NATIONAL QUALITY FORUM

Measure Evaluation 4.1
December 2009

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 subcriteria and most of the footnotes from the evaluation criteria are provided in Word comments within the form and will appear if your cursor is over the highlighted area. 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 subcriterion 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 subcriteria (yellow highlighted areas).*

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the subcriteria, 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 subcriteria as indicated)

(for NQF staff use) **NQF Review #:** 1553 **NQF Project:** Child Health Quality Measures 2010
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Blood Pressure Screening by age 18
De.2 **Brief description of measure:** The percentage of adolescents who turn 18 years of age in the measurement year who had a blood pressure screening with results at least once in the past two years.
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** This measure appears in the composite Comprehensive Well Care by Age 18 Years.
De.4 **National Priority Partners Priority Area:** Care coordination, Population health De.5 **IOM Quality Domain**: Effectiveness, Timeliness 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*)**:** Proprietary measure A.3 **Measure Steward Agreement:** Agreement will be signed and submitted prior to or at the time of measure submission 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	**B**

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	Y☐ N☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** Public reporting, Internal 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 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:** Affects large numbers, High resource use, Severity of illness, Patient/societal consequences of poor quality 1a.2 1a.3 **Summary of Evidence of High Impact:** High blood pressure (hypertension) is a growing concern for children and adolescents in the U.S., due mostly in part to a rapid increase in childhood obesity (Luma, 2006). A recent study of National Health and Nutrition Examination Survey data showed that, during 2003-2006, 2.6 percent of boys and 3.4 percent of girls age eight to 17 years had high blood pressure. Moreover, 13.6 percent of boys and 5.7 percent of girls in this age group had pre-high blood pressure. Overweight boys and obese boys and girls were significantly more likely to have these classifications (Ostchega Y, 2009). Autopsy reports of children and adolescents who have died unexpectedly have shown a positive and significant association with systolic and diastolic blood pressure and body mass index (BMI) (Hayman, 2003). Autopsy reports of adults with high levels of cholesterol and coronary heart disease showed that precursors to these diseases began in childhood (National Cholesterol Education Program). High blood pressure represents a significant financial burden. In 2006, the direct and indirect costs of high blood pressure were estimated at $63.5 billion overall (CDC, 2007). In addition to costs, resource utilization is also significantly higher among hypertensive people. Prescription medicines, inpatient visits, and outpatient visits constitute more than 90 percent of the overall incremental cost of treating hypertension (Balu, 2005). These costs can be expected to rise with increasing prevalence among children.	**1a** C☐ P☐ M☐ N☐

1a.4 Citations for Evidence of High Impact: Balu, Sanjeev. Incremental cost of treating hypertension in the United States. http://docs.lib.purdue.edu/dissertations/AAI3191421/. Updated 2005.

Centers for Disease Control and Prevention. High Blood Pressure Facts. http://www.cdc.gov/bloodpressure/facts.htm. Updated February 2007.

L. Hayman and Kathryn Taubert Rae-Ellen W. Kavey, Stephen R. Daniels, Ronald M. Lauer, Dianne L. Atkins, Laura American Heart Association Guidelines for Primary Prevention of Atherosclerotic Cardiovascular Disease Beginning in Childhood. Circulation 2003;107;1562-1566. http://www.circ.ahajournals.org/cgi/reprint/107/11/1562

Luma, GB, MD and Spiotta RT, MD. Hypertension in Children and Adolescents. American Family Physician; Vol 73, Number 9. May, 2006

National Cholesterol Education Program. Overview and Summary. Pediatrics; Mar92 Part 2, Vol. 89 Issue 3, p525. http://web.ebscohost.com.proxygw.wrlc.org/ehost/pdf?vid=3&hid=8&sid=d3fa709d-0a3b-42ab-8371-6416129fe41f%40sessionmgr3

National Heart, Lung and Blood Institute. National Institutes of Health. High Blood Pressure. Nov 2008. http://www.nhlbi.nih.gov/health/dci/Diseases/Hbp/HBP_WhatIs.html

The Nemours Foundation. High Blood Pressure (Hypertension). http://kidshealth.org/parent/medical/heart/hypertension.html. Updated: October 2005

Ostchega Y, Carroll M, Prineas RJ, McDowell MA, Louis T, Tilert T. Trends of elevated blood pressure among children and adolescents: data from the National Health and Nutrition Examination Survey 1988-2006. Am J Hypertension. Vol 22(1): 59-67. Jan 2009.

1b. Opportunity for Improvement

1b.1 Benefits (improvements in quality) envisioned by use of this measure: If hypertension is detected early, children can be monitored and treated, which can lead to a normal and healthy life. If not detected or treated, hypertension can lead to damage of the eyes, heart, kidneys, and brain. In addition, high blood pressure can put children at a higher risk for heart attacks, strokes, kidney failure, and a hardening of the arteries (atherosclerosis) (The Nemours Foundation, 2005). Doctors may discover high blood pressure during a regular blood pressure screening. An early diagnosis and treatment leads to a better prognosis. Blood pressure screening can save lives by starting treatment well before the patient was aware of a problem.

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
Despite the importance of measurement and treatment, one study found that almost three quarters of children diagnosed with hypertension did not have a diagnosis of high blood pressure in the electronic medical record; this led to undiagnosed hypertension for 75 percent of the children in this study (Hansen, 2007). Moreover, studies have found that hypertension and prehypertension were frequently undiagnosed in this pediatric population (Hansen, 2007).

1b.3 Citations for data on performance gap:
The Nemours Foundation. High Blood Pressure (Hypertension). http://kidshealth.org/parent/medical/heart/hypertension.html. Updated: October 2005

Hansen, ML, MD, et al. Underdiagnosis of Hypertension in Children and Adolescents. Journal of the American Medical Association, Vol 298, No. 8. August 22/29, 2007

Hansen ML, Gunn PW, Kaelber DC. Underdiagnosis of Hypertension in Children and Adolescents. JAMA. Vol. 298 No. 8, August 22/29, 2007.

1b.4 Summary of Data on disparities by population group:
Major racial/ethnic disparities exist among those with hypertension. One study using national surveys found that an ethnic and gender gap appeared for pre-high blood pressure in 1988 and for high blood pressure in

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1999 among children aged eight to 17 years: non-Hispanic blacks and Mexican Americans had a greater prevalence of both high blood pressure and pre-high blood pressure than non-Hispanic whites, and males had a greater prevalence than females (Din-Dzietham R, 2007). Studies suggest that racial differences in blood pressure control rates among those treated cannot be explained by nonpharmacologic management or health insurance, but there is some association with educational attainment (Robin P. Hertz, 2005).

1b.5 Citations for data on Disparities:
Din-Dzietham R, Liu Y, Bielo M, Shamsa F. High blood pressure trends in children and adolescents in national surveys, 1963-2002. Circulation Vol 116(13): 1488. Sep 2007.

Robin P. Hertz, PhD; Alan N. Unger, PhD; Jeffrey A. Cornell, MS; Elijah Saunders, MD. Racial Disparities in Hypertension Prevalence, Awareness, and Management. Arch Intern Med. 2005;165:2098-2104.

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*)**:** Trials of hypertension treatment that compared pharmacologic and behavioral intervention to usual care showed a beneficial effect of treatment in patients who were enrolled on the basis of elevated blood pressures detected on screening examinations.

1c.2-3. Type of Evidence: Evidence-based guideline, Expert opinion

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**
Hypertension is defined as being in the 95th percentile for one's age, height, and gender (The Nemours Foundation, 2005), and it is a precursor to many serious conditions, such as kidney problems, stroke and heart failure (NIH, 2008). The National Heart, Lung and Blood Institute (NHLBI), the American Heart Association and the American Academy of Pediatrics recommend that children who are seen in medical care settings have their blood pressure measured at least once during every health care episode. Children less than 3 years of age should have their BP measured in special circumstances.

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

1c.6 Method for rating evidence: Expert Concensus with evidence review

1c.7 Summary of Controversy/Contradictory Evidence: Though the National Heart, Lung and Blood Institute, the American Academy of Pediatrics, and the AMERICAN HEART ASSOCIATION recommend that children be screened for blood pressure, the U.S. Preventive Services Task Force (USPSTF) concluded that evidence is insufficient to recommend for or against routine screening for high blood pressure in children and adolescents to reduce the risk of cardiovascular disease. The USPSTF found poor evidence that routine blood pressure measurement accurately identifies children and adolescents at increased risk for cardiovascular disease, and poor evidence to determine whether treatment of elevated blood pressure in children or adolescents decreases the incidence of cardiovascular disease. As a result, the USPSTF could not determine the balance of benefits and harms of routine screening for high blood pressure in children and adolescents (I Statement, 2003).

1c.8 Citations for Evidence (*other than guidelines***):** National High Blood Pressure Education Program Working Group on High Blood Pressure in Children and Adolescents. The Fourth Report on the Diagnosis, Evaluation, and Treatment of High Blood Pressure in Children and Adolescents. Pediatrics Vol. 114 No. 2 August 2004.

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number***):**
National Heart, Lung and Blood Institute (NHLBI), 2004: The NHLBI states that children >3 years of age who are seen in medical care settings should have their blood pressure (BP) measured at least once during every health care episode.
To confirm hypertension, the BP in children should be measured with a standard clinical

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sphygmomanometer, using a stethoscope placed over the brachial artery pulse, proximal and medial to the cubital fossa, and below the bottom edge of the cuff (i.e., ~2 cm above the cubital fossa). Ideally, the child whose BP is to be measured should have avoided stimulant drugs or foods, have been sitting quietly for 5 minutes, and seated with his or her back supported, feet on the floor and right arm supported, cubital fossa at heart level. Elevated BP must be confirmed on repeated visits before characterizing a child as having hypertension. Except in the presence of severe hypertension, a more precise characterization of a person's BP level is an average of multiple BP measurements taken over weeks to months. (Expert Consensus) American Academy of Pediatrics (AAP), 2004: The AAP states that children >3 years of age who are seen in a medical setting should have blood pressure checked during regular office visits. The preferred method of BP measurement is auscultation. Correct measurement requires a cuff that is appropriate to the size of the child´s upper arm. Elevated BP must be confirmed on repeated visits before characterizing a child as having hypertension. Measures obtained by oscillometric devices that exceed the 90th percentile should be repeated by auscultation. (Expert Consensus) American Heart Association (AHA), 2008: The AHA states that all children should be screened for blood pressure by personnel with specific training in the application of the device and interpretation of ABPM data in pediatric patients. Children should be screened by Auscultation with a standard mercury sphygmomanometer. The right arm is generally the preferred arm for blood pressure measurement for consistency and comparison with the reference tables. For newborn-premature infants, a cuff size of 4X8 cm is recommended; for infants, 6X12 cm; and for older children, 9X18 cm. A standard adult cuff, a large adult cuff, and a thigh cuff for leg blood pressure measurement and for use in children with very large arms should also be available. Elevated blood pressure measurements in a child or adolescent must be confirmed on repeated visits before characterizing a child as having hypertension. Children who show elevated blood pressure on repeated measurement should also have the blood pressure measured in the leg as a screen for coarctation of the aorta. (Expert Consensus) **1c.10 Clinical Practice Guideline Citation:** Hagan, JF, Shaw JS, Duncan PM, eds. 2008. Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents, Third Edition. Elk Grove, IL: American Academy of Pediatrics U.S. Preventive Services Task Force. Screening for High Blood Pressure: Recommendations and Rationale. July 2003. Agency for Healthcare Research and Quality National High Blood Pressure Education Program Working Group on High Blood Pressure in Children and Adolescents. The Fourth Report on the Diagnosis, Evaluation, and Treatment of High Blood Pressure in Children and Adolescents. Pediatrics Vol. 114 No. 2 August 2004. American Heart Association Guidelines for Primary Prevention of Atherosclerotic Cardiovascular Disease Beginning in Childhood. Circulation. 2003;107:1562-1566. **1c.11 National Guideline Clearinghouse or other URL:** http://www.guidelines.gov/search/search.aspx?term=blood+pressure+screening **1c.12 Rating of strength of recommendation (***also provide narrative description of the rating and by whom***):** Good **1c.13 Method for rating strength of recommendation** (*If different from USPSTF system, also describe rating and how it relates to USPSTF)*: Expert consensus with evidence review **1c.14 Rationale for using this guideline over others:** The evidence and guidelines were evaluated by a group of diverse stakeholders and experts, which concluded that the guidelines were sufficient to develop as a measure that would improve quality of well child care.	
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria 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***):** Adolescents who had documentation in the medical record of blood pressure screening with results **2a.2 Numerator Time Window (***The time period in which cases are eligible for inclusion in the numerator***):** 2 years **2a.3 Numerator Details (***All information required to collect/calculate the numerator, including all codes, logic, and definitions***):** Documentation of the date of blood pressure screening, both diastolic and systolic results, and whether the results are abnormal (defined as >95th percentile for age/gender/height.based on NHLBI published norms) during the measurement year or the year prior.	
2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured***):** Adolescents with a visit who turned 18 years in the measurement year **2a.5 Target population gender:** Female, Male **2a.6 Target population age range:** 16 years-18 years **2a.7 Denominator Time Window (***The time period in which cases are eligible for inclusion in the denominator***):** 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***):** Adolescents who turned 18 years of age between January 1 of the measurement year and December 31 of the measurement year and who had documentation of a face-to-face visit between the clinician and the adolescent that predates the adolescent's birthday by at least 12 months.	
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***):** None	
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-specs** **C☐** **P☐** **M☐** **N☐**

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***):**
Step 1: Determine the denominator
Adolescents who turned the requisite age in the measurement year, AND
Who had a visit within the past 12 months of the adolescent´s birthday
Step 2: Determine the numerator
Adolescents who had documentation in the medical record of the screening or service during the measurement year or the year previous to the measurement year.

2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**
Comparison of means and percentiles; analysis of variance against established benchmarks; if sample size is >400, we would use an analysis of variance

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)*:
For this physician-level measure, we anticipate the entire population will be used in the denominator. If a sample is used, a random sample is ideal. NCQA's work has indicated that a sample size of 30-50 patients would be necessary for a typical practice size of 2000 patients.

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
Paper medical record/flow-sheet, Electronic clinical data, Electronic Health/Medical Record

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.***):**
Medical Record

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, Population: national, Population: regional/network

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)***:** NCQA received data from 18 physician practices who submitted 10 records per measure (total 180 records per measure)

2b.2 Analytic Method *(type of reliability & rationale, method for testing)***:**
We examined confidence intervals to determine reliability of these measures.

2b.3 Testing Results *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)***:**
Rate (Upper Confidence Interval, Lower Confidence Interval):
0.963 (0.93, 0.99)

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2c. Validity testing

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2c.1 Data/sample *(description of data/sample and size)*: NCQA received data from 18 physician practices who submitted 10 records per measure (total 180 records per measure) **2c.2 Analytic Method** *(type of validity & rationale, method for testing)*: NCQA tested the measure for face validity using a panel of stakeholders with specific expertise in measurement and child health care. This panel included representatives from key stakeholder groups, including pediatricians, family physicians, health plans, state Medicaid agencies and researchers. Experts reviewed the results of the field test and assessed whether the results were consistent with expectations, whether the measure represented quality care, and whether we were measuring the most important aspect of care in this area. This measure was deemed valid by the expert panel. In addition, this measure does not utilize administrative data sources; data recorded in the chart is considered the gold standard. **2c.3 Testing Results** *(statistical results, assessment of adequacy in the context of norms for the test conducted)*: NA	P☐ M☐ N☐
2d. Exclusions Justified **2d.1 Summary of Evidence supporting exclusion(s):** No exclusions **2d.2 Citations for Evidence:** NA **2d.3 Data/sample** *(description of data/sample and size)*: NA **2d.4 Analytic Method** *(type analysis & rationale)*: NA **2d.5 Testing Results** *(e.g., frequency, variability, sensitivity analyses)*: NA	**2d** C☐ P☐ M☐ N☐ NA☐
2e. Risk Adjustment for Outcomes/ Resource Use Measures **2e.1 Data/sample** *(description of data/sample and size)*: NA **2e.2 Analytic Method** *(type of risk adjustment, analysis, & rationale)*: NA **2e.3 Testing Results** *(risk model performance metrics)*: NA **2e.4 If outcome or resource use measure is not risk adjusted, provide rationale:** The measure assesses prevention and wellness in a general population; risk adjustment is not indicated.	**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)*: NCQA received data from 18 physician practices who submitted 10 records per measure (total 180 records per measure) **2f.2 Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)*: Comparison of means and percentiles; analysis of variance against established benchmarks; if sample size is >400, we would use an analysis of variance **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)*: Blood Pressure Screening By Age 18 Years: Elig Population: 163	**2f** C☐ P☐ M☐ N☐

Screening Documented: 96.3 Results Documented: 96.3 Results and Proper Follow Up Documented: 89.6	
2g. Comparability of Multiple Data Sources/Methods 2g.1 **Data/sample** *(description of data/sample and size)*: NCQA received data from 18 physician practices who submitted 10 records per measure (total 180 records per measure) 2g.2 **Analytic Method** *(type of analysis & rationale)*: This measure is chart review only; no other sources were identified by the expert panel; this measure does not utilize administrative data 2g.3 **Testing Results** *(e.g., correlation statistics, comparison of rankings)*: NA	**2g** C☐ P☐ M☐ N☐ NA☐
2h. Disparities in Care 2h.1 **If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)*: The measure is not stratified to detect disparities. 2h.2 **If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:** NA	**2h** C☐ P☐ M☐ N☐ NA☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria 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:** Not in use but testing completed 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 not currently publicly reported. NCQA is exploring the feasibility of adding this measure and its related measures into a physician-level program and/or the HEDIS® measurement set as appropriate. 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 measure is not currently used in QI. NCQA is exploring the feasibility of adding this measure and its related measures into a physician-level program and/or the HEDIS® measurement set as appropriate. NCQA anticipates that after we release these measures, they will become widely used, as all our measures do. **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)*: NA 3a.5 **Methods** *(e.g., focus group, survey, QI project)*: NCQA vetted the measures with its expert panel. In addition, throughout the development process, NCQA vetted the measure concepts and specifications with other stakeholder groups, including the National	**3a** C☐ P☐ M☐ N☐

Association of State Medicaid Directors, NCQA's Health Plan Advisory Council, NCQA's Committee on Performance Measurement, and the American Academy of Pediatrician's Quality Improvement Innovation Network. After field testing, NCQA also conducted a debrief call with field test participants. In the form of a group interview, NCQA systematically sought feedback on whether the measures were understandable, feasible, important, and had face validity. 3a.6 **Results** *(qualitative and/or quantitative results and conclusions)*: NCQA received feedback that the measure is understandable, feasible, important and valid.	
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 **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	**3c** C☐ P☐ M☐ N☐ NA☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria 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 care delivery (Data are generated and used by healthcare personnel during the provision of care, e.g., blood pressure, lab value, medical condition), Coding/abstraction performed by someone other than person obtaining original information (E.g., DRG, ICD-9 codes on claims, chart abstraction for quality measure or registry)	**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.**	**4b** C☐ P☐ M☐ N☐

NCQA plans to eventually specify this measure for electronic health records.	
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.** During the measure development process the Child Health MAP and measure development team worked with NCQA's certified auditors and audit department to ensure that the measure specifications were clear and auditable. The denominator, numerator and optional exclusions are concisely specified and align with our audit standards.	**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:** Based on field test results, we have specified the measure to assess whether screening was documented and whether use of a standardized tool was documented. Our field test results showed that these data elements are available in the medical record. In addition, our field test participants noted that many were able to program these requirements into their electronic health record systems, and several implemented point-of-service physician reminders for this measure. **4e.2 Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** Collecting measures from medical charts is time-consuming and can be burdensome. Adapting this measure in electronic health records may relieve some of this burden. **4e.3 Evidence for costs:** Based on field test participant feedback and other stakeholder input. **4e.4 Business case documentation:** NA	**4e** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria 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
National Committee for Quality Assurance, 1100 13th Street NW, Suite 1000, Washington, District Of Columbia, 20005

Co.2 Point of Contact
Sepheen, Byron, MHS, byron@ncqa.org, 202-955-3573-

Measure Developer If different from Measure Steward
Co.3 Organization
National Committee for Quality Assurance, 1100 13th Street NW, Suite 1000, Washington, District Of Columbia, 20005

Co.4 Point of Contact
Sepheen, Byron, MHS, byron@ncqa.org, 202-955-3573-

Co.5 Submitter If different from Measure Steward POC
Sepheen, Byron, MHS, byron@ncqa.org, 202-955-3573-, National Committee for Quality Assurance

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.
Child Health Measurement Advisory Panel:
Jeanne Alicandro
Barbara Dailey
Denise Dougherty, PhD
Ted Ganiats, MD
Foster Gesten, MD
Nikki Highsmith, MPA
Charlie Homer, MD, MPH
Jeff Kamil, MD
Elizabeth Siteman
Mary McIntyre, MD, MPH
Virginia Moyer, MD, MPH, FAAP
Lee Partridge
Xavier Sevilla, MD, FAAP
Michael Siegal
Jessie Sullivan

Ad.2 If adapted, provide name of original measure: NA
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:

Date of Submission (*MM/DD/YY*)**:** 01/06/2011

NATIONAL QUALITY FORUM

Measure Evaluation 4.1
December 2009

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 subcriteria and most of the footnotes from the evaluation criteria are provided in Word comments within the form and will appear if your cursor is over the highlighted area. 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 subcriterion 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 subcriteria (yellow highlighted areas).*

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the subcriteria, 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 subcriteria as indicated)

(for NQF staff use) **NQF Review #:** 1552 **NQF Project:** Child Health Quality Measures 2010
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Blood Pressure Screening by age 13
De.2 **Brief description of measure:** The percentage of adolescents who turn 13 years of age in the measurement year who had a blood pressure screening with results.
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** This measure appears in the composite Comprehensive Well Care by Age 13 Years.
De.4 **National Priority Partners Priority Area:** Care coordination, Population health De.5 **IOM Quality Domain**: Effectiveness, Timeliness 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*)**:** Proprietary measure A.3 **Measure Steward Agreement:** Agreement will be signed and submitted prior to or at the time of measure submission 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	**B**

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	Y☐ N☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** Public reporting, Internal 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 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:** Affects large numbers, High resource use, Severity of illness, Patient/societal consequences of poor quality 1a.2 1a.3 **Summary of Evidence of High Impact:** High blood pressure (hypertension) is a growing concern for children in the U.S., due mostly in part to a rapid increase in childhood obesity (Luma, 2006). A recent study of National Health and Nutrition Examination Survey data showed that, during 2003-2006, 2.6 percent of boys and 3.4 percent of girls age eight to 17 years had high blood pressure. Moreover, 13.6 percent of boys and 5.7 percent of girls in this age group had pre-high blood pressure. Overweight boys and obese boys and girls were significantly more likely to have these classifications (Ostchega Y, 2009). Autopsy reports of children and adolescents who have died unexpectedly have shown a positive and significant association with systolic and diastolic blood pressure and body mass index (BMI) (Hayman, 2003). Autopsy reports of adults with high levels of cholesterol and coronary heart disease showed that precursors to these diseases began in childhood (National Cholesterol Education Program). High blood pressure represents a significant financial burden. In 2006, the direct and indirect costs of high blood pressure were estimated at $63.5 billion overall (CDC, 2007). In addition to costs, resource utilization is also significantly higher among hypertensive people. Prescription medicines, inpatient visits, and outpatient visits constitute more than 90 percent of the overall incremental cost of treating hypertension (Balu, 2005). These costs can be expected to rise with increasing prevalence among children.	**1a** C☐ P☐ M☐ N☐

1a.4 Citations for Evidence of High Impact: Balu, Sanjeev. Incremental cost of treating hypertension in the United States. http://docs.lib.purdue.edu/dissertations/AAI3191421/. Updated 2005.

Centers for Disease Control and Prevention. High Blood Pressure Facts. http://www.cdc.gov/bloodpressure/facts.htm. Updated February 2007.

L. Hayman and Kathryn Taubert Rae-Ellen W. Kavey, Stephen R. Daniels, Ronald M. Lauer, Dianne L. Atkins, Laura American Heart Association Guidelines for Primary Prevention of Atherosclerotic Cardiovascular Disease Beginning in Childhood. Circulation 2003;107;1562-1566. http://www.circ.ahajournals.org/cgi/reprint/107/11/1562

Luma, GB, MD and Spiotta RT, MD. Hypertension in Children and Adolescents. American Family Physician; Vol 73, Number 9. May, 2006

National Cholesterol Education Program. Overview and Summary. Pediatrics; Mar92 Part 2, Vol. 89 Issue 3, p525. http://web.ebscohost.com.proxygw.wrlc.org/ehost/pdf?vid=3&hid=8&sid=d3fa709d-0a3b-42ab-8371-6416129fe41f%40sessionmgr3

National Heart, Lung and Blood Institute. National Institutes of Health. High Blood Pressure. Nov 2008. http://www.nhlbi.nih.gov/health/dci/Diseases/Hbp/HBP_WhatIs.html

The Nemours Foundation. High Blood Pressure (Hypertension). http://kidshealth.org/parent/medical/heart/hypertension.html. Updated: October 2005

Ostchega Y, Carroll M, Prineas RJ, McDowell MA, Louis T, Tilert T. Trends of elevated blood pressure among children and adolescents: data from the National Health and Nutrition Examination Survey 1988-2006. Am J Hypertension. Vol 22(1): 59-67. Jan 2009.

1b. Opportunity for Improvement

1b.1 Benefits (improvements in quality) envisioned by use of this measure: If hypertension is detected early, children can be monitored and treated, which can lead to a normal and healthy life. If not detected or treated, hypertension can lead to damage of the eyes, heart, kidneys, and brain. In addition, high blood pressure can put children at a higher risk for heart attacks, strokes, kidney failure, and a hardening of the arteries (atherosclerosis) (The Nemours Foundation, 2005). Doctors may discover high blood pressure during a regular blood pressure screening. An early diagnosis and treatment leads to a better prognosis. Blood pressure screening can save lives by starting treatment well before the patient was aware of a problem.

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
Despite the importance of measurement and treatment, one study found that almost three quarters of children diagnosed with hypertension did not have a diagnosis of high blood pressure in the electronic medical record; this led to undiagnosed hypertension for 75 percent of the children in this study (Hansen, 2007). Moreover, studies have found that hypertension and prehypertension were frequently undiagnosed in this pediatric population (Hansen, 2007).

1b.3 Citations for data on performance gap:
The Nemours Foundation. High Blood Pressure (Hypertension). http://kidshealth.org/parent/medical/heart/hypertension.html. Updated: October 2005

Hansen, ML, MD, et al. Underdiagnosis of Hypertension in Children and Adolescents. Journal of the American Medical Association, Vol 298, No. 8. August 22/29, 2007

Hansen ML, Gunn PW, Kaelber DC. Underdiagnosis of Hypertension in Children and Adolescents. JAMA. Vol. 298 No. 8, August 22/29, 2007.

1b.4 Summary of Data on disparities by population group:
Major racial/ethnic disparities exist among those with hypertension. One study using national surveys found that an ethnic and gender gap appeared for pre-high blood pressure in 1988 and for high blood pressure in

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1999 among children aged eight to 17 years: non-Hispanic blacks and Mexican Americans had a greater prevalence of both high blood pressure and pre-high blood pressure than non-Hispanic whites, and males had a greater prevalence than females (Din-Dzietham R, 2007). Studies suggest that racial differences in blood pressure control rates among those treated cannot be explained by nonpharmacologic management or health insurance, but there is some association with educational attainment (Robin P. Hertz, 2005).

1b.5 Citations for data on Disparities:
Din-Dzietham R, Liu Y, Bielo M, Shamsa F. High blood pressure trends in children and adolescents in national surveys, 1963-2002. Circulation Vol 116(13): 1488. Sep 2007.

Robin P. Hertz, PhD; Alan N. Unger, PhD; Jeffrey A. Cornell, MS; Elijah Saunders, MD. Racial Disparities in Hypertension Prevalence, Awareness, and Management. Arch Intern Med. 2005;165:2098-2104.

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*)**:** Trials of hypertension treatment that compared pharmacologic and behavioral intervention to usual care showed a beneficial effect of treatment in patients who were enrolled on the basis of elevated blood pressures detected on screening examinations.

1c.2-3. Type of Evidence: Evidence-based guideline, Expert opinion

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**
Hypertension is defined as being in the 95th percentile for one's age, height, and gender (The Nemours Foundation, 2005), and it is a precursor to many serious conditions, such as kidney problems, stroke and heart failure (NIH, 2008). The National Heart, Lung and Blood Institute (NHLBI), the American Heart Association and the American Academy of Pediatrics recommend that children who are seen in medical care settings have their blood pressure measured at least once during every health care episode. Children less than 3 years of age should have their BP measured in special circumstances.

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

1c.6 Method for rating evidence: Expert Concensus with evidence review

1c.7 Summary of Controversy/Contradictory Evidence: Though the National Heart, Lung and Blood Institute, the American Academy of Pediatrics, and the AMERICAN HEART ASSOCIATION recommend that children be screened for blood pressure, the U.S. Preventive Services Task Force (USPSTF) concluded that evidence is insufficient to recommend for or against routine screening for high blood pressure in children and adolescents to reduce the risk of cardiovascular disease. The USPSTF found poor evidence that routine blood pressure measurement accurately identifies children and adolescents at increased risk for cardiovascular disease, and poor evidence to determine whether treatment of elevated blood pressure in children or adolescents decreases the incidence of cardiovascular disease. As a result, the USPSTF could not determine the balance of benefits and harms of routine screening for high blood pressure in children and adolescents (I Statement, 2003).

1c.8 Citations for Evidence (*other than guidelines***):** National High Blood Pressure Education Program Working Group on High Blood Pressure in Children and Adolescents. The Fourth Report on the Diagnosis, Evaluation, and Treatment of High Blood Pressure in Children and Adolescents. Pediatrics Vol. 114 No. 2 August 2004.

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number***):**
National Heart, Lung and Blood Institute (NHLBI), 2004: The NHLBI states that children >3 years of age who are seen in medical care settings should have their blood pressure (BP) measured at least once during every health care episode. Children <3 years of age should have their BP measured in special circumstances. To confirm hypertension, the BP in children should be measured with a standard clinical sphygmomanometer,

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using a stethoscope placed over the brachial artery pulse, proximal and medial to the cubital fossa, and below the bottom edge of the cuff (i.e., ~2 cm above the cubital fossa). Ideally, the child whose BP is to be measured should have avoided stimulant drugs or foods, have been sitting quietly for 5 minutes, and seated with his or her back supported, feet on the floor and right arm supported, cubital fossa at heart level. Elevated BP must be confirmed on repeated visits before characterizing a child as having hypertension. Except in the presence of severe hypertension, a more precise characterization of a person's BP level is an average of multiple BP measurements taken over weeks to months. (Expert Consensus)

American Academy of Pediatrics (AAP), 2004: The AAP states that children >3 years of age who are seen in a medical setting should have blood pressure checked during regular office visits. The preferred method of BP measurement is auscultation. Correct measurement requires a cuff that is appropriate to the size of the child´s upper arm. Elevated BP must be confirmed on repeated visits before characterizing a child as having hypertension. Measures obtained by oscillometric devices that exceed the 90th percentile should be repeated by auscultation. (Expert Consensus)

American Heart Association (AHA), 2008: The AHA states that all children should be screened for blood pressure by personnel with specific training in the application of the device and interpretation of ABPM data in pediatric patients. Children should be screened by Auscultation with a standard mercury sphygmomanometer. The right arm is generally the preferred arm for blood pressure measurement for consistency and comparison with the reference tables. For newborn-premature infants, a cuff size of 4X8 cm is recommended; for infants, 6X12 cm; and for older children, 9X18 cm. A standard adult cuff, a large adult cuff, and a thigh cuff for leg blood pressure measurement and for use in children with very large arms should also be available. Elevated blood pressure measurements in a child or adolescent must be confirmed on repeated visits before characterizing a child as having hypertension. Children who show elevated blood pressure on repeated measurement should also have the blood pressure measured in the leg as a screen for coarctation of the aorta. (Expert Consensus)

1c.10 Clinical Practice Guideline Citation: Hagan, JF, Shaw JS, Duncan PM, eds. 2008. Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents, Third Edition. Elk Grove, IL: American Academy of Pediatrics

U.S. Preventive Services Task Force. Screening for High Blood Pressure: Recommendations and Rationale. July 2003. Agency for Healthcare Research and Quality

National High Blood Pressure Education Program Working Group on High Blood Pressure in Children and Adolescents. The Fourth Report on the Diagnosis, Evaluation, and Treatment of High Blood Pressure in Children and Adolescents. Pediatrics Vol. 114 No. 2 August 2004.

American Heart Association Guidelines for Primary Prevention of Atherosclerotic Cardiovascular Disease Beginning in Childhood. Circulation. 2003;107:1562-1566.

1c.11 National Guideline Clearinghouse or other URL:
http://www.guidelines.gov/search/search.aspx?term=blood+pressure+screening

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

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

1c.14 Rationale for using this guideline over others:
The evidence and guidelines were evaluated by a group of diverse stakeholders and experts, which concluded that the guidelines were sufficient to develop as a measure that would improve quality of well child care.

TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria 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 had documentation in the medical record of a blood pressure screening with results **2a.2 Numerator Time Window** (*The time period in which cases are eligible for inclusion in the numerator*)**:** 2 years **2a.3 Numerator Details** (*All information required to collect/calculate the numerator, including all codes, logic, and definitions*)**:** Documentation of the date of blood pressure screening, both diastolic and systolic results, and whether the results are abnormal (defined as >95th percentile for age/gender/height.based on NHLBI published norms) during the measurement year or the year prior.	
2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured*)**:** Children with a visit who turned 13 years in the measurement year **2a.5 Target population gender:** Female, Male **2a.6 Target population age range:** 11 years-13 years **2a.7 Denominator Time Window** (*The time period in which cases are eligible for inclusion in the denominator*)**:** 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*)**:** Children who turned 13 years of age between January 1 of the measurement year and December 31 of the measurement year and who had documentation of a face-to-face visit between the clinician and the child that predates the child's birthday by at least 12 months.	
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*)**:** None	
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-specs** **C☐** **P☐** **M☐** **N☐**

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***):**
Step 1: Determine the denominator
Children who turned the requisite age in the measurement year, AND
Who had a visit within the past 12 months of the child´s birthday
Step 2: Determine the numerator
Children who had documentation in the medical record of the screening or service during the measurement year or the year previous to the measurement year.

2a.22 Describe the method for discriminating performance *(e.g., significance testing)*:
Comparison of means and percentiles; analysis of variance against established benchmarks; if sample size is >400, we would use an analysis of variance

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)*:
For this physician-level measure, we anticipate the entire population will be used in the denominator. If a sample is used, a random sample is ideal. NCQA's work has indicated that a sample size of 30-50 patients would be necessary for a typical practice size of 2000 patients.

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
Paper medical record/flow-sheet, Electronic clinical data, Electronic Health/Medical Record

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.***):**
Medical Record

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, Population: national, Population: regional/network

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)*: NCQA received data from 18 physician practices who submitted 10 records per measure (total 180 records per measure)

2b.2 Analytic Method *(type of reliability & rationale, method for testing)*:
We calculated 95% confidence intervals, which speak to the precision of the rates obtained from field testing.

2b.3 Testing Results *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)*:
Rate (Upper Confidence Interval, Lower Confidence Interval):
0.989 (0.97, 1.00)

2b
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2c. Validity testing — **2c**

2c.1 Data/sample *(description of data/sample and size)*: NCQA received data from 18 physician practices who submitted 10 records per measure (total 180 records per measure)

2c.2 Analytic Method *(type of validity & rationale, method for testing)*:
NCQA tested the measure for face validity using a panel of stakeholders with specific expertise in measurement and child health care. This panel included representatives from key stakeholder groups, including pediatricians, family physicians, health plans, state Medicaid agencies and researchers. Experts reviewed the results of the field test and assessed whether the results were consistent with expectations, whether the measure represented quality care, and whether we were measuring the most important aspect of care in this area. This measure was deemed valid by the expert panel. In addition, this measure does not utilize administrative data sources; data recorded in the chart is considered the gold standard.

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):
No exclusions

2d.2 Citations for Evidence:
NA

2d.3 Data/sample *(description of data/sample and size)*: NA

2d.4 Analytic Method *(type analysis & rationale)*:
NA

2d.5 Testing Results *(e.g., frequency, variability, sensitivity analyses)*:
NA

2d C☐ P☐ M☐ N☐ NA☐

2e. Risk Adjustment for Outcomes/ Resource Use Measures

2e.1 Data/sample *(description of data/sample and size)*: NA

2e.2 Analytic Method *(type of risk adjustment, analysis, & rationale)*:
NA

2e.3 Testing Results *(risk model performance metrics)*:
NA

2e.4 If outcome or resource use measure is not risk adjusted, provide rationale: The measure assesses prevention and wellness in a general population; risk adjustment is not indicated.

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)*: NCQA received data from 18 physician practices who submitted 10 records per measure (total 180 records per measure)

2f.2 Methods to identify statistically significant and practically/meaningfully differences in performance *(type of analysis & rationale)*:
Comparison of means and percentiles; analysis of variance against established benchmarks; if sample size is >400, we would use an analysis of variance

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)*:
Blood Pressure Screening By Age 13 Years:

2f C☐ P☐ M☐ N☐

Elig Population: 179 Screening Documented: 98.9 Results Documented: 98.9 Results and Proper Follow Up Documented: 97.8	
2g. Comparability of Multiple Data Sources/Methods 2g.1 **Data/sample** *(description of data/sample and size)*: NCQA received data from 18 physician practices who submitted 10 records per measure (total 180 records per measure) 2g.2 **Analytic Method** *(type of analysis & rationale)*: This measure is chart review only; no other sources were identified by the expert panel; this measure does not utilize administrative data 2g.3 **Testing Results** *(e.g., correlation statistics, comparison of rankings)*: NA	**2g** C☐ P☐ M☐ N☐ NA☐
2h. Disparities in Care 2h.1 **If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)*: The measure is not stratified to detect disparities. 2h.2 **If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:** NA	**2h** C☐ P☐ M☐ N☐ NA☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria 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:** Not in use but testing completed 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 not currently publicly reported. NCQA is exploring the feasibility of adding this measure and its related measures into a physician-level program and/or the HEDIS® measurement set as appropriate. 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 measure is not currently used in QI. NCQA is exploring the feasibility of adding this measure and its related measures into a physician-level program and/or the HEDIS® measurement set as appropriate. NCQA anticipates that after we release these measures, they will become widely used, as all our measures do. **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)*: NA 3a.5 **Methods** *(e.g., focus group, survey, QI project)*: NCQA vetted the measures with its expert panel. In addition, throughout the development process, NCQA	**3a** C☐ P☐ M☐ N☐

vetted the measure concepts and specifications with other stakeholder groups, including the National Association of State Medicaid Directors, NCQA's Health Plan Advisory Council, NCQA's Committee on Performance Measurement, and the American Academy of Pediatrician's Quality Improvement Innovation Network. After field testing, NCQA also conducted a debrief call with field test participants. In the form of a group interview, NCQA systematically sought feedback on whether the measures were understandable, feasible, important, and had face validity. 3a.6 **Results** *(qualitative and/or quantitative results and conclusions)*: NCQA received feedback that the measure is understandable, feasible, important and valid.	
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 **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	**3c** C☐ P☐ M☐ N☐ NA☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria 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 care delivery (Data are generated and used by healthcare personnel during the provision of care, e.g., blood pressure, lab value, medical condition), Coding/abstraction performed by someone other than person obtaining original information (E.g., DRG, ICD-9 codes on claims, chart abstraction for quality measure or registry)	**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. NCQA plans to eventually specify this measure for electronic health records.	
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.** During the measure development process the Child Health MAP and measure development team worked with NCQA's certified auditors and audit department to ensure that the measure specifications were clear and auditable. The denominator, numerator and optional exclusions are concisely specified and align with our audit standards.	**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:** Based on field test results, we have specified the measure to assess whether screening was documented and whether use of a standardized tool was documented. Our field test results showed that these data elements are available in the medical record. In addition, our field test participants noted that many were able to program these requirements into their electronic health record systems, and several implemented point-of-service physician reminders for this measure. **4e.2 Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** Collecting measures from medical charts is time-consuming and can be burdensome. Adapting this measure in electronic health records may relieve some of this burden. **4e.3 Evidence for costs:** Based on field test participant feedback and other stakeholder input. **4e.4 Business case documentation:** NA	**4e** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria 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
National Committee for Quality Assurance, 1100 13th Street NW, Suite 1000, Washington, District Of Columbia, 20005

Co.2 Point of Contact
Sepheen, Byron, MHS, byron@ncqa.org, 202-955-3573-

Measure Developer If different from Measure Steward
Co.3 Organization
National Committee for Quality Assurance, 1100 13th Street NW, Suite 1000, Washington, District Of Columbia, 20005

Co.4 Point of Contact
Sepheen, Byron, MHS, byron@ncqa.org, 202-955-3573-

Co.5 Submitter If different from Measure Steward POC
Sepheen, Byron, MHS, byron@ncqa.org, 202-955-3573-, National Committee for Quality Assurance

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.
Child Health Measurement Advisory Panel:
Jeanne Alicandro
Barbara Dailey
Denise Dougherty, PhD
Ted Ganiats, MD
Foster Gesten, MD
Nikki Highsmith, MPA
Charlie Homer, MD, MPH
Jeff Kamil, MD
Elizabeth Siteman
Mary McIntyre, MD, MPH
Virginia Moyer, MD, MPH, FAAP
Lee Partridge
Xavier Sevilla, MD, FAAP
Michael Siegal
Jessie Sullivan

Ad.2 If adapted, provide name of original measure: NA
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:

Date of Submission (*MM/DD/YY*)**:** 01/06/2011