



MAY 2009

# Issue Brief

## Quality of Child Health Care: Expanding the Scope and Flexibility of Measurement Approaches

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Commonwealth Fund pub. 1276  
Vol. 54

**ABSTRACT:** Quality measurement can inform and encourage improvement in child health care. Currently, most measures gauge only whether care is received (e.g., receipt of a well-child care visit), providing little information about the actual content of care. We propose a measurement framework for comprehensive well-child care to capture a richer view of children's health care and take a more efficient approach to data collection. To promote measurement development, it will be necessary to: 1) align new measures with existing reporting requirements; 2) manage the burden of data collection; 3) weigh the evidence base; 4) consider adding new types of content; 5) develop clear but flexible measure specifications; and 6) consider children's enrollment patterns in Medicaid and the Children's Health Insurance Program. It also will be important to seek opportunities for eliciting families' views on the quality of well-child care.

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### BACKGROUND

The primary purpose of children's health care is to help children grow and develop into healthy adults. Well-child care encompasses health supervision, developmental surveillance and screening, psychosocial assessment, immunizations, and care coordination.<sup>1</sup> However, there is clear evidence that child health's care, especially preventive care, gets short shrift in the U.S. health care system. One national study found that children received less than half of recommended services.<sup>2</sup> Surveys of parents show that families are not getting the health information and support they desire.<sup>3</sup>

Performance measurement is a powerful tool to drive improvements in the quality of care that could be enacted at the provider, health plan, health system, or state levels. A number of issues, however, make the measurement of

children's health care quality different and more challenging than measuring adult care. These include: 1) the unique aspects of childhood, such as children's rapid growth and development, their greater likelihood of being in poverty, and dependence on their families;<sup>4</sup> 2) the reliance on consensus recommendations because of the dearth of randomized controlled trials available to inform what constitutes quality child health care, 3) the lack of public and private sector demand for measurement, and 4) challenges in implementing measures that would be feasible and provide meaningful information. The most widely used measures of child health care depend on administrative data and track the number of well-child visits and immunizations received. Although this is a feasible approach, it limits the aspects of care that can be assessed.

The public and private sectors have invested less in standardization and quality measurement for children than for adults. Still, with the recent passage of the Children's Health Insurance Program Reauthorization Act (CHIPRA), we expect that trend to change dramatically. CHIPRA calls for the development, testing, and validation of evidence-based measures for evaluating the quality of children's health care services, as well as for increases in the federal cost-sharing for states that collect and report on quality. In the private sector, the Bridges to Excellence program has also expressed interest in programs to distinguish high performance among pediatric care providers. With the national interest in transparency and accountability, health care quality advocates are presented with an unprecedented opportunity to use the tools of measurement to inform and encourage improvement efforts and make performance information available for public comparisons.

## A NEW STRATEGY FOR CHILD HEALTH CARE QUALITY MEASUREMENT

With Commonwealth Fund support, the National Committee for Quality Assurance (NCQA) evaluated the feasibility of various methods for measuring the quality of health care children receive. Our goal is to expand the number and variety of measurement tools available. To begin, we outlined a strategic approach to build support and infrastructure for quality measurement of child health care:

1. *Develop a measurement plan to increase attention to child health outcomes of broad interest, such as school readiness, workforce readiness, and family productivity.*

First, it makes sense to identify a core set of measures consistent with the Institute of Medicine's definition of child health, which focuses on ensuring that children reach their potential. Ideally, these measures should be relevant to a broad group of stakeholders and provide information about quality at multiple levels of the health care system. This kind of appeal to broad public concerns has proven effective in the past. For example, a response to concerns about American men's readiness for military service led to legislation in the 1960s that called for comprehensive health benefits for children, including the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Program. In his argument in favor of the legislation, President Johnson cited a 1964 government report documenting the high percentage of young men who were rejected for military service because of treatable and correctable physical, behavioral, and developmental problems.<sup>5</sup>

Consistent with this approach, the following outcomes could guide the development of quality measures for child health: school readiness, family productivity, and workforce readiness. Measuring children's readiness to enter school acknowledges the importance of early childhood health for lifelong development. A recent 17-state report on

school readiness identified easily available measures to assess readiness, such as receipt of well-child visits, but also noted the need for measures that would capture more detailed information about the content of care (e.g., the percentage of 2-year-olds who had a recent well-child visit that included a lead screening, vision screening, hearing screening, and comprehensive developmental screening).<sup>6</sup> Measures of family productivity would track children's absences from school because of illness as well as lost work days for family members who have to care for them.<sup>7</sup> Measures of workforce readiness would gauge adolescents' preparedness to lead healthy and productive adult lives.

2. *Explore opportunities for assessing the return on investment of quality measurement and for communicating the results with stakeholders.*

Outcomes such as school readiness, family productivity, and workforce readiness are likely to be of interest to families, business leaders, policymakers, and other stakeholders. Still, it will be important to evaluate how investments in quality measurement and monitoring may affect health outcomes and costs of care. In addition, it will be important to test various methods for communicating results to diverse stakeholder groups.

3. *Build strategic partnerships to achieve quality measurement goals and complement other efforts.*

Successful implementation of a new quality measurement strategy will depend on collaboration and support from a number of entities, including government at the federal, state, and local levels; health care providers and plans; and employers and purchasers. It also is crucial for families to participate in the process. New quality measurement requirements should build on, rather than compete with, existing requirements for EPSDT, Medicaid, and the Children's Health Insurance Program (CHIP). Quality measurement initiatives should align with existing efforts, such as those

led by the Alliance for Pediatric Quality and National Quality Forum, as well as with quality improvement and maintenance of certification programs of physician specialty organizations and boards. It also may be useful to involve other child-serving sectors, such as education and early intervention programs.

4. *Identify opportunities to use new and emerging technologies to build an infrastructure for monitoring child health.*

Health information technology will bring dramatic change to quality measurement and improvement. Health information exchanges keep clinicians informed about the care their patients receive at other health care settings. Personal health records, such as the Web-based Microsoft HealthVault and Google Health, enable families to store and share information about health and health care. Using such technologies, it would be possible to incorporate information about families' health risks, behaviors, symptoms, and experiences of care into quality measurement. These platforms may make it possible to share information across the health, education, and social service sectors to enable better care coordination—of particular importance for children. For example, an electronic platform that allows sharing of information across settings could enable a physician caring for a child with attention deficit hyperactivity disorder (ADHD) to review teacher and parent ratings of the child's symptoms to guide treatment decisions, or to develop a collaborative care plan involving community resources. Importantly, health information technologies may simplify the process of aggregating data on child health quality for community-level planning or monitoring. For the promise of these technologies to be realized, however, efforts need to begin immediately to build the data elements, functionality, and interoperability to support the sharing of information.

## POTENTIAL MEASUREMENT AREAS

To promote this strategy, we identified key measures concepts for measurement development in the areas of well care, acute and chronic disease care, and care coordination.

### Well Care

We developed a measurement framework for well-child care that includes composite measures for children at key ages (Table 1). The milestone ages—6 months, 2 years, 6 years, 13 years, and 18 years—correspond either to current quality measures (which track immunizations for children at ages 2 and 13) or to the outcomes described above (school readiness at age 6; family productivity at all ages). The composites would assess whether children have received recommended services by each milestone age. For each age group, there are indicators relating to:

- protection of health
- healthy development
- safe environment, and
- management and follow-up of health problems.

The indicators focus on different aspects of care, including immunizations, screening (both laboratory tests and screening for other problems), risk assessments, and related anticipatory guidance. At each milestone age, an indicator would evaluate the management and follow-up care for health problems such as developmental delays or chronic conditions. Family or adolescent surveys could be useful data sources for some of the proposed indicators, especially those related to counseling or development, but a chart-review approach would be more practical for short-term implementation.

This approach assumes that the new measures would be integrated into, or replace, existing Healthcare Effectiveness Data and Information Set (HEDIS) measures. For example, the proposed measures might replace existing measures that track whether children receive well-child visits but do not document the content of care. The new HEDIS measure focusing

on childhood obesity could be integrated into the proposed composites. Recommendations for anticipatory guidance, immunizations, screening, and assessment would be derived from United States Preventive Services Task Force and Bright Futures guidelines, along with other evidence and expert consensus.<sup>8</sup>

Compared with current approaches, this framework for evaluating well-child care would provide a richer view of children's health care and take a more efficient approach to data collection. Implementing these composite measures will require medical chart review, as most care settings do not include the information in electronic health records or administrative data. Still, review of a single chart would provide information on multiple aspects of care, instead of tracking only the receipt of care. For example, a chart review for a 2-year-old could focus not just on whether immunizations are up-to-date, but also assess whether the child has had an oral health exam or visit to a dentist, assessment of the need for iron supplementation, screening for developmental problems and autism, assessment of physical growth and exposure to environmental tobacco, and presence of an individualized care plan for an existing chronic health problem.

### Acute and Chronic Disease Care

We assessed current measures related to acute and chronic disease and explored ways to expand them. Greater attention to children's chronic disease care is needed. Efforts are under way to improve measures for asthma and diabetes for children. There is a particular need for improved measures assessing behavioral health care, with ADHD and the use of psychotropic medications representing key areas for further investigation. NCQA's current measure for ADHD tracks whether follow-up occurs after children receive a prescription for an ADHD medication; a new measure might assess whether an appropriate assessment occurs before the prescription is written. Several state Medicaid programs are trying to improve care for conditions such as ADHD and depression by tracking and, in some cases, providing additional reimbursement for the use of standardized screening or assessment tools.

In addition, new behavioral health measures are needed to focus on the prescribing patterns for psychotropic medications among children. Existing HEDIS measures that gauge medication management might serve as a model. A consortium of state Medicaid medical directors has been working on options for evaluating the use of psychotropic medications in children.<sup>9</sup> Some states have implemented second-opinion programs or other efforts to improve patient safety.

Potential areas of focus for measures addressing acute care include ear infections and injuries. For example, measures for ear infections could complement existing HEDIS measures related to antibiotic overuse in children. New measures should be considered for treatment of injuries, a leading cause of death in children.

### Care Coordination

We also considered how quality measures might assess care coordination for children, including ways in which the concept of a medical home might be incorporated.<sup>10</sup> Children have unique needs for care coordination, given that they often receive health care services outside of medical settings, including in schools, day care facilities, and public health organizations. Children's needs also change over time and must be considered within the context of children's dependence on family members for health services. Key elements of care coordination, including management of and follow-up for chronic conditions, are addressed in the comprehensive well-child care framework described above. The quality of chronic care management could be assessed by noting whether children have written, individualized care plans and tracking how the care plans are modified over time, with family input.

Other structural measures of care coordination could be included in programs that assess the quality of pediatric practices.<sup>11</sup> Potential topics could include: procedures for comprehensive needs assessment addressing growth and development, whether staff members are assigned to develop networks with community resources, and whether there are clear protocols for sharing information with other systems involved in a child's care.

## IMPLEMENTATION

The proposed child health care measures could be used to measure the quality of care provided through state Medicaid programs, federally qualified health centers, managed care plans, and physicians. For the most part, managed care plans report performance data on the HEDIS measure voluntarily. Reporting on these proposed measures could become part of the quality reporting requirements that are already in place in some states. For physicians, the quality measures could be implemented as part of recognition programs used by health plans and employers as the basis of pay-for-performance rewards or other incentives. Alternatively, the specifications could be used by the federal government and state Medicaid agencies to supplement their efforts to monitor the quality of care in Medicaid and the EPSDT program (as suggested in the recent CHIP reauthorization legislation).

### Measurement Framework for Comprehensive Well-Child Care

We shared the measurement framework for comprehensive well-child care with a broad group of stakeholders. State officials noted that the proposed content is consistent with EPSDT, and that some states already have quality improvement efforts focusing on similar areas. Pediatricians also responded favorably, saying "this is what we do and what we all should do." Health plans viewed the measure approach as valuable but raised concerns about the burden of data collection. In seeking to further develop and implement the measurement framework, it will be important to take the following steps:

- **Align new measures with existing reporting requirements.** The proposed framework would entail detailed measurement activities that go beyond current quality reporting requirements for the Medicaid program. It will be essential to collaborate with the Centers for Medicare and Medicaid Services (CMS) and the Agency for Healthcare Research and Quality (AHRQ) to align with ongoing work to standardize quality

measurement. In addition, efforts should be made to align the proposed measures with existing monitoring activities within states or with other federal requirements. For example, it may be possible to align the measures with reporting requirements for federally qualified health centers.

- Consider ways to manage the burden of data collection.** Most of the information for the proposed measures is not available in administrative claims and may be challenging to find in medical records. Some health plans would welcome the opportunity to replace eight existing HEDIS measures, which rely on administrative data supplemented with medical record review, with more comprehensive preventive child care measures. However, health plans do not want to lose the opportunity to track trends on individual measures, such as immunization rates. Some respondents suggested that the new measures and existing measures of well-child visits could be used on alternate years, to enable continued trending and to manage the burden of data collection.
- Weigh the evidence base in selecting final measures.** The measures in the proposed framework are consistent with evidence-informed recommendations from Bright Futures and other clinical guidelines. However, respondents suggested a careful weighing of the strength of evidence and the potential impact on outcomes. Given the large number of measures and burden of capturing performance, it is important to focus efforts on measures with the greatest potential to influence child and family outcomes.
- Consider additional content or methods.** Most stakeholders felt the proposed well-child care framework was comprehensive enough (and some felt it was too comprehensive). Still, stakeholders suggested several additions. The most common was to include parent surveys such as the Promoting Healthy Development Survey in order to understand what families take away from health care encounters. Respondents suggested that the approach be considered for evaluating prenatal and postpartum care. Several suggested using school attendance as an indicator.
- Develop clear but flexible measure specifications.** The measure specifications will need to clearly define acceptable documentation and should allow different forms of evidence. For example, it may be difficult to discern from medical records if anticipatory guidance was provided. Creating standardized forms with which physician practices could document measure compliance and report their performance to agencies such as the Centers for Medicare and Medicaid Services and the Health Resources and Services Administration would help promote reporting. Non-physician staff could also help to document the care provided. It may be possible to use electronic tools to support care, for example by having patients complete electronic risk assessment surveys.
- Consider the enrollment patterns of Medicaid/CHIP populations.** Children may lose or gain Medicaid or CHIP eligibility or switch between Medicaid managed care plans over time. These disruptions in coverage or changes in health plan make it difficult to assign responsibility for care to specific health plans or providers. Yet, setting restrictive rules about continuous enrollment would result in fewer children being captured in quality reporting. Field testing should explore alternative ways to define eligibility and continuous enrollment for the purposes of quality measurement.

Subsequent to this work, NCQA has begun efforts to prepare detailed measure specifications and to conduct a field test of the proposed Comprehensive Well Care topics shown in Table 1. With the help of an advisory panel representing measurement experts and

other stakeholders, NCQA will test a subset of the proposed measures. The panel recommended deferring action on the remaining topics (*shown in italics*) for several reasons. Some measures did not have a strong evidence base (e.g., parental competencies, hip dysplasia). Surveys of family members or children may be better sources of data for assessing anticipatory guidance on safety issues (e.g., firearm safety, burn prevention). For other topic areas, the panel suggested that policy interventions may be a better approach for action; for example, state laws about child safety seats and teenage driving restrictions may be more direct approaches for addressing these health risks.

## **CONCLUSIONS**

Building support and infrastructure for quality measurement will promote improvement in child health care. In pursuit of these goals, it will be important to focus measurement on broad outcomes, gather support from diverse stakeholders, leverage existing measurement activities, and harness health information technologies as measurement tools. The quality measures should be developed through a proven, systematic process involving detailed specification, testing, analysis, and refinement.

The proposed measurement framework for well-child care could be used to assess whether care addresses children's preventive and developmental needs. Successful implementation of the framework will require that the measurement specifications are clear, the burden of data collection is reasonable, and opportunities to align reporting requirements across state, federal, and private sectors are maximized. Opportunities for eliciting families' views on the quality of well-child care should be a priority for research and measurement development.

## NOTES

- <sup>1</sup> A. A. Kuo, M. Inkelas, D. S. Lotstein et al., “[Rethinking Well-Child Care in the United States: An International Comparison](#),” *Pediatrics*, Oct. 2006 118(4):1692–1702.
- <sup>2</sup> R. Mangione-Smith, A. H. DeCristifaro, C. M. Cetodji et al., “The Quality of Ambulatory Care Delivered to Children in the United States,” *New England Journal of Medicine*, Oct 11, 2007 357(15):1515–23.
- <sup>3</sup> C. Bethell, C. H. Reuland, N. Halfon et al., “Measuring the Quality of Preventive and Developmental Services for Young Children: National Estimates and Patterns of Clinicians’ Performance,” *Pediatrics*, June 2004 113(6 Suppl.):1973–83.
- <sup>4</sup> A. C. Beal and J. P. T. Co, “[Quality Measures for Children’s Health Care](#),” *Pediatrics*, Jan. 2004 113(1):199–209.
- <sup>5</sup> S. Rosenbaum, D. R. Mauery, P. Shin et al., *National Security and U.S. Child Health Policy: The Origins and Continuing Role of Medicaid and EPSDT* (Washington, D.C.: The George Washington University School of Public Health and Health Services, April 2005).
- <sup>6</sup> Rhode Island KIDS COUNT, *Getting Ready: Findings from the National School Readiness Indicators Initiative—A 17 State Partnership*, Feb 2005. Available at: <http://www.gettingready.org/matriarch/d.asp?PageID=303&PageName2=pdfhold&p=&PageName=Getting+Ready+%2D+Full+Report%2Epdf>.
- <sup>7</sup> For example, NCQA’s Quality Dividend Calculator estimates the impact of higher-quality pediatric care on workforce absenteeism, taking into account chicken pox vaccinations along with care for chronic diseases because of the evidence about their impact on missed work days for parents. Available at <http://www.ncqacalculator.com/Index.asp>.
- <sup>8</sup> J. F. Hagan, J. S. Shaw, and P. M. Duncan, eds. *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents, Third Edition*. (Elk Grove, Ill.: American Academy of Pediatrics, 2008).
- <sup>9</sup> The Agency for Healthcare Research and Quality (AHRQ) convenes the Medicaid Medical Directors’ Learning Network as part of its Knowledge Transfer/Implementation Program. Available at <http://www.ahrq.gov/news/ktint.htm>.
- <sup>10</sup> The Joint Principles of the Patient Centered Medical Home, endorsed by key organizations representing primary care physicians and other stakeholders, defines the medical home as “a health care setting that facilitates partnerships between individual patients, and their personal physicians, and when appropriate, the patient’s family.” Available at <http://www.pcpc.net/content/joint-principles-patient-centered-medical-home>.
- <sup>11</sup> For example, NCQA has a recognition program which is being used in many public and private sector demonstration programs to evaluate the impact of the PCMH, the Physician Practice Connections®—Patient-Centered Medical Home™ (PPC-PCMH), <http://www.ncqa.org/tabid/631/Default.aspx>.



**Table 1. Framework for Evaluating Comprehensive Well Child Care**

<b>Infant (6 months)</b>	<b>By Age 2</b>	<b>By Age 6</b>	<b>By Age 13</b>	<b>By Age 18</b>
<b>Protection of Health</b>				
<b>Newborn Hearing Screening</b> <b>Newborn Metabolic Screening</b> <i>Hip Dysplasia</i>	<b>Immunizations</b> Oral Health Exam Iron Deficiency Assessment and Supplementation Lead Screening	<b>Immunizations</b> Vision Screening Oral Health Exam Blood Pressure Assessment <i>Hearing</i>	<b>Immunizations</b> Vision Screening Oral Health Exam Blood Pressure Assessment <i>Hearing</i>	<b>Immunizations</b> Vision Screening Oral Health Exam Blood Pressure Assessment Cervical Cancer Screening Chlamydia Screening
<b>Healthy Development</b>				
<b>Breastfeeding Counseling for Mother</b> <b>Physical Growth Assessment</b> <b>Maternal Depression Screening</b> <i>Parental Competencies</i> <i>Developmental Screening</i>	<b>Developmental Screening</b> <b>Autism Screening</b> <b>Physical Growth Assessment</b> <b>Maternal Depression Screening</b> <i>Parental Competencies</i> <i>Nutritional Adequacy</i>	<b>Developmental Screening</b> <b>Mental Health Assessment</b> <b>Weight Assessment and Counseling for Nutrition and Physical Activity</b> <i>Counseling on Screen Time</i> <i>Parental Competencies</i>	<b>Risky Behavior Screening</b> <b>Mental Health Assessment</b> <b>Weight Assessment and Counseling for Nutrition and Physical Activity</b> <i>Counseling on Screen Time</i> <i>Parental Competencies</i>	<b>Risky Behavior Screening</b> <b>Mental Health Assessment</b> <b>Weight Assessment and Counseling for Nutrition and Physical Activity</b> <i>Counseling on Screen Time</i>
<b>Safe Environment</b>				
<b>Sudden Infant Death Syndrome Counseling</b> <b>Environmental Tobacco Assessment and Counseling</b> <i>Domestic Violence</i> <i>Burn Prevention</i> <i>Fall Prevention</i> <i>Choking Prevention</i> <i>Drowning Prevention</i> <i>Cardiopulmonary Resuscitation</i> <i>Vehicle Safety</i>	<b>Environmental Tobacco Assessment and Counseling</b> <i>Domestic Violence</i> <i>Burn Prevention</i> <i>Fall Prevention</i> <i>Poison Prevention</i> <i>Drowning Prevention</i> <i>Firearm Safety</i> <i>Vehicle Safety</i>	<b>Environmental Tobacco Assessment and Counseling</b> <i>Domestic Violence</i> <i>Firearm Safety</i> <i>Vehicle Safety</i> <i>Water Safety</i> <i>Sports Safety</i>	<b>Home Safety</b> <i>Domestic Violence</i> <i>Firearm Safety</i> <i>Vehicle Safety</i> <i>Water Safety</i> <i>Sports Safety</i>	<i>Domestic Violence</i> <i>Firearm Safety</i> <i>Vehicle Safety</i>
<b>Management and Follow-Up of Health Problems</b>				
<b>Individualized Care Plan</b>	<b>Individualized Care Plan</b>	<b>Individualized Care Plan</b>	<b>Individualized Care Plan</b>	<b>Individualized Care Plan</b>

NCCA is currently specifying and testing measures addressing the topics shown in bold for data collection through medical chart review or administrative data in order to evaluate performance by health plans and physicians.

## ABOUT THE STUDY

We convened a panel of experts to guide the development of a strategic approach to child health quality measurement and a framework for comprehensive well-child care. We conducted interviews with more than 40 individuals or organizations, including Medicaid officials, health plans, researchers, practicing physicians, and consumer groups to gain insight into the feasibility and focus of the proposed measurement framework.

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*Editorial support was provided by Martha Hostetter.*

