microsoft Excel® Data collection instrument available from NDNQI.

2a.26-28 Data source/data collection instrument reference web page URL or attachment: Attachment Pain Data Collection Form-634007061598975033.xls

2a.29-31 Data dictionary/code table web page URL or attachment: Attachment CODEBOOK for PEDIATRIC PAIN-634007061736630402.docx

2a.32-35 Level of Measurement/Analysis (*Check the level(s) for which the measure is specified and tested)*
Clinicians: Group, Population: national

2a.36-37 Care Settings (*Check the setting(s) for which the measure is specified and tested)*
Hospital

2a.38-41 Clinical Services (*Healthcare services being measured, check all that apply*)
Clinicians: Nurses

TESTING/ANALYSIS

2b. Reliability testing

2b.1 Data/sample *(description of data/sample and size)***:** Reliability testing to be conducted within 24 months.

2b.2 Analytic Method *(type of reliability & rationale, method for testing)***:**
N/A

2b.3 Testing Results *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)***:**
N/A

2b
C☐ P☐ M☐ N☐

2c. Validity testing

2c.1 Data/sample *(description of data/sample and size)***:** Face validity was initially verified by pediatric nursing experts from research, practice, and administration (Lacey, et al.) The indicator was subsequently posted on the NDNQI member internet bulletin board for member comment regarding validity and feasibility. Following the external reviews, pilot testing was conducted using 10 hospitals with a total of 91

2c
C☐ P☐ M☐ N☐

NICU, PICU, and medical surgical units. Lacey, S.R., Klaus, S.F., Smith, J.B., Cox, K.S., & Dunton, N.E. (2006). Developing measures of pediatric nursing quality. Journal of Nursing Care Quality, 21(3), 210-220. **2c.2 Analytic Method** *(type of validity & rationale, method for testing)*: Face validity, see 2c.1. **2c.3 Testing Results** *(statistical results, assessment of adequacy in the context of norms for the test conducted)*: N/A	
2d. Exclusions Justified **2d.1 Summary of Evidence supporting exclusion(s):** N/A **2d.2 Citations for Evidence:** N/A **2d.3 Data/sample** *(description of data/sample and size)*: N/A **2d.4 Analytic Method** *(type analysis & rationale)*: N/A **2d.5 Testing Results** *(e.g., frequency, variability, sensitivity analyses)*: N/A	**2d** C☐ P☐ M☐ N☐ NA☐
2e. Risk Adjustment for Outcomes/ Resource Use Measures **2e.1 Data/sample** *(description of data/sample and size)*: This measure is not risk adjusted **2e.2 Analytic Method** *(type of risk adjustment, analysis, & rationale)*: N/A **2e.3 Testing Results** *(risk model performance metrics)*: N/A **2e.4 If outcome or resource use measure is not risk adjusted, provide rationale:** N/A	**2e** C☐ P☐ M☐ N☐ NA☐
2f. Identification of Meaningful Differences in Performance **2f.1 Data/sample from Testing or Current Use** *(description of data/sample and size)*: Preliminary analyses were conducted using NDNQI data collected during 3rd quarter, 2009. We performed exploratory bivariate correlations, stratified by unit type, between NDNQI nurse staffing variables and the average number of pain assessments in a 24 hour period. We looked within unit types because they would be governed by similar unit patient care standards. In pediatric medical units (n = 79) the average number of pain assessments per 24 hours is positively correlated to a significant level for both total nursing hours per patient day (hppd) (r = 0.43, p < .001) and RN hppd (r = 0.42, p < .001). The same relationship was found in pediatric medical-surgical combined units (n = 185) where total nursing hppd (r = 0.18, p = .01) and RN hppd (r = 0.22, p = .003) had a positive relationship with the average number of pain assessments per 24 hours. **2f.2 Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)*: Significance testing is not recommended for evaluating performance. Units should compare themselves against the median or other percentile rankings provided from national convenience samples. In addition there may be unit or hospital patient care standards to compare against or practice guidelines from outside	**2f** C☐ P☐ M☐ N☐

entities such as The Joint Commission or nursing specialty organizations. **2f.3 Provide Measure Scores from Testing or Current Use** *(description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)*: See attached data tables, section Ad.11	
2g. Comparability of Multiple Data Sources/Methods **2g.1 Data/sample** *(description of data/sample and size)*: not available **2g.2 Analytic Method** *(type of analysis & rationale)*: N/A **2g.3 Testing Results** *(e.g., correlation statistics, comparison of rankings)*: N/A	**2g** C☐ P☐ M☐ N☐ NA☐
2h. Disparities in Care **2h.1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)*: not available **2h.2 If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:** N/A	**2h** C☐ P☐ M☐ N☐ NA☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Scientific Acceptability of Measure Properties*?	**2**
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties*, **met?** **Rationale:**	*2* C☐ P☐ M☐ N☐
3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)	Eval Rating
3a. Meaningful, Understandable, and Useful Information **3a.1 Current Use:** in use **3a.2 Use in a public reporting initiative (disclosure of performance results to the public at large)** (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*): None identified **3a.3 If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years***):** This process measure is currently in use by 317 of hospitals with 578 reporting units from NDNQI quarterly reports. Hospital units use this measure as a mechanism for quality improvement in order to assure they comply with national peers along with unit or hospitals standards of care. **Testing of Interpretability** (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*) **3a.4 Data/sample** *(description of data/sample and size)*: not available **3a.5 Methods** *(e.g., focus group, survey, QI project)*: N/A	**3a** C☐ P☐ M☐ N☐

3a.6 Results *(qualitative and/or quantitative results and conclusions)*: N/A	
3b/3c. Relation to other NQF-endorsed measures **3b.1 NQF # and Title of similar or related measures:** NQF 0342- PICU periodic pain assessment	
(for NQF staff use) **Notes on similar/related** endorsed **or submitted measures:**	
3b. Harmonization If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population): **3b.2 Are the measure specifications harmonized? If not, why?** Not harmonized. This measure is applicable to all acute care pediatric inpatient settings, whereas the currently endorsed, but related measure, (0342) applies only to the PICU. As noted from analysis above, our measure is significantly correlated to nurse staffing measures in pediatric medical units and pediatric medical-surgical combined units.	**3b** C☐ P☐ M☐ N☐ NA☐
3c. Distinctive or Additive Value **3c.1 Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:** This measure provides an indication of how often children are assessed for pain rather than what percent of units meet a pre-determined minimum pain assessment frequency. **5.1 Competing Measures If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), describe why it is a more valid or efficient way to measure quality:** N/A	**3c** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Usability*?	**3**
Steering Committee: Overall, to what extent was the criterion, *Usability*, **met?** **Rationale:**	**3** C☐ P☐ M☐ N☐
4. FEASIBILITY	
Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	Eval Rating
4a. Data Generated as a Byproduct of Care Processes **4a.1-2 How are the data elements that are needed to compute measure scores generated?** data generated as byproduct of care processes during delivery,	**4a** C☐ P☐ M☐ N☐
4b. Electronic Sources **4b.1 Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*) No **4b.2 If not, specify the near-term path to achieve electronic capture by most providers.** Because most of the data elements are patient level, units with electronic health records should be able to extract the appropriate data elements. Quantitative information on the universal availability of the data	**4b** C☐ P☐ M☐ N☐

from EHR has yet to be tested.	
4c. Exclusions **4c.1 Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** No **4c.2 If yes, provide justification.**	**4c** C☐ P☐ M☐ N☐ NA☐
4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences **4d.1 Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.** Any "re-assessment" that is a follow-up to an intervention for pain is excluded. This measure only includes initial pain assessments, not those triggered by a need to evaluate an intervention.	**4d** C☐ P☐ M☐ N☐
4e. Data Collection Strategy/Implementation **4e.1 Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues:** N/A **4e.2 Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** Relatively low cost as the data are extracted out of patient hospital records. The one-day data collection also minimizes the costs associated with data collection. If EHR can be used for data extraction, workload costs of collecting data would be dramatically reduced. **4e.3 Evidence for costs:** During pilot testing in 2004, data collectors were asked to provide information regarding how much time was typically required for data collection. On average, it required 13 minutes per patient. This would equate to approximately 4 hours and 20 minutes per quarter for a 20 patient pediatric unit. **4e.4 Business case documentation:** N/A	**4e** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Feasibility?*	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility***, met?** **Rationale:**	**4** C☐ P☐ M☐ N☐
RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited** ☐
Steering Committee: Do you recommend for endorsement? **Comments:**	**Y**☐ **N**☐ **A**☐
CONTACT INFORMATION	
Co.1 Measure Steward (Intellectual Property Owner) **Co.1 Organization** American Nurses Association | 8515 Georgia Ave., Suite 400 | Silver Spring | Maryland | 20910-3492	

Co.2 **Point of Contact**
Isis | Montalvo, MBA, MS, RN | Isis.Montalvo@ana.org | 301-628-5047

Measure Developer If different from Measure Steward
Co.3 **Organization**
American Nurses Association | 8515 Georgia Ave., Suite 400 | Silver Spring | Maryland | 20910-3492

Co.4 **Point of Contact**
Isis | Montalvo, MBA, MS, RN | Isis.Montalvo@ana.org | 301-628-5047

Co.5 **Submitter If different from Measure Steward POC**
Isis | Montalvo, MBA, MS, RN | Isis.Montalvo@ana.org | 301-628-5047- |American Nurses Association

Co.6 **Additional organizations that sponsored/participated in measure development**

ADDITIONAL INFORMATION

Workgroup/Expert Panel involved in measure development
Ad.1 **Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.**
Susan Lacey, PhD, RN, FAAN
Children's Mercy Hospital, Kansas City, MO
Dr. Lacey conducted the initial literature review and developed the draft measures that were later pilot tested and modified.

Ad.2 **If adapted, provide name of original measure:**
Ad.3-5 **If adapted, provide original specifications URL or attachment**

Measure Developer/Steward Updates and Ongoing Maintenance
Ad.6 **Year the measure was first released:** 2004
Ad.7 **Month and Year of most recent revision:**
Ad.8 **What is your frequency for review/update of this measure?** Within 24 months
Ad.9 **When is the next scheduled review/update for this measure?**

Ad.10 **Copyright statement/disclaimers:** The American Nurses Association (ANA) National Database of Nursing Quality Indicators® ("The NDNQI® Database") is a repository of data related to health care facilities, including data collected from NDNQI® Participating Facilities with respect to the ANA Quality Measures and Complex Measures. "NDNQI® Participating Facility" shall mean any health care facility that has contracted to receive services from ANA, ANA's National Center for Nursing Quality (NCNQ®) or ANA's subcontractors that are related to the NDNQI® Database. The NDNQI® Database shall not be considered a Measure, and no aspect of the development of the NDNQI® Database, including the collection of data from NDNQI® Participating Facilities shall be considered a non-proprietary Measure. Nothing in the foregoing Agreement with Measure Stewards, these Exhibits and the Measure Submission Forms shall implicate or diminish ANA's intellectual property rights in the NDNQI® Database, including but not limited to data and benchmarks. Similarly, nothing in the foregoing Agreement with Measure Stewards, these Exhibits and the Measure Submission Forms shall implicate or diminish ANA's intellectual property rights with respect to refinements and improvements to the Measures and Complex Measures, or the application of the Measures and Complex Measures, that are related to the NDNQI® Database, including but not limited to the NDNQI® guidelines and tutorials, stratification details, definitions and data collection methodologies. ANA expressly reserves all copyright, patent and trademark rights with respect to its Measures, Complex Measures and related materials.
ANA's standard copyright statement, as follows, should be accompany the indicator when used by organizations.
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Ad.11 -13 **Additional Information web page URL or attachment:** Attachment AvgNumPainAssmts_allDataTables.docx

Date of Submission (*MM/DD/YY*)**:** 02/02/2010

NATIONAL QUALITY FORUM

Measure Evaluation 4.1
January 2010

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The sub-criteria and most of the footnotes from the evaluation criteria are provided in Word comments and will appear if your cursor is over the highlighted area (or in the margin if your Word program is set to show revisions in balloons). Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all yellow highlighted areas of the form. Evaluate the extent to which each sub-criterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the* sub-criteria *(yellow highlighted areas)*.

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the sub-criterion, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few sub-criteria as indicated)

(for NQF staff use) **NQF Review** #: OT3-054-10 **NQF Project:** Patient Outcomes Measures: Child Health and Mental Health (Phase III)
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Urinary Tract Infection Admission Rate (pediatric)
De.2 **Brief description of measure***:* Admission rate for urinary tract infection in children ages 3 months - 17 years, per 100,000 population (area level rate)
1.1-2 **Type of Measure:** access De.3 **If included in a composite or paired with another measure, please identify composite or paired measure** The indicator is not a required part of a composite, but is included in the "Pediatric Quality Indicators (PDI) Area Level Composite" which also includes Asthma (PDI 14), Diabetes Short Term Complication (PDI 15), and Gastroenteritis (PDI 16).
De.4 **National Priority Partners Priority Area:** population health De.5 **IOM Quality Domain**: effectiveness De.6 **Consumer Care Need:** Staying Healthy

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* A.1 **Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes	**A** **Y**☐ **N**☐

A.2 Indicate if Proprietary Measure (*as defined in measure steward agreement*)**:** **A.3 Measure Steward Agreement:** government entity- public domain- No Agreement **A.4 Measure Steward Agreement attached:**	
B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every 3 years. Yes, information provided in contact section	**B** **Y**☐ **N**☐
C. The intended use of the measure includes <u>both</u> public reporting <u>and</u> quality improvement. ►**Purpose:** public reporting, quality improvement 0,0,0,	**C** **Y**☐ **N**☐
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 24 months of endorsement. **D.1Testing:** No, testing will be completed within 24 months **D.2 Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** **Y**☐ **N**☐
(for NQF staff use**)** **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	**Met** **Y**☐ **N**☐
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. *Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	Eval Rating
(for NQF staff use) Specific NPP goal:	
1a.1 Demonstrated High Impact Aspect of Healthcare: a leading cause of morbidity/mortality, affects large numbers **1a.2** **1a.3 Summary of Evidence of High Impact:** UTI is a common childhood infection, which if properly treated can be managed in an outpatient setting. Total admission rate for pediatric urinary tract infection in the US is 42 per 100,000 population. The rates for age strata are as follows: 0-4 year 87/100,000 5-9 years 28/100,000 10-14 years 15/100,000 15-17 years 42/100,000 Male 15/100,000 Female 70/100,000 In addition, urinary infections was the 9th leading DRG for admissions in 2007 in HCUPnet for patients age 1-	**1a** **C**☐ **P**☐ **M**☐ **N**☐

9.

1a.4 Citations for Evidence of High Impact:
http://hcupnet.ahrq.gov/HCUPnet.jsp?Id=C1A83212BE1B9D06&Form=SelPDIs1&JS=Y&Action=%3E%3ENext%3E%3E&_QITables=PDI14

http://hcupnet.ahrq.gov/HCUPnet.jsp?Id=9731A13254C6BB7F&Form=SelPAT&JS=Y&Action=%3E%3ENext%3E%3E&_InPatChar=Yes&_InHospChar=Yes&_PatChar=AGE

1b. Opportunity for Improvement

1b.1 Benefits (improvements in quality) envisioned by use of this measure: The improvement in the measure equates to less hospitalizations for UTI. This essentially means the population is experiencing better acute management of their UTI given the reduction in the rate UTI related complication.

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
We see variation by gender and other patient characteristics. See responses to question 1a.3. In addition we observe variation by region:

Northeast 43/100,000
Midwest 44/100,000
South 48/100,000
West 29/100,000

1b.3 Citations for data on performance gap:
Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 2007, and AHRQ Quality Indicators, version 3.1.

1b.4 Summary of Data on disparities by population group:
HCUPnet reports rates by patient characteristics as follows. We see increased rates in low income populations as well as rural areas.

Median income of patient's ZIP code
1st quartile (lowest income) 55/100,000
2nd quartile 46/100,000
3rd quartile 36/100,000
4th quartile 29/100,000

Large central metropolitan 37/100,000
Large fringe metropolitan 42/100,000
Medium metropolitan 37/100,000
Small metropolitan 42/100,000
Micropolitan 51/100,000
Not metropolitan or micropolitan 65/100,000

1b.5 Citations for data on Disparities:
Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 2007, and AHRQ Quality Indicators, version 3.1.

1b C☐ P☐ M☐ N☐

1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired*

1c C☐ P☐

outcome. For outcomes, describe why it is relevant to the target population)**:** Urinary tract infection is a common acute infection in childhood. Without proper treatment UTI can lead to numerous complications, sepsis and urinary tract damage. For admissions of pediatric patients (ages 1 to 9) UTI was the 9th leading DRG for admissions in 2007 in HCUPnet. Currently UTI hospitalization rates are tracked in the National Healthcare Quality Report

1c.2-3. Type of Evidence: cohort study, observational study

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**
We found little literature on admission for urinary infection as an indicator of access to quality outpatient care. Millman, et al.1 reported that low-income zip codes had 2.8 times more UTI hospitalizations per capita (age 0-64) than high-income zip codes in 11 states in 1988. Billings, et al.2 found that low-income zip codes in New York City (where at least 60% of households earned less than $15,000 in 1988, based on adjusted 1980 Census data) had 2.2 times more UTI hospitalizations per capita (age 0-64) than high-income zip codes (where less than 17.5% of households earned less than $15,000). Household income explained 28% of the variation in UTI hospitalization rates at the zip code level. These findings suggest that this indicator may be marker for poor access to outpatient care.

Although there is ample literature indicating that most adolescents and adults with urinary tract infections can be safely managed with outpatient antibiotics, we are not aware of any evidence linking reduced UTI hospitalization rates among children to specific improvements in the process of care.

1c.5 Rating of strength/quality of evidence (*also provide narrative description of the rating and by whom***):**
The evidence has been reviewed by a clinical review panel. The panel recommended the use of this indicator. For quality improvement purposes, the panel rated the indicator as acceptable without agreement (second highest rating possible) but had concerns about use for comparative reporting. Details on this review and methods can be found at http://www.qualityindicators.ahrq.gov/downloads/pdi/pdi_measures_v31.pdf.

1c.6 Method for rating evidence: Details on the methods can be found at www.qualityindicators.ahrq.gov/downloads/pdi/pdi_measures/v31.pdf
Acceptable with agreement: Median falls between 7 and 9 inclusive of both with two or fewer panelists rating below 7.
Acceptable without agreement. Median falls between 7 and 9 inclusive of both without agreement or disagreement

1c.7 Summary of Controversy/Contradictory Evidence: No major contradictory guidelines.

1c.8 Citations for Evidence (*other than guidelines***):** 1.Millman M, ed Committee on Monitoring Access to Personal Health Care Services. Washington, D.C.: National Academy Press; 1993. Acess to health care in America/ Committee on Monitoring Access to Personal Health Care Services, Institute of Medicine.
2. Billings J, Zeital L, Lukomnik J, Carey T, Blank A, Newman L. Analysis of variation in hospital admission rates associated with area income in New York City: Unpublished Report.; 1992.

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number***):**
Cincinnati Children's Hospital Medical Center. Evidence-based care guideline for medical management of first urinary tract infection in children 12 years of age or less. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2006 Nov. 23 p. [70 references]

Assessment and Diagnosis
History and Physical Examination
1. It is recommended that prompt evaluation for a diagnosis of urinary tract infection (UTI) be conducted. See the table below for clinical findings consistent with the diagnosis of a UTI.

M☐
N☐

Table: Clinical Signs and Symptoms of UTI

Newborns
- Jaundice
- Sepsis
- Failure to thrive
- Vomiting
- Fever

Infants and Preschoolers
- Diarrhea
- Failure to thrive
- Vomiting
- Fever
- Strong-smelling urine
- Abdominal or flank pain
- New onset urinary incontinence
- Dysuria (preschoolers)
- Urgency (preschoolers)

School Age Children
- Vomiting
- Fever
-S trong smelling urine
- Abdominal or flank pain
- New onset urinary incontinence
- Dysuria
- Urgency
- Frequency

Adapted from Todd, 1995 [S]

Note: Risk factors for UTI include:
- Male:
- Uncircumcised <1 year
- All <6 months
- Female, in general
- Particularly <1 year
- Non-African-American race
- Fever >39 degrees Celsius

(Shaw et al., 1998 [C]; Craig et al., 1996 [C]; Hoberman et al., 1993 [C]; Bachur & Harper, "Reliability," 2001 [D]; Bachur & Harper, "Predictive model," 2001 [D])
Absence of high fever or other specific risk factors does not preclude the presence of UTI. Please refer to Appendices 2 and 3 of the original guideline document for further information on positive culture prevalence in patients with UTI symptoms and UTI prevalence and risk factors in children with fever

Laboratory Studies

2. It is recommended that urine samples be collected by catheter or suprapubic aspiration (if age appropriate), if a high quality clean catch mid-stream urine sample cannot be obtained (Hoberman et al., 1996 [C]; Weinberg & Gan, 1991 [D]).
Note 1: In a child with a low clinical suspicion of UTI, and in whom a catheterization would be both required for a culture and considered invasive by the clinician or the family, the option to perform a dipstick or routine urinalysis on a specimen collected by more convenient means may be considered, followed by catheterization if the urinalysis suggests a UTI (American Academy of Pediatrics [AAP], 1999 [S]). See the table below for likelihood ratios (LR) that a screening test for UTI will result in a positive urine culture.
Note 2: See Cincinnati Children's Hospital Medical Center (CCHMC) Nursing Policies, Procedures and Standards: "III-701 Urinary Catheterization/Bladder Irrigation" in the "Availability of Companion Documents"

field.

Table: Likelihood Ratios (LR) that a Screening Test for UTI will Result in a Positive Urine Culture

Positive Test Result -- to Rule in UTI	Positive LR*
Nitrite	25
Microscopy, bacteria	5
Microscopy, leukocytes	4
Leukocyte esterase (LE) (approx. range 2 to 18)	5
Gram stain	19

(Gorelick & Shaw, 1999 [M]; Armengol, Hendley, & Schlanger, 2001 [C])

*LR scale: rules of thumb:
- LR >10 greatly increases diagnostic certainty
- LR = 1 test result is not helpful in diagnosis
- LR <0.2 greatly helps rule out condition

Likelihood ratios quantify the change in probability of definite UTI when a given test result is present in a specific clinical case and depend upon a starting estimate of probability. For more information, see Appendix 6 of the original guideline document for definition and use of LR.

3. It is recommended, in screening for UTI, to perform:
- Dipstick (nitrite and LE) or
- Routine urinalysis (nitrite, LE and microscopy)

and
- Urine culture and susceptibilities

(Gorelick & Shaw, 1999 [M]). See table above for LRs that a screening test for UTI will result in a positive urine culture.
Note: Gram stain is not commonly conducted in the Cincinnati pediatric community (Hoberman et al., 1996 [C]).

Diagnosis

General

Presumed UTI is diagnosed while urine culture results are pending in a child with abnormal laboratory studies and clinical findings consistent with the diagnosis of a UTI.
Definite UTI is diagnosed after obtaining a positive result for a urine culture in a child presenting with a clinical profile consistent with a UTI.
Presumed UTI
4. It is recommended that while pending results of culture, any positive result from a dipstick or routine urinalysis, in the presence of clinical findings consistent with the diagnosis of a UTI, be considered consistent with a presumptive diagnosis of UTI (Gorelick & Shaw, 1999 [M]).
Any of the following study results defines a positive urinalysis (Gorelick & Shaw, 1999 [M]). See table above titled "LR that a Screening Test for UTI Will Result in a Positive Urine Culture" and table below.
- Positive nitrite screen
- Positive LE
- Positive microscopic exam
- The definition of abnormal microscopic exam is dependent on patient or provider-specific determinants.

Table: Microscopic Exam

WBC/hpf* (spun)	LR
>5	3.7 to 13.5

>10 6.2 to 32.0

*WBC/hpf: White blood cells/high-powered field

(Hoberman et al., 1993 [C]; Weinberg & Gan, 1991 [D])

Definite UTI

5. It is recommended that a definite UTI be defined as a single organism cultured from a suprapubic aspirate (SPA), catheter specimen (cath), or clean catch midstream specimen (CCM) at the following concentrations. The higher the concentration of organisms, the more reliable the results; however, colony counts must be interpreted within the clinical context and lower colony counts may be significant, especially in a dilute urine
- Suprapubic aspirate: >1,000 colony forming units (cfu)/mL
- Catheter specimen: >10,000 cfu/mL
- Clean catch midstream specimen: >100,000 cfu/mL

(Hansson et al., 1998 [C]; Rushton, 1997 [S, E])

Management

Admission Criteria

6. It is recommended that admission be primarily restricted to infants and children:
- Who require intravenous (IV) for fluids
- Who require IV antibiotics due to severe illness or due to lack of response to oral (PO) antibiotics

Note: A high quality, randomized controlled trial demonstrated that oral cefixime is a safe and effective treatment for children age 1 to 24 months with definite UTI. (Hoberman et al., 1999 [A])
- Who are 0 to 30 days of age
- Who are 31 to 60 days of age and identified as high-risk clinically or by laboratory data, or
- With whom the clinician or family is uncomfortable managing in an outpatient setting

(Local Expert Consensus, [E])

Medications

7. It is recommended that a child with presumed UTI be empirically treated with antibiotics after obtaining an appropriate sample for culture. Prompt treatment with antibiotics reduces the severity of renal scarring (Benador et al., 1997 [C]; Winberg et al., 1982 [S, E]). See Appendix 7 and Appendix 8 of the original guideline document for summary of recommended doses for parenteral and oral antibiotics, respectively.

Note: Well-appearing children who are not febrile, and in whom dipstick or urinalysis results are equivocal can be considered for outpatient observation without starting antibiotic therapy until the subsequent clinical course and culture results are known. As long as uncertainty persists, this course of management assumes:
- Available reliable follow-up as needed and
- Healthcare provider(s) confident that caregiver will use appropriate observational and follow-up skills

(Local Expert Consensus, [E])

8. It is recommended, if the child is diagnosed with a definite UTI, that antibiotic therapy be continued for a minimum of 7 to 14 days (Keren & Chan, 2002 [M]). Culture and susceptibility results may indicate that a change of antibiotic is necessary. See Appendix 7 and Appendix 8 for summary of recommended doses for parenteral and oral antibiotics, respectively.

9. It is recommended, if the urine culture is negative, that antibiotics be discontinued (Local Expert Consensus [E]).

Discharge Criteria

10. It is recommended that the hospitalized child be discharged as soon as:
- Afebrile for at least 12 hours
- Taking adequate oral fluids
- Pain controlled with oral medications

- Home antibiotics tolerated (peripherally inserted central catheter [PICC] line or oral)
- Parent confident in caring for child at home
- Imaging studies are complete or arrangements have been made
- Primary care provider(s) identified, notified, and agree(s) with discharge decision, and arrangements for appropriate follow-up have been made

(Local Expert Consensus, [E])

Imaging

Imaging procedures available for children with UTI are described in the table below titled "Three Major Categories for Radiologic Evaluation of a Child Following a First Definite UTI": ultrasound (US), cystogram, and renal cortical scan. See also imaging algorithm, page 8 of the original guideline document and Appendix 10 (reflux grading system) of the original guideline document.

Table. Three Major Categories for Radiologic Evaluation of a Child Following a First Definite UTI

CATEGORY: I. Ultrasound
PROCEDURE: Renal and bladder ultrasound (US)
PURPOSE: Demonstration of the anatomy of the kidneys, ureters, and bladder
NOTES:
- Not reliable to evaluate reflux
- Limited accuracy in evaluation of renal scarring or pyelonephritis

CATEGORY: II. Cystogram
PROCEDURE: Radionuclide Cystogram (RNC). Also called nuclear cystogram
PURPOSE: Screening and grading vesicoureteral reflux (VUR)
NOTES:
- Suggested for girls only, if available
- Reproducibly low radiation dose
- The grading is similar to VCUG when performed by experienced radiologist
- Little anatomic detail

CATEGORY: II. Cystogram
PROCEDURE: X-ray voiding cystourethrogram (VCUG). Also called fluoroscopic VCUG
PURPOSE: Screening and grading VUR. Demonstration of anatomic detail of the male urethra, ureters (when reflux is present), and bladder
NOTES:
- Suggested for girls and all boys
- Involves ionizing radiation

CATEGORY: III. Renal Cortical Scan
PROCEDURE: Renal Cortical Scan. Uses 99-Technetium-Dimercaptosuccinic Acid (99mTcDMSA) or 99mTc glucoheptonate. Also called scintigraphy or DMSA
PURPOSE: Accurate for differentiating pyelonephritis from cystitis and assessing for renal scarring.
NOTES:
- Requires intravenous injection of radioisotope, with imaging about 2 hours later for about 45 minutes
- Sedation usually required in those <3 years of age

General Comments:
- Both ultrasound and cystogram may be scheduled for the same visit. If the RNC is not available at the preferred location, a VCUG is acceptable.
- The diagnostic validity of VCUG for detection of VUR does not appear to be affected by performing the procedure during inpatient stay for treatment of UTI (Mahant, To, & Friedman, 2001 [D]).
- When performing a cystogram on a child at risk for bacterial endocarditis due to a congenital heart defect, the American Heart Association recommends prophylactic antibiotic therapy.

A primary goal of imaging is to identify structural abnormalities of the urinary tract or bladder that may

benefit from surgical or medical intervention. Decisions to perform imaging presume that the findings will sufficiently influence management to justify the burden of testing; for example, the discomfort of catheterization.
Note 1: The diagnostic validity of a cystogram for detection of VUR does not appear to be affected if the procedure is performed during an inpatient stay for treatment of UTI (Mahant, To, & Friedman, 2001 [D]).
Note 2: Routine cystogram and US following a first childhood UTI identifies a small proportion of children with associated treatable conditions. The approximate prevalences of VUR among girls age 0 to 18 years referred for VCUG evaluation after documented UTI (first or subsequent) are: Grade I, 7%; Grade II, 22%; Grade III, 6%; Grade IV, 1%; and Grade V, <1% (Bisset, Strife, & Dunbar, 1987 [D]). The prevalence of US-identified anatomic abnormalities amenable to surgical correction following first UTI is approximately 1% (Zamir et al., 2004 [C]; Bisset, Strife, & Dunbar, 1987 [D]).

11. It is recommended, because careful long-term outcomes research has not been performed, that children in the following categories, with a first-time UTI, have a cystogram and US. See Table Above Titled "Three Major Categories For Radiologic Evaluation of a Child Following a First Definite UTI."

- All boys
- Girls age <36 months (see Note 1 below)
- Girls age 3 to 7 years (84 months) with fever >38.5 degrees C (101.3 degrees F)

(Gordon et al., 2003 [M]; Hoberman et al., 2003 [A]; Wennerstrom et al., "Renal function," 2000 [C]; Jodal, 2000 [S]; AAP 1999 [S]).
Note 1: Although an age break at three years is used, the appropriate age cutoff may depend, in part, on the girl's ability to verbalize dysuria symptoms and/or her status of toilet training (Local Expert Consensus [E]).
Note 2: A relatively small number of significant anatomic abnormalities will be missed if routine imaging after first UTI is not done (Zamir et al., 2004 [C]; Bisset, Strife, & Dunbar, 1987 [D]).
Note 3: Schedule the US and cystogram for the same date, with the cystogram to follow the US. If an RNC has been ordered, and if there are significant US abnormalities, the Radiology staff physician will ask to substitute a VCUG for the RNC at that appointment (Local Expert Consensus [E]).
Note 4: An optional imaging evaluation for children with febrile UTI, especially those over age three years, is to first perform US and renal cortical scan (see table above titled "Three Major Categories for Radiologic Evaluation of a Child Following a First Definite UTI"). This avoids bladder catheterization (part of the cystogram procedure) if the results of the scan are normal. However, if pyelonephritis or cortical scarring is found on the renal cortical scan, a cystogram is indicated (Local Expert Consensus [E]).

12. It is recommended, for children in the following categories, that observation without imaging be considered and that the family share in the decision of whether or not imaging be performed after the first UTI or delayed until after the second UTI, if one occurs:

- Girls >3 years of age without fever (temperature <38.5 degrees C)
- All girls >7 years of age

(Local Expert Consensus, [E]).
Observation without imaging is defined as follow-up with dipstick or routine urinalysis when age-appropriate symptoms of UTI are observed.
Note 1: For imaging after first or second UTI, one option is to perform a cystogram and US. An alternative, for febrile UTI, is to perform a renal cortical scan and US (see Note 4 in the previous recommendation, and see table above titled "Three Major Categories for Radiologic Evaluation of a Child Following a First Definite UTI").
Note 2: Factors influencing choice of imaging option:

- Clinical symptoms and rate of resolution (see table above titled "Clinical Signs and Symptoms of UTI")
- Age (continuously decreasing risk of reflux over age 5 years)
- Abnormal relevant history (e.g., voiding dysfunction) or physical exam (e.g., sacral dimple)
- Family input: family understands the imaging procedures, that there is a small chance that an anatomic abnormality exists, and that close follow-up is needed for subsequent UTIs after which imaging may be performed
- Compliance: confidence that caregiver will use appropriate observational skills and follow-up
- African-Americans have lower risk of VUR and renal damage (West & Venugopal, 1993 [C]; Chand et al., 2003 [D]; Melhem & Harpen, 1997 [D]; Askari & Belman, 1982 [D])
- Availability of prenatal US images for review by radiologist (Ismaili et al., 2004 [C]; Chitty et al., 1991 [D]).

13. It is recommended that a renal cortical scan be considered if identification of acute pyelonephritis or renal scarring will affect management decisions in febrile UTI (Wennerstrom et al., "Ambulatory blood pressure," 2000 [C]; Wennerstrom et al., "Renal function," 2000 [C]; Majd & Rushton, 1992 [S, E]; Rushton et

al., 1988 [F]). See table above titled "Three Major Categories for Radiologic Evaluation of a Child Following a First Definite UTI."
Note: The long-term significance of scarring identified by a renal cortical scan remains unclear. Factors to be considered are illness severity, grade of VUR, radiation exposure, and avoidance of bladder catheterization.

Follow-up

14. It is not recommended that routine follow-up urine cultures be conducted during the initial course of inpatient or outpatient therapy.
Note: In a retrospective study, there were no positive results among follow-up urine cultures in 291 children while hospitalized with UTI. Thirty-two percent of these patients had fever longer than 48 hours (Currie et al., 2003 [D]).
15. It is recommended that follow-up assessment for expected clinical response occur after 48 to 72 hours of antimicrobial therapy. Culture and susceptibility results may indicate that a change of antibiotic is necessary. If expected clinical improvement is lacking, consider further evaluation which may include laboratory studies, imaging, and/or consultation with specialists (Local Expert Consensus, [E]).
16. It is recommended that families and clinicians maintain a high index of suspicion for recurrent UTI, and to obtain a dipstick, urinalysis, and/or culture for age-appropriate symptoms of UTI, including unexplained fever (Wennerstrom et al., "Ambulatory blood pressure," [C]; Local Expert Consensus, [E]). See Table above titled "Clinical Signs and Symptoms of UTI". Screening urine cultures are not necessary (Wettergren et al., 1990, [C]).
Note: Low rates of scarring, hypertension, and loss of renal function have been attributed to aggressive assessment of febrile illnesses and treatment of recurrent UTI (Wennerstrom et al., "Ambulatory blood pressure," [C]; Wennerstrom et al., "Renal function," 2000 [C]; Wennerstrom et al., "Primary and acquired," 2000 [C]).
17. It is recommended, for children who will have imaging, to consider the use of post-treatment antibiotic prophylaxis until radiologic evaluation results are known (Local Expert Consensus, [E]). See appendix 11 in the original guideline document for a summary of recommended doses of prophylactic antibiotics.
Note: Uncertainty exists regarding the effectiveness of prophylaxis in improving outcomes (Garin et al., 2006, [A]; Beetz, 2006 [S]) . See Appendix 12 in the original guideline document for further information on UTI prophylaxis.

Consults and Referrals

18. It is recommended that consultation with a specialist in childhood renal disordered be considered:
• When uncertain about the management of a child with documented or suspected VUR, renal scarring, or structural abnormalities of the urinary tract; or
• If a renal or bladder stone is identified
(Local Expert Consensus, [E]).
19. It is recommended that a consultation with Infectious Diseases be considered when there are questions about antibiotic selection or unusual organisms (Local Expert Consensus, [E]).

Guideline author's rating of strength of evidence (If different from USPSTF, also describe it and how it relates to USPSTF): Type Of Evidence Supporting The Recommendations
The type of supporting evidence is identified and classified for each recommendation (see "Major Recommendations")
Cincinnati Children's Hospital and Medical Center Grading Scale
M: Meta-analysis
A: Randomized controlled trial: large sample
B: Randomized controlled trial: small sample
C: Prospective trial or large case series
D: Retrospective analysis
O: Other evidence
S: Review article
E: Expert opinion or consensus
F: Basic laboratory research
L: Legal requirement

Q: Decision analysis X: No evidence **1c.10 Clinical Practice Guideline Citation:** Cincinnati Children's Hospital Medical Center. Evidence-based care guideline for medical management of first urinary tract infection in children 12 years of age or less. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2006 Nov. 23 p. [70 references] **1c.11 National Guideline Clearinghouse or other URL:** http://guidelines.gov/summary/summary.aspx?doc_id=10163&nbr=005348&string=cincinnati+AND+urinary **1c.12 Rating of strength of recommendation (***also provide narrative description of the rating and by whom***):** No rating available. **1c.13 Method for rating strength of recommendation** (*If different from* USPSTF system*, also describe rating and how it relates to USPSTF)***:** NA **1c.14 Rationale for using this guideline over others:** Pediatric specific clinical guideline.	
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Importance to Measure and Report?*	**1**
Steering Committee: Was the threshold criterion, *Importance to Measure and Report***, met?** **Rationale:**	**1** **Y☐** **N☐**
2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	Eval Rating
2a. MEASURE SPECIFICATIONS	
S.1 Do you have a web page where current detailed measure specifications can be obtained? **S.2 If yes, provide web page URL:** **2a. Precisely Specified**	
2a.1 Numerator Statement (*Brief, text description of the numerator - what is being measured about the target population, e.g. target condition, event, or outcome***):** Discharges ages 3 months to 17 years with ICD-9-CM principal diagnosis code of urinary tract infection. Exclude cases: • transfer from other institution • with any diagnosis code of kidney/urinary tract disorder • with any diagnosis of high– or imtermediate-risk immuocompromised state • with any procedure code for transplant • with hepatic failure consisting of any diagnosis of cirrhosis plus a code for hepatic coma or hepatorenal syndrome in any diagnosis field • age less than or equal to 90 days (or neonates if age in days is missing) **2a.2 Numerator Time Window (***The time period in which cases are eligible for inclusion in the numerator***):**	**2a-specs** **C☐** **P☐** **M☐** **N☐**

Time window can be determined by user, but is generally 1 year.

2a.3 Numerator Details (*All information required to collect/calculate the numerator, including all codes, logic, and definitions***):**
Inpatient discharges with ICD-9-CM principal diagnosis code of UTI:

ICD-9-CM Urinary Tract diagnosis codes:
59010 AC PYELONEPHRITIS NOS
59011 AC PYELONEPHR W MED NECR
5902 RENAL/PERIRENAL ABSCESS
5903 PYELOURETERITIS CYSTICA
59080 PYELONEPHRITIS NOS
59081 PYELONEPHRIT IN OTH DIS
5909 INFECTION OF KIDNEY NOS
5950 ACUTE CYSTITIS
5959 CYSTITIS NOS
5990 URIN TRACT INFECTION NOS

ICD-9-CM Kidney/Urinary Tract Disorder diagnosis codes (excluded):
59370 VESCOURETRL RFLUX UNSPCF
59371 VESICOURETERAL REFLUX UNILTRL
59372 VESICOURETERAL REFLUX NPHT
59373 VESICOURETERAL REFLUX W NPHT
7530 RENAL AGENESIS
75310 CYSTIC KIDNEY DISEAS NOS
75311 CONGENITAL RENAL CYST
75312 POLYCYSTIC KIDNEY NOS
75313 POLYCYST KID-AUTOSOM DOM
75314 POLYCYST KID-AUTOSOM REC
75315 RENAL DYSPLASIA BLTRL
75316 MEDULLARY CYSTIC KIDNEY
75317 MEDULLARY SPONGE KIDNEY NOS
75319 CYSTIC KIDNEY DISEAS NEC
75320 OBS DFCT REN PLV&URT NOS
75321 CONGEN OBST URTROPLV JNC
75322 CONG OBST URETEROVES JNC
75323 CONGENITAL URETEROCELE
75329 OBST DEF REN PLV&URT NEC
7533 KIDNEY ANOMALY NEC
7534 URETERAL ANOMALY NEC
7535 EXSTROPHY OF URNIARY BLADDER
7536 ATRESIA AND STENOSIS OF URETHRA AND BLADDER NECK
7538 CYSTOURETHRAL ANOM NEC
7539 URINARY ANOMALY NOS

ICD-9-CM Transplant procedure codes (excluded):
335 LUNG TRANSPLANT
3350 LUNG TRANSPLANT NOS
3351 UNILAT LUNG TRANSPLANT
3352 BILAT LUNG TRANSPLANT
336 COMBINED HEART-LUNG TRANSPLANTATION
375 HEART TRANSPLANTATION
3751 HEART TRANSPLANTATION
410 OPERATIONS ON BONE MAROW AND SPLEEN
4100 BONE MARROW TRNSPLNT NOS
4101 AUTO BONE MT W/O PURG
4102 ALO BONE MARROW TRNSPLNT
4103 ALLOGRFT BONE MARROW NOS

4104 AUTO HEM STEM CT W/O PUR
4105 ALLO HEM STEM CT W/O PUR
4106 CORD BLD STEM CELL TRANS
4107 AUTO HEM STEM CT W PURG
4108 ALLO HEM STEM CT W PURG
4109 AUTO BONE MT W PURGING
5051 AUXILIARY LIVER TRANSPL
5059 LIVER TRANSPLANT NEC
5280 PANCREATIC TRANSPLANT, NOS
5281 REIMPLANTATION OF PANCREATIC TISSUE
5282 REIMPLANTATION OF PANCREATIC TISSUE
5283 HETEROTRANSPLANT OF PANCREAS
5285 ALLOTRANSPLANTATION OF CELLS OF ISLETS OF LNGERHANS
5286 TRANSPLANTATION OF CELLS OF ISLETS OF LANGERHANS, NOS
5569 OTHER KIDNEY TRANSPLANTATION

ICD-9-CM Cirrhosis diagnosis codes – Part I
5712 ALCOHOLIC CIRRHOSIS OF LIVER
5715 CIRRHOSIS OF LIVER WITHOUT MENTION OF ALCOHOL
5716 BILIARY CIRRHOSIS

AND

ICD-9-CM Hepatic Coma / Hepatorenal Syndrome diagnosis codes – Part II
5722 HEPATIC COMA
5724 HEPATORENAL SYNDROME

2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured***):**
Population ages 3 months to 17 years in Metro Area or county.

2a.5 Target population gender: Female, Male
2a.6 Target population age range: ages 3 months to 17 years

2a.7 Denominator Time Window (*The time period in which cases are eligible for inclusion in the denominator***):**
Time window can be determined by user, but is generally 1 year.

2a.8 Denominator Details (*All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions***):**
Population ages 3 months to 17 years in Metro Area or county.

2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** There are no denominator exclusions

2a.10 Denominator Exclusion Details (*All information required to collect exclusions to the denominator, including all codes, logic, and definitions***):**
There are no denominator exclusions

2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions***):**
The measure is not stratified.

2a.12-13 Risk Adjustment Type: case-mix adjustment

2a.14 Risk Adjustment Methodology/Variables (*List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method***):**
The measure uses age and sex in the risk adjustment. Poverty risk adjustment is optional

2a.15-17 Detailed risk model available Web page URL or attachment: Attachment submission_PDI18_attachment.doc

2a.18-19 Type of Score: rate/proportion
2a.20 Interpretation of Score: better quality = lower score
2a.21 Calculation Algorithm (*Describe the calculation of the measure as a flowchart or series of steps***):**
1) Determine unit of analysis. For this example use county.
2) Use zip code on the discharge claim to assign the numerator event to a given county
3) The software outputs the county population for use as the denominator.
4) The rate is calculated as the numerator divided by the denominator.

2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**
A lower rate reflects a lower incidence of acute hospital events for the outcome of interest.

2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*:
The application of this indicator uses inpatient administrative data. All patients discharges are used without sampling.

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
Electronic adminstrative data/claims

2a.25 Data source/data collection instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):**
The user supplies an inpatient electronic claims data set for the calculation of the measures.

2a.26-28 Data source/data collection instrument reference web page URL or attachment: URL
http://www.qualityindicators.ahrq.gov/downloads/pdi/pdi_nqi_sas_documentation_v41.pdf

2a.29-31 Data dictionary/code table web page URL or attachment: URL
http://www.qualityindicators.ahrq.gov/downloads/pdi/pdi_nqi_sas_documentation_v41.pdf

2a.32-35 Level of Measurement/Analysis (*Check the level(s) for which the measure is specified and tested)*
Population: states, Population: counties or cities, Population: national, Population: regional/network

2a.36-37 Care Settings (*Check the setting(s) for which the measure is specified and tested)*
Other (specify) This indicator utilizes hospital data as a proxy for ambulatory care.

2a.38-41 Clinical Services (*Healthcare services being measured, check all that apply*)
Other This indicator uses hospital data to examine ambulatory care and access.

TESTING/ANALYSIS

2b. Reliability testing

2b.1 Data/sample *(description of data/sample and size)***:** Reliability testing has not been completed on this indicator.

2b.2 Analytic Method *(type of reliability & rationale, method for testing)***:**
Reliability testing has not been completed on this indicator.

2b.3 Testing Results *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)***:**
Reliability testing has not been completed on this indicator.

2b
C☐ P☐ M☐ N☐

2c. Validity testing

2c.1 Data/sample *(description of data/sample and size)***:** Face validity of the indicators has been evaluated by a clinical review panel using a structured review process.

2c
C☐ P☐ M☐

2c.2 Analytic Method *(type of validity & rationale, method for testing)*: We evaluated the potential exclusions using a structured review process based on the RAND Appropriateness Method (Nominal Group Technique). **2c.3 Testing Results** *(statistical results, assessment of adequacy in the context of norms for the test conducted)*: The panel recommended the use of this indicator. For quality improvement purposes, the panel rated the indicator as acceptable without agreement (second highest rating possible) and for comparative reporting purposes as not recommended with indeterminate agreement	**N**☐
2d. Exclusions Justified **2d.1 Summary of Evidence supporting exclusion(s):** Exclusions were evaluated by a clinical review panel using a structured review process. **2d.2 Citations for Evidence:** http://www.qualityindicators.ahrq.gov/downloads/pdi/pdi_measures_v31.pdf **2d.3 Data/sample** *(description of data/sample and size)*: Sampling not employed given use of a clinical review panel. **2d.4 Analytic Method** *(type analysis & rationale)*: We evaluated the potential exclusions using a structured review process based on the RAND Appropriateness Method (Nominal Group Technique). **2d.5 Testing Results** *(e.g., frequency, variability, sensitivity analyses)*: Panelists requested the exclusion of complicated patients, arguing that patients with kidney/urinary tract disorders may have complications requiring admission. In this case admission may be much less preventable.	**2d** **C**☐ **P**☐ **M**☐ **N**☐ **NA** ☐
2e. Risk Adjustment for Outcomes/ Resource Use Measures **2e.1 Data/sample** *(description of data/sample and size)*: We calculated the c-statistic of the current indicator, using the 2006 State Inpatient Databases. **2e.2 Analytic Method** *(type of risk adjustment, analysis, & rationale)*: We calculated the c-statistic of the current indicator and RA model. **2e.3 Testing Results** *(risk model performance metrics)*: The indicator's current risk adjustment performance is not explanatory. Adjusting for underlying disease burden would likely improve performance but has not been tested. **2e.4 If outcome or resource use measure is not risk adjusted, provide rationale:** NA	**2e** **C**☐ **P**☐ **M**☐ **N**☐ **NA** ☐
2f. Identification of Meaningful Differences in Performance **2f.1 Data/sample from Testing or Current Use** *(description of data/sample and size)*: The following is an example of use from one major report. Users can specify their own parameters of use, but the following example demonstrates one successful use of the area level indicators: National Healthcare Disparities Report **2f.2 Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)*: In order to identify disparities between populations of interest (race / ethnicity and SES) the National Healthcare Disparities Report incorporates multivariate models, controlling for race, ethnicity, income, education, insurance, age, gender and residence location. Rates are also examined relative to a standard reference group to quantify the magnitude of disparities and to identify the largest disparities.	**2f** **C**☐ **P**☐ **M**☐ **N**☐

2f.3 Provide Measure Scores from Testing or Current Use *(description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)*: See responses in "importance": 1a.3, 1b.2, 1b.4.	
2g. Comparability of Multiple Data Sources/Methods **2g.1 Data/sample** *(description of data/sample and size)*: This does not apply as there is only one data method. **2g.2 Analytic Method** *(type of analysis & rationale)*: This does not apply as there is only one data method. **2g.3 Testing Results** *(e.g., correlation statistics, comparison of rankings)*: This does not apply as there is only one data method.	**2g** C☐ P☐ M☐ N☐ NA ☐
2h. Disparities in Care **2h.1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)*: Stratification is not required for this measure. **2h.2 If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:** Stratification is not required for this measure.	**2h** C☐ P☐ M☐ N☐ NA ☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Scientific Acceptability of Measure Properties*?	**2**
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties*, **met?** **Rationale:**	*2* C☐ P☐ M☐ N☐
3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)	Eval Rating
3a. Meaningful, Understandable, and Useful Information **3a.1 Current Use:** in use **3a.2 Use in a public reporting initiative (disclosure of performance results to the public at large)** (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*): National Healthcare Disparities Report, National Healthcare Quality Report http://www.ahrq.gov/qual/nhdr07/nhdr07.pdf, http://www.ahrq.gov/qual/nhqr08/nhqr08.pdf, New York State Preventable Hospitalizations Report www.myhealthfinder.com/newyork09/ahrq-pqi/PQI09.doc California Office of Statewide Health Planning and Development has published rates through 2007 http://www.oshpd.ca.gov/HID/Products/PatDischargeData/AHRQ/pdi_overview.html Health Council of South Florida http://www.healthcouncil.org/documents/Remaining_Miami_Dade_PQI.pd North Carolina CATCH report www.ncpublichealthcatch.com/	**3a** C☐ P☐ M☐ N☐

Vermont Explore
www.vtexplor.org

Center for Health Statistics Texas Health Care Information Collection, Preventable Hospitalizations 2005
http://www.dshs.state.tx.us/THCIC/Publications/Hospitals/PQIReport2005/PreventableHospitalizations2005.shtm

Preventable Hospitalizations in Kansas
http://www.kdheks.gov/ches/download/ASCpreventionPIfinal.pdf

Preventable Hospitalizations and Associated Costs in Connecticut
http://www.ct.gov/ohca/lib/ohca/publications/2009/preventablehospitalizationsandcosts_2007.pdf

Nevada Compare Care
http://nevadacomparecare.net/additionalresources/QIDefinitions.aspx

3a.3 **If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years***):**
Norton Health System (a 12 hospital system in KY publicly reporting their performance), Norton Healthcare Quality Report
http://www.nortonhealthcare.com/body.cfm?id=157

Testing of Interpretability (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*)
3a.4 **Data/sample** *(description of data/sample and size)***:** No interpretability testing performed.

3a.5 **Methods** *(e.g., focus group, survey, QI project)***:**
No interpretability testing performed.

3a.6 **Results** *(qualitative and/or quantitative results and conclusions)***:**
No interpretability testing performed.

3b/3c. Relation to other NQF-endorsed measures

3b.1 **NQF # and Title of similar or related measures:**
NQF # 0281

(for NQF staff use) **Notes on similar/related** endorsed **or submitted measures:**

3b. Harmonization
If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population):
3b.2 **Are the measure specifications harmonized? If not, why?**
This measure is similar to our AHRQ PQI 12 measure (adult UTI admission rate), but is specific to the pediatric population, rather than the adult population examined with the PQI.

3b
C☐ **P**☐ **M**☐ **N**☐ **NA**☐

3c. Distinctive or Additive Value
3c.1 **Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:**
NA. Different population.

5.1 **Competing Measures If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), describe why it is a more valid or efficient way to measure quality:**
NA. Different population.

3c
C☐ **P**☐ **M**☐ **N**☐

TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Usability*?

3

Steering Committee: Overall, to what extent was the criterion, *Usability*, met? **Rationale:**	**3** **C☐** **P☐** **M☐** **N☐**
4. FEASIBILITY	
Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	Eval Rating
4a. Data Generated as a Byproduct of Care Processes **4a.1-2 How are the data elements that are needed to compute measure scores generated?** coding/abstraction performed by someone other than person obtaining original information,	**4a** **C☐** **P☐** **M☐** **N☐**
4b. Electronic Sources **4b.1 Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*) Yes **4b.2 If not, specify the near-term path to achieve electronic capture by most providers.**	**4b** **C☐** **P☐** **M☐** **N☐**
4c. Exclusions **4c.1 Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** No **4c.2 If yes, provide justification.**	**4c** **C☐** **P☐** **M☐** **N☐** **NA☐**
4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences **4d.1 Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.** Our clinical review panel identified 3 issues, although they still recommended use. Panelists expressed concern that certain patients may be less likely to seek timely care regardless of access to quality care. These patients may present with advanced disease. Panelists argued, as for all potentially preventable hospitalizations, that this indicator be adjusted for socioeconomic status and that differences in cultural groups be considered when analyzing results. - Panelists also noted that areas with hospitals that have short stay units or similar practice patterns (e.g. holding patients in the ER instead of admitting) may appear to have lower rates without actually having higher quality of care. Given data limitations, no changes to the indicator definition could be made to address this issue. However, users of the indicator could explore admitting patterns with additional data. - Panelists noted that practice patterns regarding evaluation for causative factors such as urinary tract malformations vary from hospital to hospital and may affect rates. Some hospitals always evaluate patients in-hospital, and when excludable abnormalities are found, these patients will be excluded. In other areas, this evaluation is done on an outpatient basis and therefore the patient will be included in the indicator, despite having an excludable comorbidity.	**4d** **C☐** **P☐** **M☐** **N☐**
4e. Data Collection Strategy/Implementation **4e.1 Describe what you have learned/modified as a result of testing and/or operational use of the**	**4e** **C☐** **P☐**

measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues: The indicator has been in use for nearly 10 years and AHRQ operates a user support system for users to submit concerns and successes with the indicators. The issues involved in data collection for this measure are standard for all administrative based indicators. The cost of implementation is minimal, and software to compute the measure is provided at not charge from AHRQ. Cost to obtain electronic data sets vary state by state. Census data to calculate population rates by MSA or county are integrated in the software. 4e.2 **Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** In regard to data: Since the measure is based on electronic administrative data, the cost of implementation is minimal. In regard to use of the measure: There is no cost to use the measure. 4e.3 **Evidence for costs:** Cost to acquire data varies by State. The software to calculate the measure can be downloaded at no cost at http://www.qualityindicators.ahrq.gov/software.htm . 4e.4 **Business case documentation:** None	**M☐** **N☐**
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Feasibility?*	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility***, met?** **Rationale:**	**4** **C☐** **P☐** **M☐** **N☐**
RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited ☐**
Steering Committee: Do you recommend for endorsement? **Comments:**	**Y☐** **N☐** **A☐**
CONTACT INFORMATION	
Co.1 **Measure Steward (Intellectual Property Owner)** Co.1 **Organization** Agency for Healthcare Research and Quality | 540 Gaither Road | Rockville | Maryland | 20850 Co.2 **Point of Contact** John | Bott, MSSW, MBA | john.bott@ahrq.hhs.gov | 301-427-1317	
Measure Developer If different from Measure Steward Co.3 **Organization** Agency for Healthcare Research and Quality | 540 Gaither Road | Rockville | Maryland | 20850 Co.4 **Point of Contact** John | Bott, MSSW, MBA | john.bott@ahrq.hhs.gov | 301-427-1317	
Co.5 **Submitter If different from Measure Steward POC** John | Bott, MSSW, MBA | john.bott@ahrq.hhs.gov | 301-427-1317- |Agency for Healthcare Research and Quality	

Co.6 Additional organizations that sponsored/participated in measure development
Battelle Memorial Institute
UC Davis
Stanford University

ADDITIONAL INFORMATION

Workgroup/Expert Panel involved in measure development
Ad.1 Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.
Workgroup/panel used
We conducted a structured panel review using a Modified Delphi Method (Nominal Group). Users rated the indicators on issues of face validity, reliability, coding accuracy, bias, and overall usefulness. Details on these methods can be found at: http://www.qualityindicators.ahrq.gov/downloads/pdi/pdi_measures_v31.pdf

Ad.2 If adapted, provide name of original measure: AHRQ Prevention Quality Indicator 12: UTI admission rate (adults)
Ad.3-5 If adapted, provide original specifications URL or attachment URL
http://www.qualityindicators.ahrq.gov/pqi_archive.htm

Measure Developer/Steward Updates and Ongoing Maintenance
Ad.6 Year the measure was first released: 2001
Ad.7 Month and Year of most recent revision: 2010-01
Ad.8 What is your frequency for review/update of this measure?
Ad.9 When is the next scheduled review/update for this measure? 2011-01

Ad.10 Copyright statement/disclaimers: The AHRQ QI software is publicly available. We have no copyright disclaimers.

Ad.11 -13 Additional Information web page URL or attachment:

Date of Submission (*MM/DD/YY*)**:** 02/23/2010

NATIONAL QUALITY FORUM

Measure Evaluation 4.1
January 2010

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The sub-criteria and most of the footnotes from the evaluation criteria are provided in Word comments and will appear if your cursor is over the highlighted area (or in the margin if your Word program is set to show revisions in balloons). Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all yellow highlighted areas of the form. Evaluate the extent to which each sub-criterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the* sub-criteria *(yellow highlighted areas)*.

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the sub-criterion, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few sub-criteria as indicated)

(for NQF staff use) **NQF Review** #: OT3-056-10 **NQF Project:** Patient Outcomes Measures: Child Health and Mental Health (Phase III)
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Diabetes, Short-Term Complication Rate (pediatric)
De.2 **Brief description of measure***:* Admission rate for diabetes short term complications in children ages 6 to 17, per 100,000 population (area level rate)
1.1-2 **Type of Measure:** access De.3 **If included in a composite or paired with another measure, please identify composite or paired measure** The indicator is not a required part of a composite, but is included in the "Pediatric Quality Indicator (PDI) Area Level Composite" which also includes Asthma (PDI 14), Gastroenteritis (PDI 16), and UTI (PDI 18).
De.4 **National Priority Partners Priority Area:** population health De.5 **IOM Quality Domain**: effectiveness De.6 **Consumer Care Need:** Staying Healthy

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* A.1 **Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes A.2 **Indicate if Proprietary Measure** (*as defined in measure steward agreement*)**:** A.3 **Measure Steward Agreement:** government entity- public domain- No Agreement A.4 **Measure Steward Agreement attached:**	**A** **Y**☐ **N**☐

B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every 3 years. Yes, information provided in contact section	**B** Y☐ N☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** public reporting, quality improvement 0,0,0,	**C** Y☐ N☐
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 24 months of endorsement. D.1**Testing:** Yes, fully developed and tested D.2 **Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** Y☐ N☐
(for NQF staff use**)** **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	**Met** Y☐ N☐
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. *Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	Eval Rating
(for NQF staff use) Specific NPP goal:	
1a.1 **Demonstrated High Impact Aspect of Healthcare:** a leading cause of morbidity/mortality 1a.2 1a.3 **Summary of Evidence of High Impact:** Total admission rate for pediatric diabetes short-term complications in the US is 30 per 100,000 population. The rates for age strata are as follows: 6-9 year 14/100,000 10-14 years 33/100,000 15-17 years 45/100,000 Male 26/100,000 Female 33/100,000 In addition, diabetes was the 6th leading DRG for admissions in 2007 in HCUPnet for patients age 10-14. 1a.4 **Citations for Evidence of High Impact:** http://hcupnet.ahrq.gov/HCUPnet.jsp?Id=C1A83212BE1B9D06&Form=SelPDIs1&JS=Y&Action=%3E%3ENext%3E%3E&_QITables=PDI14 http://hcupnet.ahrq.gov/HCUPnet.jsp?Id=9731A13254C6BB7F&Form=SelPAT&JS=Y&Action=%3E%3ENext%3E%3	**1a** C☐ P☐ M☐ N☐

E&_InPatChar=Yes&_InHospChar=Yes&_PatChar=AGE

1b. Opportunity for Improvement

1b.1 Benefits (improvements in quality) envisioned by use of this measure: The improvement in the measure equates to less hospitalizations for diabetes. This essentially means the population is experiencing greater control and better management of their diabetes given the reduction in the rate acute diabetes events.

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
We see variation by gender and other patient characteristics. See responses to question 1a.3. In addition we observe variation by region:

Northeast 21/100,000
Midwest 37/100,000
South 34/100,000
West 24/100,000

1b.3 Citations for data on performance gap:
Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 2007, and AHRQ Quality Indicators, version 3.1.

1b.4 Summary of Data on disparities by population group:
HCUPnet reports rates by patient characteristics as follows. We see increased rates in low income populations as large urban areas as well as rural areas.

Median income of patient's ZIP code
1st quartile (lowest income) 38/100,000
2nd quartile 32/100,000
3rd quartile 27/100,000
4th quartile 21/100,000

Large central metropolitan 21/100,000
Large fringe metropolitan 28/100,000
Medium metropolitan 30/100,000
Small metropolitan 40/100,000
Micropolitan 43/100,000
Not metropolitan or micropolitan 40/100,000

1b.5 Citations for data on Disparities:
Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 2007, and AHRQ Quality Indicators, version 3.1.

1b
C☐ P☐ M☐ N☐

1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*)**:** Diabetes is a leading childhood chronic disease, without proper treatment diabetes can lead to numerous serious complications and death. For admissions of pediatric patients (ages 10 to 14) diabetes was the 6th leading DRG for admissions in 2007 in HCUPnet. Currently diabetes hospitalization rates are tracked in the National Healthcare Quality Report as well as the National Healthcare Disparities Report.

1c
C☐ P☐ M☐ N☐

1c.2-3. Type of Evidence: cohort study, observational study

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**
Precipitating events leading to admission for diabetes may include physiologic causes, as discussed above, or the cessation of treatment due to access to care or non-compliance issues. Evidence that such causes are or are not due to access to care contributes to the construct validity of this indicator.

Access to care in relation to admissions has been explicitly studied and reported. Weissman1 found that uninsured patients had a higher risk of admission for DKA and coma than privately insured patients (age 0-64) (adjusted O.R. 2.18 – 2.77). Similarly, Todd, et al. found that in Colorado children with public, or no health insurance had higher rates of hospitalization for diabetes than children with private insurance (rate ratio = 1.46).2 In a another study using nationwide data, expansions of the State Children's Health Insurance Program coverage resulted in a decrease in hospitalizations for children with chronic conditions (including diabetes), though this decrease was not found to be statistically significant.3

Two studies of ACSC indicators reported validation work for diabetes independent of measure sets. Millman et al.4 reported that low-income zip codes had 4.1 times more diabetes hospitalizations per capita (age 0-64) than high-income zip codes in 11 states in 1988. Billings et al.5 found that low-income zip codes in New York City (where at least 60% of households earned less than $15,000 in 1988, based on adjusted 1980 Census data) had 6.3 times more diabetes hospitalizations per capita (age 0-64) than high-income zip codes (where less than 17.5% of households earned less than $15,000). Household income explained 52% of the variation in short term diabetes complication hospitalization rates at the zip code level.

Evidence on the impact of intensity of care, or frequency of visits, varies. A study in southern California found that the number of medical visits was a significant predictor of HbA1C - those subjects with more frequent visits had lower HbA1C levels during the 3 years of the study.6 Palta, et al found that patients' total glycosylated hemoglobin level had the strongest association with hospitalization rates in patients in Wisconsin.7 While the logical conclusion from these two studies might be that increased intensity of care can result in decreased hospitalization rates, two studies specifically looking at the impact of increased ambulatory care efforts found equivocal results. Curtis, et al found no decrease in DKA admissions in Ontario after increased care,8 and Svoren, et al found that though more intensive therapy achieved better diabetes control in their experimental cohort, there was no significant change in hospitalization rates.9

Of note, two groups looked at ways to reduce adverse outcomes in youths and adolescents. One found that having a non-medical case manager involved in patients' care, with supplemental psychoeducational modules resulted in improved glycemic control and decreased hospitalizations.10, 11 The other group found that intensive, home-based psychotherapy improved rates of DKA admissions both at treatment termination and 6-month follow-up.12, 13

All of the above findings suggest that this indicator may be a marker for poor access to effective outpatient care.

1c.5 Rating of strength/quality of evidence (*also provide narrative description of the rating and by whom***):**
The evidence has been reviewed by a clinical review panel. The panel recommended the use of this indicator. For quality improvement purposes, the panel rated the indicator as acceptable with agreement (highest rating possible) but had concerns about use for comparative reporting. Details on this review and methods can be found at http://www.qualityindicators.ahrq.gov/downloads/pdi/pdi_measures_v31.pdf.

1c.6 Method for rating evidence: Details on the methods can be found at www.qualityindicators.ahrq.gov/downloads/pdi/pdi_measures/v31.pdf
Acceptable with agreement: Median falls between 7 and 9 inclusive of both with two or fewer panelists rating below 7.
Acceptable without agreement. Median falls between 7 and 9 inclusive of both without agreement or disagreement

1c.7 Summary of Controversy/Contradictory Evidence: No major contradictory guidelines.

1c.8 Citations for Evidence (*other than guidelines*):

1. Weissman JS, Gatsonis C, Epstein AM. Rates of avoidable hospitalization by insurance status in Massachusetts and Maryland. Jama. 1992;268(17):2388-2394.
2. Todd J, Armon C, Griggs A, Poole S, Berman S. Increased rates of morbidity, mortality, and charges for hospitalized children with public or no health insurance as compared with children with private insurance in Colorado and the United States. Pediatrics. 2006;118(2):577-585.
3. Davidoff A, Kenney G, Dubay L. Effects of the State Children's Health Insurance Program Expansions on children with chronic health conditions. Pediatrics. 2005;116(1):e34-42.
4. Millman M, ed Committee on Monitoring Access to Personal Health Care Services. Washington, D.C.: National Academy Press; 1993. Acess to health care in America/ Committee on Monitoring Access to Personal Health Care Services, Institute of Medicine.
5. Billings J, Zeital L, Lukomnik J, Carey T, Blank A, Newman L. Analysis of variation in hospital admission rates associated with area income in New York City: Unpublished Report.; 1992.
6. Kaufman FR, Halvorson M, Carpenter S. Association between diabetes control and visits to a multidisciplinary pediatric diabetes clinic. Pediatrics. 1999;103(5 Pt 1):948-951.
7. Palta M, LeCaire T, Daniels K, Shen G, Allen C, D'Alessio D. Risk factors for hospitalization in a cohort with type 1 diabetes. Wisconsin Diabetes Registry. American Journal of Epidemiology. 1997;146(8):627-636.
8. Curtis JR, To T, Muirhead S, Cummings E, Daneman D. Recent trends in hospitalization for diabetic ketoacidosis in ontario children. Diabetes Care. 2002;25(9):1591-1596.
9. Svoren BM, Volkening LK, Butler DA, Moreland EC, Anderson BJ, Laffel LM. Temporal trends in the treatment of pediatric type 1 diabetes and impact on acute outcomes. Journal of Pediatrics. 2007;150(3):279-285.
10. Svoren BM, Butler D, Levine BS, Anderson BJ, Laffel LM. Reducing acute adverse outcomes in youths with type 1 diabetes: a randomized, controlled trial. Pediatrics. 2003;112(4):914-922.
11. Laffel LM, Brackett J, Ho J, Anderson BJ. Changing the process of diabetes care improves metabolic outcomes and reduces hospitalizations. Quality Management in Health Care. 1998;6(4):53-62.
12. Ellis DA, Frey MA, Naar-King S, Templin T, Cunningham PB, Cakan N. The effects of multisystemic therapy on diabetes stress among adolescents with chronically poorly controlled type 1 diabetes: findings from a randomized, controlled trial. Pediatrics. 2005;116(6):e826-832.
13. Ellis DA, Templin T, Naar-King S, et al. Multisystemic therapy for adolescents with poorly controlled type I diabetes: Stability of treatment effects in a randomized controlled trial. Journal of Consulting & Clinical Psychology. 2007;75(1):168-174.

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number*):

AACE Diabetes Mellitus Clinical Practice Guidelines Task Force. AACE diabetes mellitus guidelines. Diabetes management in the hospital setting. Endocr Pract 2007 May-Jun;13(Suppl 1):59-63. [67 references]
AACE Diabetes Mellitus Clinical Practice Guidelines Task Force. AACE diabetes mellitus guidelines. Glycemic management. Endocr Pract 2007 May-Jun;13(Suppl 1):16-34. [178 references]

AACE Diabetes Mellitus Clinical Practice Guidelines Task Force
Glycemic Management
All Patients With Diabetes Mellitus

- Encourage patients to achieve glycemic levels as near normal as possible without inducing clinically significant hypoglycemia (grade A); glycemic targets include:
- HbA1c =6.5% (grade B)
- Fasting plasma glucose concentration <110 mg/dL (grade B)
- 2-hour postprandial glucose concentration <140 mg/dL (grade B)
- Refer patients for comprehensive, ongoing education in diabetes self-management skills and nutrition therapy (grade A); education should:
- Be provided by a qualified health care professional
- Focus on all aspects of diabetes self-management relevant to each patient's treatment plan
- Promote behavioral changes to support effective and consistent application of the prescribed diabetes treatment plan and an overall healthy lifestyle
- Be continued as an ongoing intervention to accommodate changes in the treatment plan and patient status
- Initiate self-monitoring of blood glucose levels (grade A)

Patients With Type 1 Diabetes Mellitus

Initiate intensive insulin therapy (grade A) (Table 4.1 describes the pharmacokinetics of available insulin preparations); regimen options include:

- Basal-bolus therapy, using a long-acting insulin analog in combination with a rapid-acting insulin analog or inhaled insulin at meals
- Continuous subcutaneous insulin infusion with an insulin pump; insulin pump therapy is indicated for:
- Patients who are unable to achieve acceptable control using a regimen of multiple daily injections
- Patients with histories of frequent hypoglycemia and/or hypoglycemia unawareness
- Patients who are pregnant
- Patients with extreme insulin sensitivity (pump therapy facilitates better precision than subcutaneous injections)
- Patients with a history of dawn phenomenon (these patients can program a higher basal rate for the early morning hours to counteract the rise in blood glucose concentration)
- Patients who require more intensive diabetes management because of complications including neuropathy, nephropathy, and retinopathy
- Patients taking multiple daily injections who have demonstrated willingness and ability to comply with prescribed diabetes self-care behavior including frequent glucose monitoring, carbohydrate counting, and insulin adjustment
- Consider adding pramlintide to intensive insulin therapy to enhance glycemic control and to assist with weight management (grade D)
- Consider adding an insulin sensitizer to address insulin resistance as needed (grade C); exercise caution because of the potential for increased fluid retention when thiazolidinediones are used with insulin
- Instruct patients whose glycemic levels are at or above target while receiving multiple daily injections or using an insulin pump to monitor glucose levels at least 3 times daily (grade A)
- Instruct patients whose glycemic levels are above target or who experience frequent hypoglycemia to monitor glucose levels more frequently; monitoring should include both preprandial and 2-hour postprandial glucose levels and occasional 2:00 AM to 3:00 AM glucose levels (grade C)
- Instruct insulin-treated patients to always check glucose levels before administering a dose of insulin by injection or changing the rate of insulin infusion delivered by an insulin pump (grade A)
- Instruct patients to monitor glucose levels anytime there is a suspected (or risk of) low glucose level and/or before driving (grade A)
- Instruct patients to monitor glucose levels more frequently during illness and to perform a ketone test each time a measured glucose concentration is greater than 250 mg/dL (grade C)

Table 4.1 Pharmacokinetics of Available Insulin Preparations

Insulin, Generic Name (Brand)	Onset	Peak	Effective Duration
Rapid-acting			
Insulin aspart injection (NovoLog)	5-15 min	30-90 min	<5 h
Insulin lispro injection (Humalog)	5-15 min	30-90 min	<5 h
Insulin glulisine injection (Apidra)	5-15 min	30-90 min	<5 h
Insulin human (rDNA origin) Inhalation Powder (Exubera)	5-15 min	30-90 min	5-8 h
Short-acting			
Regular	30-60 min	2-3 h	5-8 h
Intermediate, basal			
NPH	2-4 h	4-10 h	10-16 h
Long-acting, basal			
Insulin glargine injection (Lantus)a,b	2-4hc	No peak	20-24 h
Insulin detemir injection (Levemir)a,b	3-8 h	No peak	5.7-23.2 h
Premixed			
75% insulin lispro protamine suspension/25% insulin lispro injection (Humalog Mix 75/25)	5-15 min	Dual	10-16 h
50% insulin lispro protamine suspension/50% insulin lispro injection (Humalog Mix 50/50)	5-15 min	Dual	10-16 h

70% insulin aspart protamine suspension /30% insulin aspart injection (NovoLog Mix 70/30)	5-15 min	Dual	10-16 h
70% NPH/30% regular	30-60 min	Dual	10-16 h

aMay require 2 daily injections in patients with type 1 diabetes mellitus.
bAssumes 0.1-0.2 U/kg per injection. Onset and duration may vary significantly greatly by injection site.
cTime to steady state.
NPH, neutral protamine Hagedorn; h, hour; min, minutes

Patients With Type 2 Diabetes Mellitus

- Aggressively implement all appropriate components of care (medical nutrition therapy, physical activity, weight management regimen, pharmacologic interventions, diabetes self-management education) at the time of diagnosis (grade A)
- Persistently monitor and titrate pharmacologic therapy until all glycemic goals are achieved (grade A)
- First assess the patient's current HbA1c level, fasting/preprandial glycemic profile, and 2-hour postprandial glycemic profile to evaluate the level of control and to identify patterns; this will require the patient to obtain comprehensive fasting, preprandial, and postprandial glucose readings over a 7-day period (grade A)
- After initiating pharmacologic therapy based on the patterns identified in the profile, persistently monitor and titrate therapy over the next 2 to 3 months until all American College of Endocrinology/American Association of Clinical Endocrinologists (ACE/AACE) glycemic goals are achieved (grade A) (Table 4.2 below shows examples of pharmacologic regimens that are intended to serve as starting points for selecting appropriate therapies. Tables 4.3, 4.4, 4.5, and 4.6 in the original guideline document present information about new medications and currently available oral therapies.)
- If glycemic goals are not achieved at the end of 2 to 3 months of therapy, initiate a more intensive regimen and persistently monitor and titrate therapy over the next 2 to 3 months until all ACE/AACE glycemic goals are achieved (grade A)
- Recognize that patients currently treated with monotherapy or combination therapy who have not achieved glycemic goals will require either increased dosages of their current medications or the addition of a second or third medication (grade A)
- Consider insulin therapy in patients with HbA1c levels greater than 8% and symptomatic hyperglycemia and in patients with elevated fasting blood glucose levels or exaggerated postprandial glucose excursions regardless of HbA1c levels (grade A)
- Initiate insulin therapy to control hyperglycemia and to reverse glucose toxicity when the HbA1c level is greater than 10%; insulin treatment can then be modified or discontinued once glucose toxicity is reversed (grade A)
- Consider use of continuous subcutaneous insulin infusion in insulin-treated patients (grade C)

Table 4.2 Examples of Pharmacologic Regimens for Treating Type 2 Diabetes Mellitusa

Patients With Type 2 Diabetes Mellitus Naïve to Pharmacologic Therapy

Initiate monotherapy when HbA1c levels are 6%-7%
Options include:

- Metformin
- Thiazolidinediones
- Secretagogues
- Dipeptidyl-peptidase 4 inhibitors
- Alpha-glucosidase inhibitors

Monitor and titrate medication for 2-3 months

Consider combination therapy if glycemic goals are not met at the end of 2-3 months

Initiate combination therapy when HbA1c levels are 7%-8%
Options include:

- Secretagogue + metformin
- Secretagogue + thiazolidinedione

- Secretagogue + alpha-glucosidase inhibitor
- Thiazolidinedione + metformin
- Dipeptidyl-peptidase 4 inhibitor + metformin
- Dipeptidyl-peptidase 4 inhibitor + thiazolidinedione
- Secretagogue + metformin + thiazolidinedione
- Fixed-dose (single pill) therapy
- Thiazolidinedione (pioglitazone) + metformin
- Thiazolidinedione (rosiglitazone) + metformin
- Thiazolidinedione (rosiglitazone) + secretagogue (glimepiride)
- Thiazolidinedione (pioglitazone) + secretagogue (glimepiride)
- Secretagogue (glyburide) + metformin
- Rapid-acting insulin analogs or premixed insulin analogs may be used in special situations
- Inhaled insulin may be used as monotherapy or in combination with oral agents and long-acting insulin analogs
- Insulin-oral medications; all oral medications may be used in combination with insulin; therapy combinations should be selected based on the patient's self-monitoring of blood glucose profiles

Initiate/intensify combination therapy using options listed above when HbA1c levels are 8%-10% to address fasting and postprandial glucose levels

Initiate/intensify insulin therapy when HbA1c levels are >10%

- Options include:
- Rapid-acting insulin analog or inhaled insulin with long-acting insulin analog or NPH
- Premixed insulin analogs

Patients with Type 2 Diabetes Mellitus Currently Treated Pharmacologically

The therapeutic options for combination therapy listed for patients naïve to therapy are appropriate for patients being treated pharmacologically

Exenatide may be combined with oral therapy in patients who have not achieved glycemic goals

Approved exenatide + oral combinations:

- Exenatide + secretagogue (sulfonylurea)
- Exenatide + metformin
- Exenatide + secretagogue (sulfonylurea) + metformin
- Exenatide + thiazolidinedione

Pramlintide may be used in combination with prandial insulin

Add insulin therapy in patients on maximum combination therapy (oral-oral, oral-exenatide) whose HbA1c levels are 6.5%–8.5%

Consider initiating basal-bolus insulin therapy for patients with HbA1c levels >8.5%

Abbreviations: HbA1c, hemoglobin A1c; NPH, neutral protamine Hagedorn.

aThe options listed are in no order of preference.

- Instruct patients whose glycemic levels are at or above target while receiving multiple daily injections or using an insulin pump to monitor glucose levels at least 3 times daily (grade B); although monitoring glucose levels at least 3 times daily is recommended, there is no supporting evidence regarding optimal frequency of glucose monitoring with or without insulin pump therapy
- Instruct insulin-treated patients to always check glucose levels before administering a dose of insulin by injection or changing the rate of insulin infusion delivered by an insulin pump (grade B)
- Instruct patients whose glycemic levels are above target while being treated with oral agents alone, oral agents plus once-daily insulin, or once-daily insulin alone to monitor glucose levels at least 2 times daily (grade C); there is no supporting evidence regarding optimal frequency of glucose monitoring in these patients
- Instruct patients who are meeting target glycemic levels (including those treated nonpharmacologically) to monitor glucose levels at least once daily (grade D)

- Instruct patients whose glycemic levels are above target or who experience frequent hypoglycemia to monitor glucose levels more frequently; monitoring should include both preprandial and 2-hour postprandial glucose levels and occasional 2:00 AM to 3:00 AM glucose levels (grade B)
- Instruct patients to obtain comprehensive preprandial and 2-hour postprandial glucose measurements to create a weekly profile periodically and before clinician visits to guide nutrition and physical activity, to detect postprandial hyperglycemia, and to prevent hypoglycemia (grade B)
- Instruct patients to monitor glucose levels anytime there is a suspected (or risk of) low glucose level and/or before driving (grade A)
- Instruct patients to monitor glucose levels more frequently during illness and to perform a ketone test each time a measured glucose concentration is greater than 250 mg/dL (grade C)

Guideline author's rating of strength of evidence (If different from USPSTF, also describe it and how it relates to USPSTF): AACE Diabetes Mellitus Clinical Practice Guidelines Task Force
Definitions:
Levels of Substantiation in Evidence-Based Medicinea
Level-of-Evidence Categoryb Study Design or Information Type Comments
1 Randomized controlled trials

Multicenter trials

Large meta-analyses with quality ratings Well-conducted, well-controlled trials at 1 or more medical centers

Data derived from a substantial number of trials with adequate power; substantial number of subjects and outcome data

Consistent pattern of findings in the population for which the recommendation is made – generalizable results

Compelling nonexperimental, clinically obvious evidence (e.g., use of insulin in diabetic ketoacidosis); "all or none" evidence
2 Randomized controlled trials

Prospective cohort studies

Meta-analyses of cohort studies

Case-control studies Limited number of trials, small number of subjects

Well-conducted studies

Inconsistent findings or results not representative for the target population
3 Methodologically flawed randomized controlled trials

Nonrandomized controlled trials

Observational studies

Case series or case reports Trials with 1 or more major or 3 or more minor methodologic flaws

Uncontrolled or poorly controlled trials

Retrospective or observational data

Conflicting data with weight of evidence unable to support a final recommendation
4 Expert consensus

Expert opinion based on experience

Theory-driven conclusions

Unproven claims

Experience-based information Inadequate data for inclusion in level-of-evidence categories 1, 2, or 3; data necessitates an expert panel's synthesis of the literature and a consensus
aAdapted from the American Association of Clinical Endocrinologists Protocol for the Standardized Production of Clinical Practice Guidelines.
bLevel-of-evidence categories 1 through 3 indicate scientific substantiation or proof; level-of-evidence category 4 indicates unproven claims.
Recommendation Grades in Evidence-Based Medicinea
Grade Description
A Homogeneous evidence from multiple well-designed randomized controlled trials with sufficient statistical power

Homogeneous evidence from multiple well-designed cohort controlled trials with sufficient statistical power

>1 conclusive level of evidence category 1 publications demonstrating benefit >> outweighs risk

B Evidence from at least one large well-designed clinical trial, cohort or case-controlled analytic study, or meta-analysis

No conclusive level of evidence category 1 publication; >1 conclusive level of evidence category 2 publications demonstrating benefit >> risk

C Evidence based on clinical experience, descriptive studies, or expert consensus opinion

No conclusive level 1 or 2 publication; >1 conclusive level of evidence category 3 publications demonstrating benefit >> risk

No conclusive risk at all and no conclusive benefit demonstrated by evidence

D Not rated

No conclusive level of evidence category 1, 2, or 3 publication demonstrating benefit >> risk

Conclusive level of evidence category 1, 2, or 3 publication demonstrating risk >> benefit
aAdapted from the American Association of Clinical Endocrinologists Protocol for the Standardized Production of Clinical Practice Guidelines.

1c.10 Clinical Practice Guideline Citation: AACE Diabetes Mellitus Clinical Practice Guidelines Task Force. AACE diabetes mellitus guidelines. Glycemic management. Endocr Pract 2007 May-Jun;13(Suppl 1):16-34. [178 references]
1c.11 National Guideline Clearinghouse or other URL:
http://guidelines.gov/summary/summary.aspx?doc_id=11094&nbr=005853&string=AACE

1c.12 Rating of strength of recommendation (*also provide narrative description of the rating and by whom***):**
No rating available.

1c.13 Method for rating strength of recommendation (*If different from* USPSTF system*, also describe rating and how it relates to USPSTF)***:**
NA

1c.14 Rationale for using this guideline over others:
National clinical organization guideline.

TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Importance to*	**1**

Measure and Report?	
Steering Committee: Was the threshold criterion, *Importance to Measure and Report*, **met?** **Rationale:**	**1** **Y☐** **N☐**
2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	Eval Rating
2a. MEASURE SPECIFICATIONS	
S.1 Do you have a web page where current detailed measure specifications can be obtained? **S.2 If yes, provide web page URL:** **2a. Precisely Specified**	
2a.1 Numerator Statement (*Brief, text description of the numerator - what is being measured about the target population, e.g. target condition, event, or outcome***):** Discharges ages 6 to 17 years with ICD-9-CM principal diagnosis code of diabetes. Exclude cases: - MDC 14 (pregnancy, childbirth, and puerperium) - transfer from other institution - age less than 6 years **2a.2 Numerator Time Window (***The time period in which cases are eligible for inclusion in the numerator***):** Time window can be determined by user, but is generally 1 year. **2a.3 Numerator Details (***All information required to collect/calculate the numerator, including all codes, logic, and definitions***):** Inpatient discharges with ICD-9-CM principal diagnosis code of diabetes: ICD-9-CM Ketoacidosis, Hyperosmolarity, Coma diagnosis codes: 25010 DM KETO T2, DM CONT 25011 DM KETO T1, DM CONT 25012 DM KETO T2, DM UNCONT 25013 DM KETO T1, DM UNCONT 25020 DM W/ HYPROSM T2, DM CONT 25021 DM W/ HYPROSM T1, DM CONT 25022 DM W/ HYPROSM T2, DM UNCNT 25023 DM W/ HYPROSM T1, DM UNCNT 25030 DM COMA NEC TYP II, DM CNT 25031 DM COMA NEC T1, DM CONT 25032 DM COMA NEC T2, DM UNCONT 25033 DM COMA NEC T1, DM UNCONT	
2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured***):** Population ages 6 to 17 years in Metro Area or county. **2a.5 Target population gender:** Female, Male **2a.6 Target population age range:** ages 6 to 17 years **2a.7 Denominator Time Window (***The time period in which cases are eligible for inclusion in the denominator***):**	**2a-specs** **C☐** **P☐** **M☐** **N☐**

Time window can be determined by user, but is generally 1 year.

2a.8 Denominator Details (*All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions***):**
Population ages 6 to 17 years in Metro Area or county.

2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** There are no denominator exclusions

2a.10 Denominator Exclusion Details (*All information required to collect exclusions to the denominator, including all codes, logic, and definitions***):**
There are no denominator exclusions

2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions***):**
The measure is not stratified.

2a.12-13 Risk Adjustment Type:

2a.14 Risk Adjustment Methodology/Variables (*List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method***):**
The measure uses age and sex in the risk adjustment. Poverty risk adjustment is optional.

2a.15-17 Detailed risk model available Web page URL or attachment: Attachment submission_PDI15_attach_detail risk model.doc

2a.18-19 Type of Score: rate/proportion
2a.20 Interpretation of Score: better quality = lower score
2a.21 Calculation Algorithm (*Describe the calculation of the measure as a flowchart or series of steps***):**
1) Determine unit of analysis. For this example use county.
2) Use zip code on the discharge claim to assign the numerator event to a given county
3) The software outputs the county population for use as the denominator.
4) The rate is calculated as the numerator divided by the denominator.

2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**
A lower rate reflects a lower incidence of acute hospital events for the outcome of interest.

2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*:
The application of this indicator uses inpatient administrative data. All patients discharges are used without sampling.

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
Electronic adminstrative data/claims

2a.25 Data source/data collection instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):**
The user supplies an inpatient electronic claims data set for the calculation of the measures.

2a.26-28 Data source/data collection instrument reference web page URL or attachment: URL
http://www.qualityindicators.ahrq.gov/downloads/pdi/pdi_nqi_sas_documentation_v41.pdf

2a.29-31 Data dictionary/code table web page URL or attachment: URL
http://www.qualityindicators.ahrq.gov/downloads/pdi/pdi_nqi_sas_documentation_v41.pdf

2a.32-35 Level of Measurement/Analysis *(Check the level(s) for which the measure is specified and tested)*
Population: states, Population: counties or cities, Population: national, Population: regional/network

2a.36-37 Care Settings (*Check the setting(s) for which the measure is specified and tested)*
Other (specify) This indicator utilizes hospital data as a proxy for ambulatory care.

2a.38-41 Clinical Services (*Healthcare services being measured, check all that apply*)
Other This indicator uses hospital data to examine ambulatory care and access.

TESTING/ANALYSIS

2b. Reliability testing

2b.1 Data/sample *(description of data/sample and size)*: Reliability testing has not been completed on this indicator. However, reliability testing has been completed on the adult version of this indicator, and rates are similar between the two.
Reliability testing was conducted on 1995-1997 Nationwide Inpatient Sample (NIS) and State Inaptient Databases for 5 states (CA, FL, IL, NY, PA)

2b.2 Analytic Method *(type of reliability & rationale, method for testing)*:
The technique used for reliability testing on this indicator is signal extraction. This technique is designed to "clean' or "smooth" the data of noise and extract the actual signal associated with the are performance. We used two techniques for signal extraction to potentially improve the precision of the indicator. First, univariate methods estimated the "true" quality signal of an indicator based on information from the specific indicator and one year of data. Second, new multivariate signal extraction (MSX) methods estimated the signal based on information from a set of indicators and multiple years of data. In most cases, MSX methods extract additional signal.

2b.3 Testing Results *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)*:
Reliability testing was completed during the original development of the adult diabetes short-term complications indicator and reflects the original definition. The indicator demonstrated moderate variation between area. The signal ratio was high at 72.6%

2b C☐ P☐ M☐ N☐

2c. Validity testing

2c.1 Data/sample *(description of data/sample and size)*: Face validity of the indicators has been evaluated by a clinical review panel using a structured review process.

2c.2 Analytic Method *(type of validity & rationale, method for testing)*:
We evaluated the potential exclusions using a structured review process based on the RAND Appropriateness Method (Nominal Group Technique).

2c.3 Testing Results *(statistical results, assessment of adequacy in the context of norms for the test conducted)*:
The panel recommended the use of this indicator. For quality improvement purposes, the panel rated the indicator as acceptable with agreement (highest rating possible) and for comparative reporting purposes as not recommended with indeterminate agreement.

2c C☐ P☐ M☐ N☐

2d. Exclusions Justified

2d.1 Summary of Evidence supporting exclusion(s):
Exclusions were evaluated by a clinical review panel using a structured review process.

2d.2 Citations for Evidence:
http://www.qualityindicators.ahrq.gov/downloads/pdi/pdi_measures_v31.pdf

2d.3 Data/sample *(description of data/sample and size)*: Sampling not employed given use of a clinical review panel.

2d.4 Analytic Method *(type analysis & rationale)*:
We evaluated the potential exclusions using a structured review process based on the RAND Appropriateness Method (Nominal Group Technique).

2d.5 Testing Results *(e.g., frequency, variability, sensitivity analyses)*:

2d C☐ P☐ M☐ N☐ NA☐

Panelists recommended the exclusion of patients 0-5 years of age in order to reduce the incidence of first time presentations included in the numerator. Risk Adjustment Strategy (Measure evaluation criterion 2e)	
2e. Risk Adjustment for Outcomes/ Resource Use Measures 2e.1 **Data/sample** *(description of data/sample and size)*: We calculated the c-statistic of the current indicator, using the 2006 State Inpatient Databases. 2e.2 **Analytic Method** *(type of risk adjustment, analysis, & rationale)*: We calculated the c-statistic of the current indicator and RA model. 2e.3 **Testing Results** *(risk model performance metrics)*: The indicator's current risk adjustment performance is not explanatory. Adjusting for underlying disease burden would likely improve performance but has not been tested 2e.4 **If outcome or resource use measure is not risk adjusted, provide rationale:** NA	**2e** C☐ P☐ M☐ N☐ NA ☐
2f. Identification of Meaningful Differences in Performance 2f.1 **Data/sample from Testing or Current Use** *(description of data/sample and size)*: The following is an example of use from one major report. Users can specify their own parameters of use, but the following example demonstrates one successful use of the area level indicators: National Healthcare Disparities Report 2f.2 **Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)*: In order to identify disparities between populations of interest (race / ethnicity and SES) the NHDR incorporates multivariate models, controlling for race, ethnicity, income, education, insurance, age, gender and residence location. Rates are also examined relative to a standard reference group to quantify the magnitude of disparities and to identify the largest disparities. 2f.3 **Provide Measure Scores from Testing or Current Use** *(description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)*: See responses in "importance": 1a.3, 1b.2, 1b.4.	**2f** C☐ P☐ M☐ N☐
2g. Comparability of Multiple Data Sources/Methods 2g.1 **Data/sample** *(description of data/sample and size)*: This does not apply as there is only one data method. 2g.2 **Analytic Method** *(type of analysis & rationale)*: This does not apply as there is only one data method. 2g.3 **Testing Results** *(e.g., correlation statistics, comparison of rankings)*: This does not apply as there is only one data method.	**2g** C☐ P☐ M☐ N☐ NA ☐
2h. Disparities in Care 2h.**1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)*: Stratification is not required for this measure. 2h.2 **If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:** Stratification is not required for this measure.	**2h** C☐ P☐ M☐ N☐ NA ☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Scientific*	**2**

Acceptability of Measure Properties?	
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties*, **met?** **Rationale:**	*2* **C☐** **P☐** **M☐** **N☐**
3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)	Eval Rating
3a. Meaningful, Understandable, and Useful Information 3a.1 **Current Use:** in use 3a.2 **Use in a public reporting initiative (disclosure of performance results to the public at large)** (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*)**:** National Healthcare Disparities Report, National Healthcare Quality Report http://www.ahrq.gov/qual/nhdr07/nhdr07.pdf, http://www.ahrq.gov/qual/nhqr08/nhqr08.pdf, New York State Preventable Hospitalizations Report www.myhealthfinder.com/newyork09/ahrq-pqi/PQI09.doc California Office of Statewide Health Planning and Development has published rates through 2007 http://www.oshpd.ca.gov/HID/Products/PatDischargeData/AHRQ/pdi_overview.html Health Council of South Florida http://www.healthcouncil.org/documents/Remaining_Miami_Dade_PQI.pd North Carolina CATCH report www.ncpublichealthcatch.com/ Vermont Explore www.vtexplor.org Center for Health Statistics Texas Health Care Information Collection, Preventable Hospitalizations 2005 http://www.dshs.state.tx.us/THCIC/Publications/Hospitals/PQIReport2005/PreventableHospitalizations2005.shtm Preventable Hospitalizations in Kansas http://www.kdheks.gov/ches/download/ASCpreventionPIfinal.pdf Preventable Hospitalizations and Associated Costs in Connecticut http://www.ct.gov/ohca/lib/ohca/publications/2009/preventablehospitalizationsandcosts_2007.pdf Nevada Compare Care http://nevadacomparecare.net/additionalresources/QIDefinitions.aspx 3a.3 **If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years***):** Norton Health System (a 12 hospital system in KY publicly reporting their performance), Norton Healthcare Quality Report http://www.nortonhealthcare.com/body.cfm?id=157	**3a** **C☐** **P☐** **M☐** **N☐**

Testing of Interpretability (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*) 3a.4 **Data/sample** *(description of data/sample and size)*: No interpretability testing performed. 3a.5 **Methods** *(e.g., focus group, survey, QI project)*: No interpretability testing performed. 3a.6 **Results** *(qualitative and/or quantitative results and conclusions)*: No interpretability testing performed.	
3b/3c. Relation to other NQF-endorsed measures 3b.1 **NQF # and Title of similar or related measures:** NQF #0272 (AHRQ PQI adult diabetes short term complications)	
(for NQF staff use) **Notes on similar/related** endorsed **or submitted measures:**	
3b. Harmonization If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population): 3b.2 **Are the measure specifications harmonized? If not, why?** This indicator is similar to our ARHQ PQI 1 measure (adult diabetes short term complication), but is specific to the pediatric population, rather than the adult population examined with the PQI.	**3b** C☐ P☐ M☐ N☐ NA ☐
3c. Distinctive or Additive Value 3c.1 **Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:** NA. Different population. 5.1 **Competing Measures If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), describe why it is a more valid or efficient way to measure quality:** NA. Different population.	**3c** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Usability*?	**3**
Steering Committee: Overall, to what extent was the criterion, *Usability*, **met?** **Rationale:**	**3** C☐ P☐ M☐ N☐
4. FEASIBILITY	
Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	Eval Rating
4a. Data Generated as a Byproduct of Care Processes 4a.1-2 **How are the data elements that are needed to compute measure scores generated?** coding/abstraction performed by someone other than person obtaining original information,	**4a** C☐ P☐ M☐ N☐
4b. Electronic Sources 4b.1 **Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*) Yes 4b.2 **If not, specify the near-term path to achieve electronic capture by most providers.**	**4b** C☐ P☐ M☐ N☐

4c. Exclusions 4c.1 **Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** No 4c.2 **If yes, provide justification.**	**4c** C☐ P☐ M☐ N☐ NA ☐
4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences 4d.1 **Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.** Principal diagnoses are generally accurate for diabetes in children. However, patients may be treated in an outpatient setting, short stay unit or emergency department without admission. These practice patterns may be systematic and may result in rate changes without changes in quality of care. In addition, hospitalization for initial presentation may vary by region. Another source of systematic variation unrelated to quality of care is underlying disease burden, since diabetes rates are known to be higher in some populations.	**4d** C☐ P☐ M☐ N☐
4e. Data Collection Strategy/Implementation 4e.1 **Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues:** The indicator has been in use for nearly 10 years and AHRQ operates a user support system for users to submit concerns and successes with the indicators. The issues involved in data collection for this measure are standard for all administrative based indicators. The cost of implementation is minimal, and software to compute the measure is provided at not charge from AHRQ. Cost to obtain electronic data sets vary state by state. Census data to calculate population rates by MSA or county are integrated in the software. 4e.2 **Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** In regard to data: Since the measure is based on electronic administrative data, the cost of implementation is minimal. In regard to use of the measure: There is no cost to use the measure. 4e.3 **Evidence for costs:** Cost to acquire data varies by State. The software to calculate the measure can be downloaded at no cost at http://www.qualityindicators.ahrq.gov/software.htm . 4e.4 **Business case documentation:** None	**4e** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Feasibility*?	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility*, **met?** **Rationale:**	**4** C☐ P☐ M☐ N☐
RECOMMENDATION	

(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited** ☐
Steering Committee: Do you recommend for endorsement? **Comments:**	**Y** ☐ **N** ☐ **A** ☐

CONTACT INFORMATION

Co.1 Measure Steward (Intellectual Property Owner)
Co.1 Organization
Agency for Healthcare Research and Quality | 540 Gaither Road | Rockville | Maryland | 20850

Co.2 Point of Contact
John | Bott, MSSW, MBA | john.bott@ahrq.hhs.gov | 301-427-1317

Measure Developer If different from Measure Steward
Co.3 Organization
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Co.4 Point of Contact
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Co.5 Submitter If different from Measure Steward POC
John | Bott, MSSW, MBA | john.bott@ahrq.hhs.gov | 301-427-1317- |Agency for Healthcare Research and Quality

Co.6 Additional organizations that sponsored/participated in measure development
Battelle Memorial Institute
UC Davis
Stanford University

ADDITIONAL INFORMATION

Workgroup/Expert Panel involved in measure development
Ad.1 Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.
Workgroup/panel used
We conducted a structured panel review using a Modified Delphi Method (Nominal Group). Users rated the indicators on issues of face validity, reliability, coding accuracy, bias, and overall usefulness. Details on these methods can be found at: http://www.qualityindicators.ahrq.gov/downloads/pdi/pdi_measures_v31.pdf

Ad.2 If adapted, provide name of original measure: AHRQ Pevention Quality Indicator 1: diabetes, short-term complication (adult)
Ad.3-5 If adapted, provide original specifications URL or attachment URL
http://www.qualityindicators.ahrq.gov/pqi_archive.htm

Measure Developer/Steward Updates and Ongoing Maintenance
Ad.6 Year the measure was first released: 2001
Ad.7 Month and Year of most recent revision: 2010-01
Ad.8 What is your frequency for review/update of this measure? annual
Ad.9 When is the next scheduled review/update for this measure? 2011-01

Ad.10 Copyright statement/disclaimers: The AHRQ QI software is publicly available. We have no copyright disclaimers.

Ad.11 -13 Additional Information web page URL or attachment:

Date of Submission (*MM/DD/YY*)**:** 02/23/2010