Pediatric Performance Measures 2017

FINAL TECHNICAL REPORT

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NATIONAL QUALITY FORUM

Contents

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Executive Summary

Understanding the health-related needs of children and adolescents is essential for developing measures to improve the quality of care for the pediatric population. Approximately 74 million children under 18 years of age live in the United States, representing 23.3 percent of the population.[1] The number of children and adolescents diagnosed with chronic medical conditions has risen consistently over the last decades.[2] In 2011-2012, 19.8 percent of these children had a special healthcare need, defined as having a chronic medical, behavioral, or developmental condition lasting 12 months or longer and experiencing a service-related or functional consequence (including the need for or use of prescription medications and/or specialized therapies).[3] In 2012, approximately one in five adolescents had a mental disorder, increasing risk for difficulties with school, substance use, and development of chronic illnesses in adulthood.

Currently, the NQF portfolio includes 102 NQF-endorsed measures that include the pediatric population. There are 39 NQF-endorsed measures specific to the pediatric population and 63 NQF-endorsed measures including the pediatric and adult populations. These pertain to a range of clinical and cross-cutting areas, including cardiovascular surgery, pulmonary care, cancer, perinatal care, health and well-being, and safety. Currently, many of these measures are used in public and/or private accountability and quality improvement programs, such as the Center for Medicare & Medicaid Services (CMS) Child Core Set.

Although the number of NQF-endorsed pediatric measures is growing, expanding the availability of evidence-based pediatric measures for public and private use is a priority. Currently, more than 35 million children receive healthcare coverage through the Children's Health Insurance Program (CHIP) and Medicaid[4]—and almost half of children with a special healthcare need receive coverage from these programs.[5] Additionally, Medicaid covers almost half of all births in the United States.[6] These programs require robust measure sets that can assess the quality of care delivered to children across the United States.

For this project, the Pediatric Performance Measures Standing Committee evaluated 11 newly submitted measures against NQF's standard evaluation criteria. The Committee recommended four measures for endorsement, and did not recommend seven measures. The four newly endorsed measures are:

- 3136 GAPPS: Rate of Preventable Adverse Events Per 1,000 Patient-Days Among Pediatric Inpatients
- 3153 Continuity of Primary Care for Children with Medical Complexity
- 3166 Antibiotic Prophylaxis Among Children with Sickle Cell Anemia
- 3154 Informed Participation

The Committee did not recommend the following measures:

- 2816 Appropriateness of Emergency Department Visits for Children and Adolescents with Identifiable Asthma
- 3189 Rate of Emergency Department Visit Use for Children Managed for Identifiable Asthma: Visits per 100 Child-Years
- 3219 Anticipatory Guidance and Parental Education
- 3220 Ask About Parental Concerns
- 3221 Family Centered Care
- 3222 Assessment of Family Alcohol Use, Substance Abuse and Safety
- 3223 Assessment of Family Psychosocial Screening

Brief summaries of the measures are included in the body of the report; detailed summaries of the Committee's discussion and ratings on the criteria for each measure are in Appendix A.

Introduction

Recognition that the health and healthcare needs of children differ significantly from those of adults has helped drive an increased focus on pediatric quality measurement. In addition, health and healthcare in childhood sets the stage for future health outcomes, both positive and negative. As described by the Agency for Healthcare Research and Quality (AHRQ), the unique characteristics of child health include[7]:

- **Developmental Status and Change:** Children grow and progress through a variety of developmental stages; good cognitive, emotional, and physical outcomes depend on successive, sustained progress from infancy to adulthood.
- **Differential Epidemiology:** Health conditions prevalent in the pediatric population differ greatly from those common among adults, many of which are influenced by underlying differences in physiology.
- **Dependence:** Children depend on the actions of adults to gain consistent access to high-quality, continuous care and are influenced on a daily basis by the health behaviors they observe in the world around them.
- **Demographic Patterns:** On average, children in the United States today are more likely to be living in poverty, within a single-parent household, and are more racially and ethnically diverse than they were a generation ago. More than 43 million children—more than one in three young Americans—were served by Medicaid or the Children's Health Insurance Program (CHIP) in federal fiscal year 2014.[8]

The Children's Health Insurance Reauthorization Act of 2009 (CHIPRA) accelerated interest in pediatric quality measurement and presented an unprecedented opportunity to improve the healthcare quality and outcomes of the nation's children, especially the 35 million children enrolled in Medicaid and/or CHIP. CHIPRA mandates a core set of performance measures to assess the quality of care provided to children enrolled in Medicaid and CHIP—the Child Core Set—and requires annual updates to the set.

This project adds to the NQF's pediatric measure work through the Measure Applications Partnership, which continues its work to improve the resources available to monitor quality and facilitate quality improvement in Medicaid and CHIP.

Trends and Performance

AHRQ's National Healthcare Quality and Disparities Reports annually examine disparities in the quality of pediatric care in relation to adults, as well as positive and negative trends in child healthcare quality:

- For 2002-2013, children were less likely than adults ages 18-44 to have a provider who asks about care from other doctors.[9]

- Performance on most access-to-care measures improved for children (median improvement was 5 percent per year). Children with only Medicaid or CHIP coverage, however, were less likely to get care as soon as they wanted, compared to children with any private insurance.[10]

- Vaccination measures showed both improving and declining quality, depending on the measure. Improvement was noted for measures pertaining to adolescents ages 13-15 and 16-17 who received one or more doses of tetanus-diphtheria-acellular pertussis vaccine and meningococcal

conjugate vaccines. In contrast, fewer children ages 19-35 months received three or more doses of hepatitis B vaccine, as did those who received one or more doses of measles-mumps-rubella vaccine.[11]

- The percentage of children whose parents reported poor communication with healthcare providers significantly decreased overall, as well as among all racial/ethnic and income groups.[12]

NQF Portfolio of Performance Measures for Pediatric Conditions

Currently, there are 102 NQF-endorsed measures that include the pediatric population (Appendix B). There are 39 NQF-endorsed measures specific to the pediatric population and 63 NQF-endorsed measures that include both the pediatric and adult populations. The majority of the measures were endorsed in other condition-specific or cross-cutting projects. Examples of these measures are:

- Assessment and screening measures (Health and Well-Being/Behavioral Health projects)
- Ear infection measures (Eye, Ear, Nose, and Throat [EENT] project)
- Cardiovascular care measures (Cardiovascular/Surgery project)
- Sepsis measures (Patient Safety project)
- Complications and outcomes measures (Health and Well-Being/Surgery projects)
- Low birth weight measures (Perinatal and Reproductive Health project)
- Functional status measures (Person- and Family-Centered Care project)

The typology of the 102 measures in the pediatric portfolio (pediatric-specific and all-patient measures that include a pediatric population) is 65 process measures, 27 outcome measures, two patient-/person-reported outcome (PRO) measures, four intermediate clinical outcome, and four structural measures (Table 1).

Table 1. NQF Pediatric Portfolio of Measures

	Process	Outcome	PRO	Intermediate Outcome	Structure	Total
Behavioral/Mental Health	10		–	–	–	10
Cardiovascular	–	1	–	–	–	1
Care Coordination	11	–	1	–	–	12
Health and Well-Being	19	3	–	–	–	22
EENT	12	–	–	–	–	12
Infectious Disease	3	–	–	–	–	3
Neurology	1	–	–	–	–	1
Perinatal and Reproductive Health	3	4	–	2	1	10
Person- and Family-Centered Care	–	–	1	–	–	1
Pulmonary Care	1	2	–	–	–	3
Readmissions	-	2	–	–	–	2

	Process	Outcome	PRO	Intermediate Outcome	Structure	Total
Renal	2	3	–	–	–	5
Safety	2	8	–	2	–	12
Surgery	1	4	–	–	3	8
Total	65	27	2	4	4	102

National Quality Strategy

NQF-endorsed measures for pediatric care support the U.S. Department of Health and Human Services' National Quality Strategy (NQS). NQS serves as the overarching framework for guiding and aligning public and private efforts across all levels (local, state, and national) to improve the quality of healthcare in the United States. The NQS establishes the "triple aim" of better care, affordable care, and healthy people/communities, focusing on six priorities to achieve those aims: *Safety, Person and Family Centered Care, Communication and Care Coordination, Effective Prevention and Treatment of Illness, Best Practices for Healthy Living,* and *Affordable Care.*

Identifying quality measures for pediatric care aligns with all six NQS priorities:

- Making care safer by reducing harm caused in the delivery of care. The global use of evidence-based patient safety practices to reduce adverse events and complications is a cornerstone of high-quality care.

- Ensuring that all persons and families are engaged as partners in care. Family engagement is the foundation that supports change. Actively and deliberately engaging parents, guardians, or families in their children's care can lead to better health outcomes.

- Promoting effective communication and coordination of care. Pediatric care encompasses many services and practitioners who must coordinate care and effectively communicate with each other to ensure a successful outcome.

- Promoting the most effective prevention and treatment practices for the leading causes of mortality. In 2014, 23,215 infants in the United States died before their first birthday, representing a rate of 5.82 deaths per 1,000 live births.[13] Conditions related to prematurity account for more than a third of infant deaths.[14]

- Working with communities to promote wide use of best practices to enable healthy living. Social, environmental, and behavioral factors can have significant negative impact on health outcomes and economic stability.[15] These factors, along with other upstream determinants, contribute up to 60 percent of deaths in the United States;[16] yet only three percent of national health expenditures are spent on prevention (e.g., immunizations, disease screenings, and behavioral counseling interventions), while 97 percent is spent on healthcare services.[17]

- Making quality care more affordable for individuals, families, employers, and governments by developing and spreading new healthcare delivery models. Per capita healthcare spending in the United States is unmatched by any country in the world.[18] This high rate of spending, however, has not resulted in better health for Americans. Higher spending has not decreased mortality, increased patient satisfaction, nor led to improvements in access or higher quality of care.[19,20] By improving efficiency, there is potential to reduce the rate of cost growth and improve the quality of care provided simultaneously.

Use of Measures in the Portfolio

Endorsement of measures by NQF is valued not only because the evaluation process itself is both rigorous and transparent, but also because evaluations are conducted by multistakeholder committees comprised of clinicians and other experts from the full range of healthcare providers, employers, health plans, public agencies, community coalitions, and patients—many of whom use measures on a daily basis to ensure better care. Moreover, NQF-endorsed measures undergo routine "maintenance" (i.e., re-evaluation) to ensure they are still the best-available measures and reflect the current science. Importantly, federal law requires that preference be given to NQF-endorsed measures for use in federal public reporting and performance-based payment programs. NQF measures also are used by a variety of stakeholders in the private sector, including hospitals, health plans, and communities.

Many of the measures in the pediatric portfolio are in use in at least one federal program. Seventeen NQF-endorsed measures have been included in the 2017 Core Set of Children's Health Care Quality Measures for Medicaid and CHIP (Child Core Set).[21] Appendix C provides details of federal programs that currently use NQF-endorsed pediatric measures.

Improving NQF's Pediatrics Portfolio

Committee Input on Gaps in the Portfolio

During its discussions, the Committee identified numerous areas where additional measure development is needed:

- Additional pediatric patient safety measures, such as measures related to dosing errors for pediatric patients, pediatric diagnostic errors, and patient safety for outpatient pediatric services;
- Measures pertaining to pediatric patients living with intellectual and/or developmental disabilities, including measures for children with dual diagnoses of intellectual/developmental disability and mental illness;
- Measures of coordination of care for children with chronic disease;
- Measures of quality for foster children, in particular, measures of foster care/ out-of-home placement rates for substance-exposed newborns, and measures evaluating the time substance-exposed children spend in biologic home settings versus foster care;
- Measures of how much time substance-exposed newborns spend in the acute care hospital, NICU, rehab, or children's specialty hospitals;
- Measures of quality evaluating abuse and mistreatment, including measures specifically focused on children with special needs;
- Measures that capture social determinants of health screening, including food and housing insecurity;
- Measures evaluating cost as it relates to children with special healthcare needs that are technologically dependent;
- Measures defining parental strengths and needs within a practice site;
- Measures to capture the identification of a team to work together to plan and test improvements in eliciting parental strengths and needs within a practice site;
- Measures on integrating tools (e.g., process flows, prompts, and reminders) into practice flow to support the engagement of parents; and

- Clinic-/systems-level measures that offer more specificity about appropriate antibiotic prophylaxis in children with sickle cell anemia.

Additional gaps in pediatric measurement that previous NQF projects have identified are:
- Care coordination, including:
  - Home and community-based care;
  - Social services coordination;
  - Cross-sector measures that foster accountability in the educational system;
- Screening for abuse and neglect;
- Injuries and trauma;
- Mental health, including:
  - Access to outpatient and ambulatory mental health services;
  - Emergency department use for behavioral health.

Pediatric Measure Evaluation

On March 2, 2017, the Pediatrics Standing Committee evaluated 11 new measures against NQF's standard evaluation criteria. One measure, 3165 *Overall Years of Nursing Experience*, was submitted and posted for public comment, but was withdrawn from consideration by the developer on February 21, 2017, before it was evaluated by Standing Committee. Table 2 summarizes the Committee's evaluation.

Table 2. Pediatric Measure Evaluation Summary

	New	Total
Measures under consideration	12	12
Measures endorsed	4	4
Measures not recommended for endorsement	7	7
Measures withdrawn from consideration	1	1
Reasons for not recommending	Importance – 4 Scientific Acceptability – 3 Overall – 0 Competing Measure – 0	

Comments Received Prior to Committee Evaluation

NQF solicits comments on endorsed measures on an ongoing basis through the Quality Positioning System (QPS). In addition, NQF solicits comments prior to the evaluation of the measures via an online tool located on the project webpage. For this evaluation cycle, the pre-evaluation comment period was open from January 23 to February 6, 2017, for all 11 measures under review. No pre-evaluation comments were received.

Overarching Issues

During the Standing Committee's discussion of the measures, several overarching issues emerged. These issues are discussed below and are not repeated in detail with each individual measure.

Measures for Accountability vs. Quality Improvement

One common focus of the Committee's discussion centered on the difference between measures best suited for accountability purposes and measures that are positioned to drive improvement through internal quality improvement (QI). Committee members noted that several measures were important for QI activities, but questioned the appropriateness and effectiveness of these measures for comparing entities against each other. In some cases, concern was raised that measures that evaluated negative events might result in under-reporting, since entities that report on the measure accurately, doing the most to identify adverse events, could potentially be penalized financially for appearing to have the highest rates.

NQF endorses measures for accountability—public reporting and payment—purposes, but does not endorse measures for QI only. Some Committee members suggested there might be facility- or state-level measures that should be endorsed, but without requiring public reporting of the results. Committee members noted that there should be opportunities for measures that are useful and important as process improvement measures to receive NQF endorsement, and suggested that endorsement of process measures for QI activities could be considered in the future. For this project, however, the Committee evaluated the 11 measures with the standard NQF focus on accountability uses.

Patient-Reported Outcome Performance Measures (PRO-PMs)

The Committee built on the previous cycle's discussions on the evidence requirements for PRO-PMs. While health outcome measures and PROs (such as HRQoL/function, symptoms, experience, or health-related behavior) require a rationale for a relationship between the outcome and a process of care, they do not require a full assessment of the quality, quantity, and consistency of evidence for the measure focus. The Committee raised concerns that different types of measures are held to different standards of evidence. The Committee also discussed which measures should qualify as PRO-PMs, since some measures collected by patient reporting are not necessarily PRO-PMs (e.g., a measure asking a patient to report on a process of care). It was noted that patient experience-of-care measures may be difficult to link to specific clinical processes, though it is important to understand which processes can be modified to improve quality of care.

Refining the NQF Measure Evaluation Process

The New Endorsement and Appeals Process

In August 2016, NQF implemented changes to its ratification and appeals process that the NQF Board of Directors initiated and approved. Following public comment and voting by the NQF membership, the Consensus Standards Approval Committee (CSAC) made the final measure endorsement decision, without ratification by another body. Additionally, at the direction of the Board, NQF established a five-member Appeals Board that will be responsible for adjudicating all submitted appeals regarding measure endorsement decisions. These changes apply to NQF measure endorsement projects with in-person meetings scheduled after August 2016, which included this project.

The newly constituted Appeals Board, composed of NQF Board members and former CSAC and Committee members, now adjudicates appeals to measure endorsement decisions without a review by the CSAC. The decision of the Appeals Board is final. For this project, no appeals were submitted.

Summary of Measure Evaluations

The following brief summaries of the measure evaluation highlight the major issues that the Committee considered. Details of the Committee's discussion and ratings on each criterion for each measure are included in Appendix A.

Endorsed Measures

3136 GAPPS: Rate of Preventable Adverse Events per 1,000 (Center of Excellence for Pediatric Quality Measurement, Boston Children's Hospital): Endorsed

Description: GAPPS is a measure of the number of preventable adverse events per 1,000 patient-days among pediatric inpatients. It is designed to compare rates across institutions and over time. The GAPPS measure utilizes the GAPPS trigger tool to identify adverse events; **Measure Type**: Outcome; **Level of Analysis**: Facility; **Setting of Care**: Hospital: Acute Care Facility; **Data Source**: Electronic Health Record (Only), Paper Records

This new facility-level outcome measure, #3136, focuses on identifying preventable adverse events as way to improve pediatric patient safety. The measure uses the GAPPS trigger tool to identify adverse events and assesses preventability through a defined clinician review process. The Committee supported the importance of the measure and its potential to evaluate the preventability of adverse events. In a national field test of the measure, the developer found 414 adverse events among the 3,790 hospitalizations reviewed, of which 214 (50.7 percent) were preventable; the Committee agreed this demonstrated a large gap. In reviewing the testing results, the Committee raised concerns about the low sensitivity and noted the learning curve as a threat to validity. The Committee also noted the potential barriers to implementation of the trigger tool in hospitals with limited resources, such as a lack of an integrated electronic health record system, and the burden of the requirements for manual review by clinicians. The Committee raised questions about the utility for hospital-to-hospital comparison, noting the difficulties involved in accounting for the variation in the types of events, notwithstanding that all are judged preventable. Overall, however, the Committee agreed that the measure meets NQF criteria and recommended #3136 for endorsement. During the public comment period, the developer received two comments about definitions and the measure's usability. The developer provided responses to the comments, which are included in Appendix A. The Committee briefly discussed the comments and the developer's response during the post-comment call and agreed that the developer adequately and appropriately addressed the comments. The CSAC voted to endorse the measure at its July 12, 2017, meeting.

3153 Continuity of Primary Care for Children with Medical Complexity (Seattle Children's Research Institute): Endorsed

Description: This measure assesses the percentage of children with medical complexity ages 1 to 17 years old who have a Bice-Boxerman continuity of care index (hereafter referred to as Bice-Boxerman COC index) of >=0.5 in the primary care setting over a 12-month period; **Measure Type**: Structure; **Level of Analysis**: Health Plan; **Setting of Care**: Clinician Office/Clinic; **Data Source**: Claims (Only)

This new health plan-level structural measure, #3153, focuses on identifying children with medical complexity who receive poor continuity of care; the literature documents that a higher continuity of care is associated with better outcomes. Using the Bice-Boxerman continuity of care index, the measure assesses the percentage of children with medical complexity who continually visit the same primary care provider. This index can be used in collaborative care settings and has the ability to account for more than one provider. The developer identified a large performance gap when conducting state-to-state Medicaid plan analyses: A performance score range of 23 to 96 percent was observed in the 17 state Medicaid plans tested, and the Committee agreed that this demonstrated a large gap. Committee members raised concerns about the pass or fail result of the measure, but the developer noted that the evidence supported this designation and allowed for credit to be given to any case where the state sample had a Bice-Boxerman continuity of care index of 0.5 or higher. The Committee had no concerns regarding the measure's usability or feasibility. Overall, the Committee found that the measure met NQF criteria and recommended #3153 for endorsement. The measure received one comment supporting the Committee's recommendation for endorsement. The CSAC voted to endorse the measure at its July 12, 2017, meeting.

3154 Informed Participation (Children's Hospital of Philadelphia): Endorsed

Description: Informed Participation assesses the continuity of enrollment of children in publicly financed insurance programs (Medicaid and CHIP), as defined by the ratio of enrolled month to eligible months over an 18 month observation window. Informed Participation uses a natural experiment based on the random event of appendicitis to "inform" the estimate of coverage in a given state, bounded by two extreme assumptions regarding unknown eligibility information: Coverage Presumed Eligible (PE) and Coverage Presumed Ineligible (PI).; **Measure Type**: Outcome; **Level of Analysis**: Population, State; **Setting of Care**: No Applicable Care Setting; **Data Source**: Claims (Only).

NQF #3154, *Informed Participation*,[a] is a new outcome measure, developed to examine public insurance participation rates and measure continuity of enrollment among vulnerable children—both for federal compliance audits and performance-based incentives, as well as for internal studies concerning vulnerable populations. This state-level, administrative claims-based measure uses children with appendicitis, a randomly occurring event, to demonstrate patterns of coverage and calculate statewide estimates of participation rates. The Committee noted that this information could inform state actions to improve continuous enrollment, including presumptive eligibility, and that having insurance improves access to health services and health outcomes. The developer presented evidence that there was significant variation in continuous enrollment across the country, as well as differential performance based on race and ethnicity. Committee members also noted that, from a plan's perspective, the disenrollment and re-enrollment of Medicaid-eligible children is a costly process. The Committee noted that the use of appendicitis as a tracer resulted in a creative new method of measuring continuous enrollment. While Committee members agreed that this was an important outcome to measure, they were concerned about the measure's ability to discern differences among states, due to the overlap of the 95 percent confidence intervals of the performance scores provided for score-level reliability testing. In addition, significant discussion occurred about the factor of randomness in the measure: Since the

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[a]This measure initially was submitted to NQF under the title *Informed Coverage*, and this measure may be referred to by that name in previously issued documents. The measures are identical: Only the name has changed.

measure is calculated at a random point in time, however, the developer argued that there was limited bias, and the measure would not be affected by temporal churns in coverage. The Committee also expressed concerns about the ability of states to accurately calculate the measure due to the complicated specifications. The Committee believed that the measure would be a useful self-assessment tool for states to improve their coverage rates, but questioned whether this measure could be used for accountability purposes. Overall, the Committee did not reach consensus on Reliability during the in-person meeting, so a vote on an overall recommendation for endorsement was not taken; the measure was put out for comment as "consensus not reached." During the comment period, the developer provided a memo addressing the Committee's questions; materials are included in the [voting memo](#). The Committee discussed and re-voted on Reliability following its discussion of the additional information. During the post-comment call, the measure passed on Reliability, and the overall vote recommended it for endorsement. The CSAC voted to endorse the measure at its July 12, 2017, meeting.

3166 Antibiotic Prophylaxis Among Children with Sickle Cell Anemia (QMETRIC, University of Michigan): Endorsed

Description: The percentage of children ages 3 months to 5 years old with sickle cell anemia (SCA, hemoglobin [Hb] SS) who were dispensed appropriate antibiotic prophylaxis for at least 300 days within the measurement year; **Measure Type**: Process; **Level of Analysis**: Health Plan; **Setting of Care**: Other; **Data Source**: Claims (Only).

The purpose of this new health plan-level process measure is to assess the percentage of children, ages three months to five years with sickle cell anemia (SCA) who received appropriate antibiotic prophylaxis. Children with SCA are at an increased risk of infection compared with children without the disorder, and daily receipt of antibiotic prophylaxis substantially reduces the risk of infection among these high-risk children. The Committee supported the importance of the measure and its potential to improve high-quality care by reducing the burden of preventable pneumococcal infections, which carry serious risk. There was consensus among Committee members that broad variation in performance among state Medicaid plans existed, as well as low levels of performance overall. No concerns were raised about the reliability and validity testing, although the Committee discussed concerns regarding the number of claims needed to identify SCA patients for inclusion, the need to exclude patients with comorbid conditions, whether care that occurs out of state was included, and the limitations of pharmacy claims data if incomplete. The developer was able, however, to address all of these issues to the Committee's satisfaction. Though the measure addresses care for a relatively small population, the Committee agreed that the measure could lead to significant improvement in health outcomes for these children, including a reduction in mortality. Overall, the Committee found this measure to be highly feasible and useable (especially for Medicaid), and recommended measure #3166 for endorsement. This measure received two comments, one supporting and the second supporting the concept, but urging the development of similar measures at the clinic/system levels. The Committee agreed that this is a gap area and added the topic to the list of pediatric measure gaps. The CSAC voted to endorse the measure at its July 12, 2017, meeting.

Measures Not Recommended

3189 Rate of Emergency Department Visit Use for Children Managed for Identifiable Asthma - Visits per 100 Child Years (Collaboration for the Advancement of Pediatric Quality Measures, University Hospitals Cleveland Medical Center): Not Recommended

Description: This measure estimates the rate of emergency department visits for children ages 2 - 21 who are being managed for identifiable asthma, using specified definitions. The measure is reported in visits per 100 child-years; **Measure Type**: Outcome; **Level of Analysis**: Population: Community, County or City, Health Plan, Population: Regional and State; **Setting of Care**: Hospital: Acute Care Facility, Emergency Department, Hospital, Other; **Data Source**: Claims (Only), Claims (Other)

This new outcome measure—originally submitted to the Pulmonary Project as #2794 and now revised and resubmitted under a new number—estimates the rate of emergency department (ED) visits for children ages 2-21 who are being managed for identifiable asthma, as identified by specified definitions. It is a population- and health plan-level outcome measure based on the rationale that accessible, high-quality primary care reduces the need for ED visits for persistent asthma, which are an undesirable outcome. Committee members agreed that asthma is a serious condition, that many ED visits are preventable, and that the link to the evidence for the measure is strong. However, they also noted that asthma is strongly influenced by environmental and social factors out of the control of providers or plans, and that there are some ED visits that would only be preventable with social interventions; therefore, asthma outcomes cannot solely be attributed to the care provided. Committee members generally agreed that there is evidence of disparities in care, and the developer's testing found differences in performance by race, urbanity, and quartile of poverty. The Committee concluded, however, that the testing information submitted during the measure submission period was insufficient to meet NQF's minimum standards, and the measure did not pass Reliability. The Committee agreed to re-review measure #3189 during the post-comment call after the developer provided additional information[b] and comments were received. On the Committee's May 31, 2017, post-comment call, the developer requested reconsideration on the grounds of providing additional testing information; materials are included in the [voting memo]. The Committee reviewed the new materials prior to the call and, after discussion, agreed they were not sufficient to address the concerns about Validity. The Committee voted not to reconsider the measure.

2816 Appropriateness of Emergency Department Visits for Children and Adolescents with Identifiable Asthma (Collaboration for the Advancement of Pediatric Quality Measures, University Hospitals Cleveland Medical Center): Not Recommended

Description: This measure estimates the proportion of emergency department (ED) visits that meet criteria for the ED being the appropriate level of care, among all ED visits for identifiable asthma in children and adolescents. **Measure Type**: Outcome; **Level of Analysis**: Facility, Health Plan; **Setting of Care**: Emergency Department, Hospital; **Data Source**: Claims (Only), EHRs Hybrid, Paper Records

This new outcome measure—originally submitted to the Pulmonary Project and now revised and resubmitted—estimates the proportion of emergency department (ED) visits that meet criteria for the

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[b] The developer provided additional testing data on the day of the meeting, which did not allow the Committee time to review it. These data and the additional analyses requested by the Committee during the meeting were discussed on the post-comment call.

ED being the appropriate level of care, among all ED visits for identifiable asthma in children and adolescents; it is intended to find failures of the primary care system in treating asthma. The Committee agreed that there are modifiable processes that can influence the outcome (appropriate ED visits for asthma), but noted that the measure does not account for factors outside the control of the plan, such as medication compliance. Committee members also noted that this is a system-function measure, but raised concerns that the measure's construction makes "appropriateness" a problem for the ED to solve. Ultimately, however, the Committee recognized that, as a plan-level measure, there are things a plan can do to reduce inappropriate ED visits—e.g., increasing access and compliance to asthma medications and improving access to primary care. Committee members agreed that there is a gap in care and disparities; the developer's testing data found that Hispanic children and uninsured children had higher rates of questionable ED use. The Committee raised significant concerns with the testing and construction of the measure and the appropriateness criteria. Specifically, the measure was tested in only one hospital, making it difficult to discern meaningful differences among institutions, and not all critical data elements related to appropriateness were tested. The Committee also noted that the measure specifications permit variable use of pharmacy data, as available. Measure #2816 did not achieve consensus on Evidence and did not pass Validity and was not recommended for endorsement. One comment was received on this measure, which did not support the Committee's decision. Prior to the Committee's May 31, 2017, post-comment call, the developer requested reconsideration on the grounds of providing additional testing information. The Committee reviewed the new materials prior to the call and, after discussion, agreed that they did not address the concerns about Evidence nor Validity. The Committee voted not to reconsider the measure.

3219 Anticipatory Guidance and Parental Education (Child and Adolescent Health Measurement Initiative, Johns Hopkins Bloomberg School of Public Health (CAHMI)): Not Recommended

Description: This measure is used to assess the degree to which pediatric clinicians discussed key recommended anticipatory guidance and parental education (AGPE) topics. Necessarily, anticipatory guidance questions vary by child age. Anticipatory guidance for children ages 0-9 months includes 15 questions. Anticipatory guidance for children ages 10-18 months includes 16 questions; and anticipatory guidance for children ages 19-48 months includes 16 questions; **Measure Type**: Outcome: PRO; **Level of Analysis**: Clinician: Individual; **Setting of Care**: Clinician Office/Clinic; **Data Source**: Other

This new clinician-level patient-reported outcome performance measure (PRO-PM), based on data from the Promoting Healthy Development Survey, assesses the degree to which pediatric clinicians discussed age-appropriate, recommended anticipatory guidance and parental education (AGPE) topics within the domains of physical health, behavior/language/learning, and injury prevention. While some members of the Committee agreed that there are actions providers can take to affect the outcome, many were uncomfortable with the attribution issues, noting that the survey questions used in the measure ask if the topics were discussed "in the last 12 months," and the results sent to the provider may not actually assess care provided, nor actions taken, by the individual being measured. Given this concern, they were uncomfortable with the potential use of this measure for provider-to-provider accountability comparisons. Committee members also noted that the measure relies on parental recall, yet the measure does not specify when after the visit the survey should be sent or how long it should be open to accept data, and felt that this raised serious reliability and validity issues. Ultimately, after extensive

discussion and a re-vote once the attribution issues were clarified by the developer, #3219 did not pass Evidence and was not recommended for endorsement.

3220 Ask About Parental Concerns (CAHMI): Not Recommended

Description: This measure is used to assess the proportion of children whose parents were asked by their child's health care provider if they have concerns about their child's learning, development and behavior; **Measure Type**: Outcome: PRO; **Level of Analysis**: Clinician: Individual; **Setting of Care**: Clinician Office/Clinic; **Data Source**: Other

This new clinician-level PRO-PM, based on data from the Promoting Healthy Development Survey, assesses whether parents are asked about their concerns during primary care visits. Committee members noted that primary care providers should ask about parental concerns at every visit, and that a primary care provider should ensure that someone in the practice is asking this question during every well-child visit. The Committee agreed that the outcome can be influenced by providers, but as with #3219, it was concerned about survey timing, construction, and attribution—i.e., that the survey may be sent after the 15-month visit, yet the question refers to the last 12 months and any provider seen, thus potentially confounding the results. The Committee did not reach consensus on Evidence, but did agree there was a gap in performance, since the developer's testing data demonstrated that nearly half of parents do not report being asked this question. As with #3219, the Committee raised significant concerns about reliability, specifically around timing of the survey and the lack of specificity in the administration of the measure, as well as about validity, namely whether the measure demonstrated that parents were actually answering about what happened in a particular practice as opposed to care received in other venues. Measure #3220 did not pass Reliability and was not recommended for endorsement. One comment was received, acknowledging the importance of eliciting parental concerns, but suggesting other measure concepts at the clinic/system levels. The concepts were added to the list of gaps.

3221 Family Centered Care (CAHMI): Not Recommended

Description: This measure is used to assess the average percentage of recommended aspects of family-centered care (FCC) regularly received by the parent from the pediatric clinician. Topics specifically focus on the following components of FCC:
(1) whether the health care provider understands specific needs of child and concerns of parent;
(2) builds confidence in the parent;
(3) explains things in a way that the parent can understand; and
(4) shows respect for a family's values, customs, and how they prefer to raise their child; **Measure Type**: Outcome: PRO; **Level of Analysis**: Clinician: Individual; **Setting of Care**: Clinician Office/Clinic; **Data Source**: Other

This new clinician-level PRO-PM, based on data from the Promoting Healthy Development Survey, assesses four components of family-centered care. The Committee noted that the survey questions presented were conceptually similar to the previous survey questions discussed in #3220 *Ask About Parental Concerns*. The Committee raised questions similar to measures #3219 and #3220, i.e., the limited ability to attribute measure results to a single provider. The Committee noted that, for this particular set of questions, it would be difficult for a physician to receive the measure results and understand how to improve performance since, the results may be based on the actions of another

provider. Measure #3221 did not pass Evidence and was not recommended for endorsement. One comment was received, reiterating the importance of family-centered care, but agreeing with the Committee that it is more appropriately measured at the clinic or system levels, given that family-centered care often involves the entire care team.

3222 Assessment of Family Alcohol Use, Substance Abuse and Safety (CAHMI): Not Recommended

Description: This measure is used to evaluate the proportion of children whose parents reported being assessed for one or more of the recommended topics regarding alcohol use, substance abuse, safety, and firearms in the home; **Measure Type**: Outcome: PRO; **Level of Analysis**: Clinician: Individual; **Setting of Care**: Clinician Office/Clinic; **Data Source**: Other

This new clinician-level PRO-PM, based on data from the Promoting Healthy Development Survey, assesses the proportion of children whose parents reported being assessed for one or more of the recommended topics regarding alcohol use, substance abuse, safety, and firearms in the home. The Committee noted that this measure was similar in content and structure to #3219, #3220, and #3221, raising the same concerns about attribution and the ability of the measured physician to affect results. The Committee also questioned why #3222 and #3223 were split into different measures, because these kinds of questions are typically asked together in clinical practice. The developer clarified that #3223 was intended to focus on psychosocial screening and emotional well-being versus other environmental factors. The measure did not pass Evidence and was not recommended for endorsement.

3223 Assessment of Family Psychosocial Screening (CAHMI): Not Recommended

Description: This measure is used to assess the proportion of children whose parents were assessed by a health provider on one or more of the recommended psychosocial well-being topics, including depression, emotional support, changes or stressors in the home, and how parenting is working; **Measure Type**: Outcome: PRO; **Level of Analysis**: Clinician: Individual; **Setting of Care**: Clinician Office/Clinic; **Data Source**: Other

This new clinician-level PRO-PM, based on data from the Promoting Healthy Development Survey, assesses the proportion of children whose parents were assessed by a health provider on one or more of the recommended psychosocial well-being topics, including depression, emotional support, changes or stressors in the home, and how parenting is working. The Committee found that this measure was similar in construct and evidence to the other related measures (#3219, #3220, #3221, and #3222) previously discussed and raised the same concerns about attributing results to the measured clinician, thereby confounding the impact of interventions for improvement. As with those measures, #3223 did not pass Evidence and was not recommended for endorsement.

Comments Received After Committee Evaluation

After the Committee's evaluation of the 11 measures, NQF solicited comments on the draft report via an online tool from April 12 to May 11, 2017. During this period, NQF received 11 comments from four organizations. The comment themes included support for Committee recommendations, suggestions for additional gap areas, and measure-specific comments.

Theme 1 – Support for Committee Recommendations

Five comments offered support for the Committee's endorsement recommendations, both for decisions to recommend endorsement and not to recommend endorsement. These comments provided support for the Committee's recommendations on measures #3153, #3166, #3220, and #3221. Commenters agreed with the Committee's decision not to recommend #3220 *Ask About Parental Concerns* and #3221 *Family Centered Care*, noting that despite the clear importance of these topics, there is "difficulty in attributing outcomes within these areas to specific providers and experiences." Two commenters supported the Committee's decision to recommend #3166 *Antibiotic Prophylaxis Among Children with Sickle Cell Anemia*, and one commenter supported the Committee's recommendation to endorse measure #3153 *Continuity of Primary Care for Children with Medical Complexity*.

> **Committee Response:** Thank you for providing these comments.

Theme 2 – Gaps for Future Measure Development

Commenters identified several measure gap areas for consideration by the Committee. Specifically, they suggested gaps could be addressed by the following clinic-/system-level measure concepts:

- Defining parental strengths and needs within a practice site
- The identification of a team to work together to plan and test improvements in providers' ability to elicit parental strengths and needs within a practice site
- Integrating tools (e.g., process flows, prompts, and reminders) into practice flow to support the engagement of parents
- Clinic-/systems-level measures that offer more specificity about appropriate antibiotic prophylaxis in children with sickle cell anemia

> **Committee Response**: Thank you for providing these comments. These gaps have been added to the list of measure gaps.

Measure-Specific Comments

Comments about individual measures, along with the Committee and developer responses, are provided in Appendix A as part of the discussion for each measure.

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Appendix A: Details of Measure Evaluation

Rating Scale: H=High; **M**=Moderate; **L**=Low; **I**=Insufficient; **NA**=Not Applicable; **Y**=Yes; **N**=No

Endorsed Measures

3136 GAPPS: Rate of Preventable Adverse Events per 1,000 Patient-Days Among Pediatric Inpatients

Submission **|** Specifications

Description: GAPPS is a measure of the number of preventable adverse events per 1,000 patient-days among pediatric inpatients. It is designed to compare rates across institutions and over time. The GAPPS measure utilizes the GAPPS trigger tool to identify adverse events.

Numerator Statement: The number of preventable adverse events found in a patient sample.

Denominator Statement: The denominator is 1,000 patient-days for all sampled pediatric patients who meet inclusion, but not exclusion, criteria.

Exclusions: N/A

Adjustment/Stratification: Statistical risk model Stratification is not required within institutions. However, if desired, quality improvement teams may choose to stratify preventable adverse event rates. Variables commonly used to stratify outcome measures include service (e.g., medical versus surgical), department (e.g., cardiology, neurology, etc.), and patient safety focus area (e.g., healthcare-associated infections).

For comparisons between institutions, preventable adverse event rates should be stratified by teaching versus community hospitals due to differences in types (e.g., complexity) of patient populations

Level of Analysis: Facility

Setting of Care: Hospital : Acute Care Facility

Type of Measure: Outcome

Data Source: Electronic Health Record (Only), Paper Records

Measure Steward: Center of Excellence for Pediatric Quality Measurement

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STANDING COMMITTEE MEETING [03/02/2017]

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence, 1b. Performance Gap)

1a. Evidence: **21-Pass; 1-No Pass;** 1b. Performance Gap: **16-H; 6-M; 0-L; 0-I**

Rationale:
- The developer noted the intent of the measure is to provide a method to identify events so that hospitals can use the results to prioritize patient safety improvement efforts.
- While there is limited evidence directly pertaining to the pediatric population, the Committee took note of evidence that a similar adult measure for the adult population effectively identified and reduced preventable adverse events.

- For medication-related events, the Committee noted there is a greater risk of dose-related errors in the pediatric population, so the ideal evidence would be from studies completed in the pediatric population; the Committee recognized, however, the limitations of the available evidence.
- The developer agreed with the Committee member that the measure focuses on in-patient admissions as a way to keep implementation of the measure consistent across care settings.
- The Committee agreed there is a gap: No pediatric tool or measure currently exists to measure preventable adverse events, and there are significant numbers of such events, which vary by measured entity. In the testing sample of 16 hospitals, 414 adverse events were identified and 214 (50.7%) were preventable. Compared to community hospitals, academic hospitals had higher preventable harm rates (13.1 [CI 11.4-15.2] vs. 2.4 [CI 1.5-3.8] AEs/1,000 patient days, $p<0.001$).
- The developer identified disparities gaps in the occurrence of an adverse event based on race/ethnicity, the number of chronic conditions, and insurance status.

2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u>

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **N/A-H; 16-M; 6-L; 0-I** 2b. Validity: **N/A-H; 16-M; 6-L; 0-I**

<u>Rationale</u>:

- From a literature review and an appropriateness panel using the RAND approach, the developer created a draft list of 54 candidate triggers. The developer noted that no gold standard exists. The panel assessed the relationship between each trigger and risk of an adverse event, the feasibility to extract data from medical record, and if panel members believed it was a valid trigger. The developer then tested the list in the national field test and found the list to be appropriate. Based on the testing, the developer recommends a sampling 60 charts per quarter/20 per month across the institution and then using a random number generator to select 25 charts.
- The Committee also raised concerns about diagnostic errors, since the trigger tool would not be able to identify the diagnostic error. The developer agreed with the Committee and noted that the measure is more appropriate for analyzing errors of commission.
- A Committee member inquired about the exclusion of patients who are in the hospital less than 24 hours and noted it is possible for a patient to have a high-risk procedure and be discharged within that time frame. The developer agreed with the importance of identifying adverse events for short term stays, but explained that in order to define the measure and keep it consistent across institutions, it decided to focus this measure on identifying adverse events for inpatients.
- The Committee discussed the threat to reliability due to the learning curve involved in training a reviewer. Validity testing found low sensitivity of new reviewers in comparison to expert reviewers, but their scores improved over time. Based on the testing experience, the developer expanded and extended the educational materials for reviewers; the developer also suggests a ramp-up period for implementation as reviewers learn to review charts.
- In response to a question, the developer clarified that the specifications include urinary tract infections and other hospital-acquired infections, as well as severe mental health conditions, but not admissions to less-than-acute care (such as newborn nurseries, rehab, or chronic psychiatric care). The developer agreed that emergency department patients are an important safety population, but stated they were not within the scope of this measure.

- In response to a question, the developer noted that other voluntary reporting systems only identify 2-10 percent of what the GAPPS tool identifies.
- A Committee member asked if minor events were equated to major events. The developer responded that the measure uses the National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP) scale to rate events to distinguish the severity of events in reporting results.
- The Committee noted the potential issues when using the measure to compare academic versus community hospitals. The developer recommended stratification to account for patient population differences in academic versus community hospitals.
- In response to a question, the developer clarified that patients who are transferred from another institution are not included in the measure to avoid potential mis-assignment of an adverse event and resultant unintended public reporting consequences: The measure score of hospitals with many transferred patients could be negatively impacted if transfer patients were included.
- A Committee member asked for clarification for differences in testing between community hospitals and academic hospitals. The developer responded that testing had been done in the two different settings to test the functionality of the measure, and the measure functioned well in both.
- The developer noted that the automated trigger list contained more triggers than the manual trigger list. However, it explained that the additional automated triggers are less frequent or are based on laboratory values, which would be too burdensome to screen for manually. Testing was conducted at institutions using the manual approach.
- The developer cited a 2007 study examining hospitals without fully integrated electronic health record (EHR) system and found the function of the measure was equivalent to a hospital with a fully integrated EHR.

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3. Feasibility: 1-H; 15-M; 5-L; 1-I

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)

Rationale:

- The Committee raised concerns about the number of physicians involved in the review and the time burden. The developer clarified the specifications require that registered nurses conduct the first level of review and physicians the second level, which assesses preventability of the event. The developer estimates physicians would spend a minimum of four hours a year; Committee members emphasized the time spent reviewing the adverse events was a valuable opportunity for physicians to learn more about the safety vulnerabilities at their facility.
- The developer noted it provides training materials without cost and opined that the actual time commitment was low. The training program consists of five one-hour videos and a small amount of homework/case practices. In response to a question, the developer stated it does not currently have specific follow-up or additional training for poor reviewers.
- The Committee raised concerns about the use of the tool in hospitals with no electronic system, or electronic systems where automated trigger screening is not yet possible. The developer responded that an integrated electronic health record system made the process easier, but the measure was created to be, and is still, feasible with manual review. The developer noted that the measure is designed to be manually administered and was tested as such. Hospitals without electronic health records systems will be able to implement the measure.

- In response to questions, the developer explained the ability to automate screening helps to improve efficiency, but it is possible to do the needed chart review manually.

4. Usability and Use: 0-H; 10-M; 11-L; 1-I

(Used and useful to the intended audiences for 4a. Accountability and Transparency; 4b. Improvement; and 4c. Benefits outweigh evidence of unintended consequences)

Rationale:

- The Committee noted the measure is meaningful for internal quality improvement, but could have several unintended consequences if used in hospital-to-hospital comparisons and public reporting. Specifically, facilities that do a good job of documenting and reporting are penalized, whereas under-reporting (intentionally or due to poor training) rewards facilities. It also noted the difficulties involved in accounting for variation in patient populations.
- The Committee did not reach consensus on usability and use, but this is not a must-pass criterion.

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: 14-Y; 8-N

Rationale

- The Committee agreed this measure meets the NQF criteria for endorsement.

6. Public and Member Comment: April 12-May 11, 2017

One commenter provided specific questions regarding several of the measure's specifications and suggested updates intended to clarify automated triggers to increase the specificity and clarity of the measure specifications. Another commenter did not support the endorsement of this measure, noting that implementing the measure might be difficult and require excessive resources, and suggested that the tool lacks validity in identifying adverse events. The developer responded to each comment and question separately.

Developer Response 1:

- Trigger: Consider rewording to "Hepatotoxic medications and RISING liver enzymes (AST, ALT)"
  - Thank you for the suggestion. A consideration here is that if there were not previous hepatic enzyme measurements and the first measurement showed elevated enzymes, this would need to be investigated. If this were written to only include those that are rising (therefore requiring a previous lower value), the process might miss a possible hepatoxic injury. Therefore our preference is to retain the language as "elevated."
- Please explain how "Physician orders: Abrupt medication stop" is defined in the automated trigger tool? Most medication stops are abrupt (with rare exceptions like steroid weans or PCA infusions)
  - The definition in our Manual of Operations reads as follows, "An abrupt medication stop is best described as an unexpected stop or deviation from typical ordering practice (e.g., discontinuation of a recently started medication)." Since this type of clinical decision

making may be challenging to automate, it is not recommended for electronic trigger review.

- Please define "Transfer to higher level of care" more specifically. Many hospitals have observation units where most patients go home, but some patients are admitted to the floor (higher level of care) after a specified time.
  - The definition from our Manual of Operations reads as follows, "All transfers from an acute care area to an intensive care unit or intermediate care unit ("step-up unit") should be considered a trigger." Therefore the scenario presented in the comment would not meet the defined criteria.
- Consider changing Pressure ulcer documentation to ">= Stage 2" instead of just stage 2.
  - Thank you for identifying this discrepancy. This was a typographical error and should read as you suggest. During our testing, the reviewers were instructed to investigate exactly as is suggested by the comment, meaning all pressure injuries Stage 2 and higher and unstageable. We will edit the relevant documents to reflect this change.
- Many places will start patients on laxatives simultaneously with opioids, but patients will still get constipated. Would this qualify as a trigger, or is it only a trigger if laxatives are started after (e.g. >=24 hours after) opioids are started? Latter would be more specific, less sensitive.
  - Thank you for pointing out this ambiguity. We agree that excluding cases where laxatives are introduced concurrently (<24 hours after) with opioids is reasonable. The trigger is looking at cases where laxatives were given subsequent to the initial prescription of opioids (>=24 hours after). We will edit the relevant documents to reflect this change.
- Consider adding "positive coagulase-negative staphylococcus species blood culture" as a trigger for review; per algorithm, it should have a higher than 10% rate of being a true contaminant (i.e., an adverse event).
  - Thank you for this comment. Since we currently look at a more broadly based trigger (positive blood culture 48 hours after admission), all of the occurrences of the suggested trigger would be included in the trigger as written. We hesitate to insert a new trigger into the recently reviewed tool at this stage.
- Please clarify the denominator of whether a partial day counts as a day. For example, is 1.5 days = 2 days or 1.5 days? What is the start and stop time for determining LOS duration (e.g. start of: time of arrival to floor, time of admission from ED; end of: time of discharge order, time of leaving hospital?)
  - Length of stay is calculated as the number of days (discharge date minus admit date). For example, a patient who arrives at 4am on May 17th and is discharged at 4pm on May 18th has a length of stay of 1.0 day. However, a patient who arrives at 10pm on May 17th and is discharged at 10am on May 19th has a length of stay of 2.0 days. Start and stop times were not used to determine length of stay duration, only admit and discharge date.
- Step 2: Line 4. Please describe whether the unit of study (whether entire hospital, division, etc.) should remain stable over time.
  - Thank you for the opportunity to clarify. We would suggest that the unit of interest remain stable over time.

Developer response 2:
- We would like to thank Dr. Austin for his comments. As the measure is implemented, the resource burden, while not trivial, should be manageable while providing a great deal of benefit in terms of increased safety events identified. The primary reviewer, typically an experienced

nurse, is asked to perform chart review quarterly on 60 patient records per quarter with a limit of 30 minutes per chart. This would represent a total of 30 hours per quarter or 10 hours per month or 2.5 hours a week. The secondary reviewer, typically a physician, reviews the primary reviewer's findings. Assuming a high rate of harm or 33 events per 100 admissions, this would be 20 events to review each quarter. During validation testing, our physician team required on average 4 minutes per chart to review. Therefore, the typical time burden on the secondary reviewer would be approximately 80 minutes per quarter. Based on the frequency of events and the resources required, it is our view that the benefit of this modest resource requirement would far outweigh the burden.

In regards to validity, we developed the draft trigger tool used in the GAPPS measure through the RAND/UCLA Appropriateness Method, which is a modified Delphi process.(1–3) We first compiled a set of 78 candidate triggers from a literature review of existing pediatric and adult trigger tools and input from trigger tool experts.(4–6) We then recruited nine panelists from national pediatric and patient safety organizations and asked them to rate separately the validity and feasibility of the candidate triggers on a nine-point scale (where 1 is the least valid/feasible and 9 is the most valid/feasible). A trigger was considered valid if it was judged to be reasonably likely to identify an underlying AE, indicating that harm potentially occurred. A trigger was considered feasible if it was judged likely to be accurately and consistently documented in either paper or electronic medical records as part of patient care at a wide range of hospitals, from smaller community sites to larger tertiary care centers. Applying the RAND/UCLA Appropriateness Method, we accepted triggers that had both median validity and feasibility ratings greater than or equal to seven. This approach resulted in inclusion of 54 of the initial 78 candidate triggers in the draft GAPPS trigger list.

We focused our validity testing on evaluation of how accurately and completely "typical reviewers" (i.e., clinicians who are trained in GAPPS methodology but not necessarily trigger tool experts) were able to identify preventable AEs using the measure as compared to expert reviewers. The expert reviewers had extensive experience with using trigger tools for preventable AE identification and consequently were most likely to identify preventable AEs accurately and completely. To evaluate the validity of the GAPPS measure, we assessed the performance of the National Field Test hospitals' internal reviewers relative to the performance of external expert reviewers in applying the measure (as documented in our NQF submission materials).

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Committee Response:

- Thank you for providing these comments on measure #3136. The Committee discussed the measure specifications and validity during the in-person meeting. The Committee did note that that the highest possible score for Reliability was a moderate, since the measure is tested at the data-element level only; the highest possible score for Validity also is moderate, since validity testing is patient-level data element. Overall, the Committee determined that the measure, as specified and tested, offered sufficient validity for endorsement and did not wish to reconsider the measure.

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7. Consensus Standards Approval Committee (CSAC): July 12, 2017

Vote to Uphold Committee Recommendation: Y-14; N-0

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8. Appeals

- No appeals received.

3153 Continuity of Primary Care for Children with Medical Complexity

Submission **|** Specifications

Description: This measure assesses the percentage of children with medical complexity age 1 to 17 years old who have a Bice-Boxerman continuity of care index (hereafter referred to as Bice-Boxerman COC index) of >=0.5 in the primary care setting over a 12-month period.

Numerator Statement: Number of eligible children(1) who have a Bice-Boxerman COC index >=0.50 in the primary care setting during the measurement year.

1. Eligible children are defined as children who are continuously enrolled for 12 months with no more than a 30-day gap in enrollment. Children with a gap greater than 30 days are excluded because of the potential for them to be enrolled in a different health plan at that time. In such cases, the child's administrative data for the health plan being measured would be incomplete and thus might not reflect the health plan's true performance on the measure. The timeframe of 30 days as the length of the gap was chosen to be consistent with the month-to-month eligibility assessments used by many Medicaid health plans.

Denominator Statement: Children with medical complexity(1) who are 1-17 years old(2) and who have had >= 4 primary care visits(3) during the measurement year.

1. Children with medical complexity are defined as children who are classified by the Pediatric Medical Complexity algorithm, Version 2 (PMCA-V2) as having no chronic illness or non-complex chronic illness.

2. Children must be >=1 year and <=17 years of age on the last day of the measurement year.

3. Research has shown that stability of the COC index increases as the number of visits increases (ie. less subject to significant change as a result of minor variations in care dispersion).(1) We therefore established a minimum of four visits as has been done in previous studies.(1-3)

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3. Tom JO, Tseng C-W, Davis J, Solomon C, Zhou C, Mangione-Smith R. Missed well-child care visits, low continuity of care, and risk of ambulatory care-sensitive hospitalizations in young children. Arch Pediatr Adolesc Med. 2010; 11:1052-1058.

Exclusions:

Adjustment/Stratification: No risk adjustment or risk stratification N/A, no stratification is recommended.

Level of Analysis: Health Plan

Setting of Care: Clinician Office/Clinic

Type of Measure: Structure

Data Source: Claims (Only)

Measure Steward: Seattle Children's Research Institute

STANDING COMMITTEE MEETING [03/02/2017]

1. Importance to Measure and Report: <u>The measure meets the Importance criteria</u>

(1a. Evidence, 1b. Performance Gap)

1a. Evidence: **3-H; 17-M; 2-L; 0-I**; 1b. Performance Gap: **9-H; 13-M; 0-L; 0-I**

<u>Rationale</u>:

- The developer conducted a literature review of continuity of care and found an association between continuity of care and better outcomes in multiple pediatric studies. The Committee noted that the tool was developed in 1977, and the evidence cited only uses this one tool.
- Since the measure relies on administrative claims data, a Committee member raised concerns about the use of the Bice-Boxerman Index in a collaborative care setting. The developer noted that the index accounts for patients seeing the same primary care clinician (physician, nurse practitioner, physician's assistant) several times, in addition to seeing two primary care clinicians multiple times.
- The specifications require a minimum of four visits for a patient to be included. The developer noted that this is due to evidence demonstrating that the Bice-Boxerman Index is less stable if less than four visits are used.
- The Committee agreed there was evidence to support the measure.
- The developer reported that performance across 17 state Medicaid plans varied from 23% to 96%. Fee-for-service states and combination fee-for-service and managed care states were accounted for in the gap analysis and testing. Since MAX data are often incomplete with respect to managed care data, the developer acknowledged that it is possible that the variation in state scores could be attributed to the lack of information in states with higher managed care utilization. Nevertheless, the Committee concluded that a gap in care exists.

2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u>

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **5-H; 14-M; 2-L; 1-I**; 2b. Validity: **1-H; 17-M; 4-L; 0-I**

<u>Rationale</u>:

- Validity and reliability testing used a 2008 Medicaid analytic extract for 17 Medicaid plans from MAX data. Testing was performed using the ICD-9 specifications, but the developer stated an ICD-10 version will be available in the near future.
- In response to a question, the developer explained that the measure was tested for state Medicaid health plans; testing using commercial health plan data was not conducted.
- A Committee member raised validity concerns about the categorization of the measure's result as either pass or fail for continuity of care. The Committee member inquired if the complexities involved in continuity of care could be captured using a binary result. The developer noted that the evidence indicated a Bice-Boxerman index score of >=0.5 resulted in better outcomes and that in its study, the mean score was 0.65. The developer stated it had not identified issues with the pass/fail construct.
- In response to a question, the developer responded that, due to the incompleteness of 2008 MAX data and poor definition of pediatric ambulatory care-sensitive hospitalizations, it did not look at hospitalizations.

3. Feasibility: 8-H; 14-M; 0-L; 0-I

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)

<u>Rationale</u>:

- The Committee concluded that implementation is feasible: Electronic claims data are readily accessible and the developer makes the SAS code to compute the measure publicly available.
- In response to a question from a Committee member, the developer stated that the provided SAS code was applicable to commercial claims.

4. Usability and Use: **1-H; 16-M; 5-L; 0-I**

(Used and useful to the intended audiences for 4a. Accountability and Transparency; 4b. Improvement; and 4c. Benefits outweigh evidence of unintended consequences)

<u>Rationale</u>:

- A Committee member noted the measure lacks the ability to measure the quality of the visits.
- A Committee member noted this measure will help encourage continuity at the organizational and plan levels.
- It also was noted that the goal of the measure is not to incentivize patients to have more visits, but to identify if individuals who are high utilizers have continuity in their care.

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: 17-Y; 5-N

Rationale

- The Committee agreed this measure meets the NQF criteria for endorsement.

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6. Public and Member Comment: April 12-May 11, 2017

- One comment was received supporting the endorsement of this measure.

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7. Consensus Standards Approval Committee (CSAC): July 12, 2017

Vote to Uphold Committee Recommendation: Y-14; N-0

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8. Appeals

- No appeals received.

3154 Informed Participation[a]

Submission **|** Specifications

Description: Improved measurement of the continuity of insurance coverage in the Medicaid and CHIP population is needed to help maximize insurance continuity and coverage for vulnerable children. To further this goal, the AHRQ-CMS CHIPRA PQMP Center of Excellence at the Children's Hospital of Philadelphia developed the metric Informed Coverage. The metric is designed to more accurately measure coverage among children enrolled in Medicaid or CHIP at the state level and overcome the current inability in the Medicaid Analytic eXtract (MAX) dataset to determine whether a child disenrolled from Medicaid and CHIP due to loss of eligibility (such as due to parental income increase or the acquisition of employer-sponsored insurance, a "good" reason) or failure to appropriately re-enroll (a "bad" reason). This measure can help federal and state programs develop strategies to retain children eligible for coverage and minimize gaps that can occur during the renewal process. Informed Coverage assesses the continuity of enrollment of children in publicly financed insurance programs (Medicaid and CHIP), as defined by the ratio of enrolled month to eligible months over an 18 month observation window. Informed Coverage uses a natural experiment based on the random event of appendicitis to "inform" the estimate of coverage in a given state, bounded by two extreme assumptions regarding unknown eligibility information: Coverage Presumed Eligible (PE) and Coverage Presumed Ineligible (PI).

Numerator Statement: The numerator for Informed Coverage represents the sum (within a state) of months enrolled in Medicaid/CHIP for all children over an 18-month window.

Denominator Statement: The sum (within a state) of months eligible for Medicaid/CHIP for all children (0-18 years) over an 18-month window. In addition, months that could be defined as "eligible" are based on known events recorded in the MAX data that would affect eligibility (birth or ageing out).

Exclusions: For the appendicitis calculation, the population is limited to children between the ages of 2 to 16 years old. To determine what is the best assumption to use (either the Appendectomy Coverage Rate (or ACR), PI, or PE) inside each state, we compare the observed appendectomy coverage rate in a

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[a] Previously named *Informed Coverage*

state, to the estimated coverage rate that would be calculated in that state with either PI, or PE assumptions.

Adjustment/Stratification: No risk adjustment or risk stratification

Level of Analysis: Population : Regional and State

Setting of Care: No Applicable Care Setting

Type of Measure: Outcome

Data Source: Claims (Only)

Measure Steward: The Children's Hospital of Philadelphia

STANDING COMMITTEE MEETING [03/02/2017]

1. Importance to Measure and Report: <u>The measure meets the Importance criteria</u>

(1a. Evidence, 1b. Performance Gap)

1a. Evidence: **23 -Pass; 0-No Pass**; 1b. Performance Gap: **10-H; 11-M; 1-L; 0-I**

<u>Rationale</u>:

- This measure provides states with information about participation of children in state insurance programs over an 18-month period. Using this information, states can take action to improve continuous enrollment, including presumptive eligibility. Research demonstrates that continuous enrollment improves access to healthcare services and health outcomes.
- Committee members also noted that, from a health plan perspective, the disenrollment and re-enrollment of Medicaid-eligible children is a costly process.
- The measure uses the random event of appendicitis – which is unrelated to any care received or not received – to assess whether children have insurance coverage at a given point in time (exactly four months before the date they are diagnosed, to cover instances of back enrollment).
- The Committee agreed that the use of appendicitis as a tracer resulted in a creative new measure that addresses the issue of assessing access and continuous enrollment.
- A Committee member suggested renaming the terms used in the specifications to "coverage presumed maximally eligible" and "coverage presumed minimally eligible" to clarify the measure.
- The developer presented evidence that variation exists in continuous enrollment for 43 states, and that disparities occur among racial and ethnic groups. The Committee agreed that a gap exists.

2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u>

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: Original vote: **1-H; 11-M; 9-L; 3-I (consensus not reached);**

Re-vote on post-comment call: **1-H; 14-M; 3-L; 0-I**

2b. Validity: **0-H; 17-M; 6-L; 0-I**

<u>Rationale</u>:

- The measure is based on administrative claims data, and the level of analysis is state or region.
- The Committee expressed concern about whether the measure could be used for accountability purposes, given the difficulty in differentiating scores among states, most of which appeared to

have overlapping confidence intervals (CIs) in the score-level reliability testing results—i.e., there were concerns that the measure score could not distinguish whether one state performed better than another in a significant number of cases. The developer responded that while some states had large CIs (small states like Hawaii and Delaware), at least half of the states did not overlap. One Committee member noted the strength of demonstrating the CIs in this manner, stating that it makes the uncertainty and margins of error clear and explicit, where as other measures do not clearly document levels of uncertainty.

- Committee members also questioned the potential impact of differences in incomes and burdens of chronic illnesses among states. The developer noted that it did not include risk adjustment because coverage should be independent of the health conditions of the states' populations.
- Committee members questioned whether Informed Participation was related to better healthcare quality. They noted that states may have high coverage rates, but sicker children. The developer clarified that the measure is intended to provide states with information regarding their performance on coverage, not to address eligibility criteria or quality of received care.
- There was significant discussion about the randomness factor specified by the measure: The measure is calculated at a random point in time, which the developer argued limited the opportunity for bias. Additionally, the measure would be unaffected by temporal churns in coverage. The developer noted that no states offer more than four months of retroactive coverage, so coverage rate at that time before the appendectomy should not be significantly affected by temporal changes in coverage.
- The Committee noted that children whose families move in and out of eligibility for coverage may be missed in the measure. The developer clarified that changes in coverage would not adversely bias the metric, because the enrollment at a certain point in time must be dichotomous and would be unrelated to the chance event of appendicitis.
- With respect to validity, the measure developer chose the American Community Survey (ACS), which asks patients and families if they are covered by insurance or not, as the gold standard for comparison with its measure. Committee members noted that the Informed Participation metric had a high correlation with ACS.
- The Committee questioned the effect of excluding those over age 16 and under 2 years old, and queried whether these exclusions were consistent with the evidence; ultimately Committee members agreed it was not an issue, noting the vast majority of the excluded children were excluded because they were about to age out. In addition, the Committee identified missing data as a concern, since missing data led to 12 percent of states being excluded from the analysis.
- The Committee did not reach consensus on the Reliability criterion, but the measure did pass Validity. The developer will provide additional reliability information during the comment period and the Committee will revote during the post-comment call.

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3. Feasibility: 1-H; 22-M; 0-L; 0-I

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)

Rationale:

- Committee members noted that the database used for the measure, the MAX, needs improvement and that six states were removed because of missing data issues. Following

discussion, Committee members concluded that this issue was outside the developer's control, so they did not feel it was relevant to their vote on this criterion.

- The Committee expressed concern about whether states could accurately calculate the measure, given the complicated nature of the specifications. The developer noted there are two ways to calculate the measure, through bootstrapping or with SAS. The developer stated that using SAS produced the same results and was more user-friendly for calculating the measure.

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4. Usability and Use: 1-H; 17-M; 5-L; 0-I

(Used and useful to the intended audiences for 4a. Accountability and Transparency; 4b. Improvement; and 4c. Benefits outweigh evidence of unintended consequences)

Rationale:

- Committee members noted that the measure would be a useful tool for Medicaid leadership, and a useful self-assessment tool for states to improve their coverage rates, especially given the importance of the issue of continuous churn. However, the Committee did question whether this measure could be used in a traditional accountability fashion to reward or penalize states based on performance, given the overlapping scores reported for reliability testing. Committee members also noted the specifications are complex and difficult to understand, which may limit its usability by some audiences.
- Overall, Committee members viewed this measure as primarily valuable for internal purposes and for measuring the quality of coordination in maintaining enrollment.

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5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: Y-13, N-4

Rationale

- The Standing Committee did not conduct a vote for Overall Suitability for Endorsement during the March 2, 2017, in-person meeting because consensus was not reached on the Reliability criterion. The Standing Committee discussed and re-voted on the Reliability criterion during the post-comment call on May 31, 2017. Based on new information submitted by the developer, the Standing Committee agreed the measure meets the Reliability criterion, and then voted Yes on Overall Suitability for Endorsement.

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6. Public and Member Comment: April 12-May 11, 2017

One commenter agreed with the intent of the measure to more accurately capture the continuity of coverage in the Medicaid program so that states can improve continuous coverage, an important measure to support children's health. However, while recognizing this metric used readily available datasets, the commenter felt assumptions that may not be universally accepted are used. As such, the commenter recommended that this measure be further validated and re-evaluated for inclusion in the future.

Developer response:

- We appreciate that the American Academy of Pediatrics (AAP) agrees with the intent of our measure to more accurately capture the continuity of coverage in the Medicaid program so that

states can improve coverage. The AAP suggested that our measure "requires assumptions that may not be universally accepted," without telling us which assumptions are objectionable. We would point out that with our assumptions, our results were carefully validated against the gold standard ACS (American Community Survey). Our results, in both development and validation, were superior to the current metrics of Continuity Ratio (Ku et al.) and Duration (currently used by CMS). Informed Participation had better correlation with the ACS and less error deviation than the other metrics. See Validity Testing, Section 2b2.3, Table 2: Pearson Correlations. Also, see Validity Testing, Section 2b2.3, Table 3: Median Absolute Errors.

Committee discussion and response:

- The developer provided a memo (included in [Appendix A of the voting memo](#)) with additional information to address a comment raised at the in-person meeting. The new analysis compared the look back period of four months versus five months, and did not find a change in results.
- Also, in response to Committee members' concern about clustering, the developer noted that the states were intentionally rank ordered by Informed Participation rate and therefore appeared to be similar. If the states were ranked by poverty level, the apparent similarities were not present.
- During the call, Committee members discussed their previous concerns about children who were on the cusp of income eligibility. The developer explained that while it did not have access to the incomes of individuals, analyses were conducted using the average income on a state level. The developer noted that analyses showed that the metric is stable across income levels across states. The developer noted that rates of reenrollment are largely policy-driven (i.e., how easy or difficult it is to reenroll) rather than by income, and that improvements in performance can be made by making it easier to re-enroll.
- Also during the post-comment call, a Committee member inquired about the intended use of the measure. The developer noted that this could be used by states to measure improvement after implementing initiatives to promote continuous coverage. The measure also helps to identify states that report rates much lower or much higher than other states for closer examination.
- Currently, the measure relies on presumptive eligibility for Medicaid; the Committee and developer agreed that if eligibility changes, the measure would need revision.
- After its discussion, the Committee re-voted on the Reliability criterion, for which the Committee had not achieved consensus during the in-person meeting; the measure passed this criterion.
- Following that vote, Committee members briefly discussed unintended consequences should the measure be used for rewards or penalties. They ultimately agreed this measure is no different than any other measure that has intrinsic error, and that as long as the range of error is clearly defined, the measure can be useful. The Committee voted on an overall recommendation for endorsement, and agreed the measure should be recommended.

7. Consensus Standards Approval Committee (CSAC): July 12, 2017

Vote to Uphold Committee Recommendation: Y-14; N-0

8. Appeals

- No appeals received.

3166 Antibiotic Prophylaxis Among Children with Sickle Cell Anemia

Submission **|** Specifications

Description: The percentage of children ages 3 months to 5 years old with sickle cell anemia (SCA, hemoglobin [Hb] SS) who were dispensed appropriate antibiotic prophylaxis for at least 300 days within the measurement year.

Numerator Statement: The numerator is the number of children ages 3 months to 5 years old with SCA (Hb SS) who were dispensed appropriate antibiotic prophylaxis for at least 300 days within the measurement year.

Denominator Statement: The denominator is the number of children ages 3 months to 5 years with SCA (Hb SS) within the measurement year.

Exclusions: There are no denominator exclusions.

Adjustment/Stratification: No risk adjustment or risk stratification/NA

Level of Analysis: Health Plan

Setting of Care: Other

Type of Measure: Process

Data Source: Claims (Only)

Measure Steward: QMETRIC - University of Michigan

STANDING COMMITTEE MEETING [03/02/2017]

1. Importance to Measure and Report: The measure meets the Importance criteria
(1a. Evidence, 1b. Performance Gap)

1a. Evidence: **9-H; 13-M; 1-L; 0-I**; 1b. Performance Gap: **18-H; 4-M; 1-L; 0-I**

Rationale:

- The Committee acknowledged that the measure addresses a medical condition affecting a relatively small population, children with sickle cell anemia (SCA), but recognized that its focus has significant impact on their health outcomes, including high mortality rates.
- The Committee noted that several of the studies used for evidence were relatively old and might not include the impact of pneumococcal vaccination, which has become more prevalent. It was further noted, however, there is still infection risk for this population despite the vaccines developed since the studies.
- The Committee found that there was significant variation in performance among states (the developer reports a range of 5.7-36%), although significant racial or ethnic disparities do not exist. It also was noted there has not been an increase in antibiotic prophylaxis over time, which the developer and Committee agreed reflected a lack of work to improve in this area. The Committee agreed there is significant room for improvement.

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2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria
(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **7-H; 16-M; 0-L; 0-I** 2b. Validity: **9-H; 14-M; 0-L; 0-I**

Rationale:

- The measure developer provided empirical testing for reliability at the performance data element and measure score levels and face validity and empirical testing of the measure score for validity.
- The developer conducted its analysis at the score level using Medicaid claims reported to CMS for Medicaid enrollees within the state of Michigan (2007-2011), as well as MAX data for all Medicaid claims reported to CMS for Medicaid enrollees of six state Medicaid programs with moderate to high prevalence of sickle cell anemia: Florida, Illinois, Louisiana, Michigan, South Carolina, and Texas (2005-2010). Committee members felt the testing sample size was sufficient.
- Committee members supported the aspect of the specifications capturing patients on antibiotics for 10 of 12 months in order to account for the time it takes to visit the doctor and have a prescription filled.
- One Committee member noted concern about how the measure would capture additional antibiotics needed to treat breakthrough infections. In addition, Committee members noted that most of the evidence provided was related to penicillin and not the full spectrum of available antibiotics. The developer explained the measure includes oral antibiotics only, not antibiotics delivered via injection.
- The Committee discussed whether the benefits of the measure outweigh the potential risk of increasing antibiotic resistance. The developer clarified that its analysis showed that the patients were no more likely to develop antibiotic resistant infections. In addition, the developer stated it considered the possibility that the child could be allergic to penicillin, and accounted for this in the measure specifications by including erythromycin. The developer noted that it did not account for complications due to constant use of antibiotics, such as post-secondary infections with *C. Difficile*.
- Some Committee members expressed concern that the measure excludes patients with SCA who have fewer than three claims, potentially missing a significant opportunity to address a gap in care for an underserved population. Other Committee members noted that the validity increased significantly by specifying the inclusion of patients with three claims and not those with a single SCA-related claims. One Committee member, however, noted that diagnosis is often fairly straightforward and could possibly be identifiable through a single visit to a clinician.
  - o The developer confirmed the specification for three claims was necessitated to ensure the measure's validity.
  - o The developer emphasized the need for three claims by explaining changes in sensitivity and specificity of three different case definitions that the developer used to identify children. The developer also noted the measure uses three claims that were broadly associated with sickle cell anemia, which could include claims for durable medical equipment or a laboratory visit, not three claims just for visits to a primary care provider or hematologist.
  - o The Committee expressed concerns that pharmacy claims data may not be complete. The developer stated that the data for days of medication supplied was populated relatively well, with an average of 186 days (counting refills) through the entire 12-month study period. The developer also noted that very few children had less than 50 days' supply.
  - o The Committee ultimately concurred that using three claims resulted in a significant reduction in false positives and only a small exclusion of true positives.
- Committee members suggested that the developer consider exclusions for patients with co-morbid conditions (organ transplant, cancer, or other immunosuppressive medications such as

steroids). Committee members also noted that once a month shots for Bicillin (listed under NHLBI guidelines as an approved method of prophylaxis) is not a method captured in the measure.

- A Committee member noted the high correlation between the prescription and dispensation of antibiotics based on the administrative data.
- One Committee member expressed concern that there may be data issues with care provided across state lines, which might affect the reliability of the measure—i.e., patients may need to travel across state lines to see the closest specialist or children's hospital. Another Committee member clarified, however, that Medicaid programs pay across state lines, and related claims would go to the state where the child is covered. The Committee also discussed how some children will see their primary care physician and others will go to a hematologist for their SCA-related care; it wanted to ensure this scenario would not cause data issues. The developer assured the Committee that all appropriate claims would be included.

3. Feasibility: 17-H; 6-M; 0-L; 0-I

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)

Rationale:

- The Committee agreed this measure was highly feasible, since the data elements required for the measure are routinely generated and used during care delivery, and all data elements used in the measure are defined fields in electronic claims.

4. Usability and Use: 12-H; 11-M; 0-L; 0-I

(Used and useful to the intended audiences for 4a. Accountability and Transparency; 4b. Improvement; and 4c. Benefits outweigh evidence of unintended consequences)

Rationale:

- Committee members believed this measure would be a useful addition for evaluating Medicaid programs, as this condition is a significant issue for Medicaid enrollees.
- Committee members supported the use of the measure to assess the ability of organizational structures to ensure that patients have the medicines they need.
- This is a new measure, so it is not currently in use. However, the developer states it is working with the New York Medicaid program to implement the measure, and Committee members agreed it would be a good health plan- or state-level measure.

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: 23-Y; 0-N

Rationale

- The Committee agreed this measure meets the NQF criteria for endorsement.

6. Public and Member Comment: April 12-May 11, 2017

- One commenter wrote to support endorsement of this measure. A second commenter acknowledged the importance of assessing antibiotic prophylaxis among children with sickle cell anemia, but also noted difficulty in attributing outcomes within these areas to specific providers and experiences. The commenter encouraged NQF to further examine and identify measures at the clinic/system levels that offer more specificity about appropriate "antibiotic prophylaxis."

Committee response:

- Thank you for providing this comment. This measure is specified at the plan level. The Committee will consider measures at the clinic/system levels as a gap for future measure development and has added the suggestion to the list of gaps in the report.

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7. Consensus Standards Approval Committee (CSAC): July 12, 2017

Vote to Uphold Committee Recommendation: Y-14; N-0

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8. Appeals

- No appeals received.

Measures Not Recommended

2816 Appropriateness of Emergency Department Visits for Children and Adolescents with Identifiable Asthma

[Submission](#)

Description: This measure estimates the proportion of emergency department (ED) visits that meet criteria for the ED being the appropriate level of care, among all ED visits for identifiable asthma in children and adolescents.

Numerator Statement: The numerator is the number of eligible asthma ED visits in the random sample that also satisfy at least one of the explicit criteria to indicate that the ED is an appropriate level of care. Distinct numerators are reported for children ages 2-5, 6-11, 12-18, and optionally, 19 - 21.

Denominator Statement: The denominator is a random sample of the patients in each age stratum who have visited the emergency department for asthma (as a first or second diagnosis) and meet the specified criteria for having identifiable asthma (defined in s2b).

Separate numerators and denominators are reported for children age 2-5, 6-11, 12-18, and, optionally, 19-21 years. An overall rate across strata is not reported.

Exclusions: ED visits that are already in the sample OR Children that fall outside of specified age range of 2-21 OR who do not meet time enrollment criteria OR do not meet identifiable asthma prior to the ED visit, OR children with concurrent or pre-existing COPD, Cystic Fibrosis or Emphysema.

At the discretion of the accountability entity, the denominator may be restricted to children 2-18.

Adjustment/Stratification: Stratification by risk category/subgroup This measure requires stratification by age group. Several additional stratifications are optional but may be required by the accountability entity or provided by the reporting entity. These variables include race/ethnicity, rurality/urbanicity and county level of poverty.

Stratify by age group (reporting entity should specify whether to use age at month of qualifying event or age on first day of reporting year):

•Age 2-5 years (second birthday to the day before the 6th birthday);

•Age 6-11 years (sixth birthday to the day before the 12th birthday);

•Age 12-18 years (twelfth birthday to the day before the 18th birthday); and

•Age 19-21 years (nineteenth birthday to the day before the 21st birthday).

Age strata are to be reported distinctly and not combined.

Optional stratifications require data elements such as:

•Race/Ethnicity

•Insurance type (Public, Commercial, Uninsured)

•Benefit type (if insured): HMO, PPO, Medicaid Primary Care Case Management

(PCCM) Plan, Fee for Service (FFS), other

•Zip code, state and county or equivalent area of parent/caregiver's residence. Record FIPS if available

Stratification variables details

•Race/Ethnicity: Hispanic, Non-Hispanic Black, Non-Hispanic White; Non- Hispanic Asian/Pacific Islander, other Non-Hispanic

•Public vs Commercial (Private Insurance).

•HMO vs PPO vs FFS vs PCCM vs other; Within Medicaid, States may ask for reporting of FFS vs Managed Care or other relevant enrollment categories (e.g., TANF, SSI).

•Urban Influence Code. Identify the Urban Influence Code or UIC. (2013 urban influence codes available at: http://www.ers.usda.gov/data-products/urban- influence-codes.aspx#.UZUvG2cVoj8). Use parent or primary caregiver's place of residence to determine UIC. State and county names can be linked or looked up directly or zip codes can be linked to county indirectly, using the Missouri Census Data Center (http://mcdc.missouri.edu/). These data will link to county or county equivalents as used in various states.

Urban Influence Codes (UIC) have been developed by the USDA to describe levels of urbanicity and rurality. While each UIC has its own meaningful definition, some researchers choose to aggregate various codes. Well regarded schemas for aggregation of codes include Bennett and colleagues at the South Carolina Rural Research Center. Their aggregation scheme brings together Codes 1 & 2 as Urban; 3,5, & 8 as micropolitan rural; 4,6, & 7 as rural adjacent to a metro area; and 9, 10, 11, & 12 as remote rural. We acknowledge that UIC 5 (adjacent rural area) may appropriately be aggregated with 4,6,&7 as rural. Frontier health care may be approximated by analysis of the remote rural categories (UIC 9, 11 and 12). Alternatively, Gary Hart, Director of the Center for Rural Health at the University of North Dakota School of Medicine & Health Science suggests that UIC 9-12 is the best overall approach to using county level data to study frontier health. Inclusion of UIC 8 would make the analysis more sensitive to including frontier areas but at a meaningful cost in specificity.

Those interested in care specific to large cities may wish to aggregate the rural area and analyze UIC 1 and 2 separately.

When stratifying by urbanicity or UIC, the reporting and accountability entities should specify clearly what if any aggregating schema was used.

•Identify the Level of Poverty in the parent or primary caregiver's county of residence. The percent of all residents in poverty by county or county equivalent are available from the US Department of Agriculture at http://www.ers.usda.gov/data-products/county-level-data-sets/download- data.aspx. Our stratification standards are based on 2011 US population data that we have analyzed with SAS 9.3. Using parent or primary caregiver's state and county of residence (or equivalent) or FIPS code, use the variable PCTPOVALL_2011 to categorize into one of 5 Strata:

o Lowest Quartile of Poverty if percent in poverty is <=12.5%

o Second Quartile of Poverty if percent in poverty is >12.5% and <=16.5%

o Third Quartile of poverty if percent in poverty is >16.5% and <=20.7%

o First Upper Quartile (75th-90th) if percent in poverty is >20.7% and <=25.7%

o Second Upper Quartile (>90th percentile)

These classification standards may be updated by the accountability entity suing more recent data if desired.

Note: if needed, the Missouri Census Data Center may be used to link zip codes to county equivalents. http://mcdc.missouri.edu/

Level of Analysis: Facility, Health Plan

Setting of Care: Emergency Department, Hospital

Type of Measure: Outcome

Data Source: Claims (Only), EHRs Hybrid, Paper Records

Measure Steward: University Hospitals Cleveland Medical Center

STANDING COMMITTEE MEETING [03/02/2017]

1. Importance to Measure and Report: <u>The measure did not reach consensus on the Importance criteria</u>
(1a. Evidence, 1b. Performance Gap)

1a. Evidence: **12-Pass; 10-No Pass** (consensus not reached); 1b. Performance Gap: **2-H; 18-M; 2-L; 0-I**

<u>Rationale</u>:

- This measure was originally reviewed by the Pulmonary Committee as a process measure. The measure did not pass Evidence during that review, and that Committee suggested it be resubmitted as an outcome measure. Accordingly, for this project the developer revised and resubmitted the measure as an outcome measure.
- The developer explained this measure is an attempt to recognize there are various reasons for use of the emergency department (ED) for asthma treatment, some of which are appropriate and others that are a failure to manage the patient's asthma.
- Committee members noted that the measure does not account for factors outside the control of the facility or plan, such as medication compliance. The Committee also flagged confounding factors that can influence rates, but that are actually about access to care—e.g., shorter waits in the ED than in primary care clinics for Medicaid patients.
- Committee members noted the measure is an appropriate use measure, but felt it was more of an overuse measure, since it cannot assess patients who should have gone to the ED, but did not; they felt this was potentially a far more dangerous outcome. The developer noted that it is important that going to the ED not be seen as overuse, automatically, as there absolutely are cases when it is the appropriate level of care. Members agreed a better score on the measure could be attributed to children visiting the ED instead of their PCP or specialist. Both the developer and Committee agreed that performance on this measure could be better assessed by pairing it with a measure estimating how much the ED is used.
- Committee members noted that the measure's construction makes it a problem for the ED to solve, but the problem is actually a system function measure: EDs accept all arrivals and the prevention of visits should fall to other providers (PCPs or specialists). Despite this observation, Committee members noted this is a plan-level measure, and there are things a plan can do to reduce inappropriate ED visits, e.g., increasing access and compliance to asthma medications and improving access to primacy care. Ultimately, the Committee agreed there are modifiable processes that can influence the outcome (appropriate ED visits for asthma), such as ensuring children are assigned to a specialist.
- Committee members agreed there is a gap in care and disparities; Hispanic children and uninsured children showed higher rates of questionable ED use, and Hispanic and African American children have higher rates of asthma (12.4% and 15.8% respectively).

2. Scientific Acceptability of Measure Properties: <u>The measure does not meet the Scientific Acceptability criteria</u>
(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **X-H; X-M; X-L; X-I** 2b. Validity: **N/A-H; 1-M; 17-L; 5-I**

<u>Rationale</u>:

- The developer used data element level validity testing, which may be used under NQF guidance to assess both Reliability and Validity, so the Committee did not vote separately on Reliability.

- Committee members had concerns about the appropriateness criteria, noting that some needed clarification (e.g., when oxygen saturation should be recorded, on presentation or after treatment) and that others could be easily gamed (e.g., ordering an ABG on every patient). They also noted that referral by a PCP would be considered acceptable under the criteria for the measure, but this could actually indicate poor quality/inappropriate care provided by the PCP. Committee members felt the list was subjective and noted that some of the clinical indicators (such as labored breathing) are subjective as well; they also noted that some of the appropriateness indicators are common and others rare.
- Committee members questioned whether the developer could have used this denominator and the numerator for #3189 to create a measure of severity; they also suggested this could be useful as a population measure. A Committee member suggested that a measure that looks at the rate of unnecessary ED use per 100 child years of children with asthma may be more effective than using ED visits as the denominator.
- A Committee member noted that the measure is specified similar to a HEDIS measure, so it should be able to be collected reliably.
- Overall, Committee members expressed a number of concerns about scientific acceptability, including: the measure has only been tested in one hospital (therefore testing cannot demonstrate meaningful differences among institutions); all appropriateness criteria items were not tested at the single institution, since the data elements for every item were not used in the ED at the testing institution; and the specifications permit variability in the use of pharmacy data due to availability differences. Based on these concerns, the measure did not pass Validity due to insufficient testing.
- Committee members also noted that, while the measure is scored at the patient level, it was tested at the item level; it acknowledged that, after training, the kappas were generally good.

3. Feasibility: X-H; X-M; X-L; X-I

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)

Rationale:

4. Usability and Use: X-H; X-M; X-L; X-I

(Used and useful to the intended audiences for 4a. Accountability and Transparency; 4b. Improvement; and 4c. Benefits outweigh evidence of unintended consequences)

Rationale:

5. Related and Competing Measures

The Developer did not include information on any of the related or competing measures. However, NQF staff identified the following measures that may be related and/or competing.

- 0047: Asthma: Pharmacologic Therapy for Persistent Asthma
- 0728: Asthma Admission Rate (PDI 14)
- 1800: Asthma Medication Ratio
- 2414: Pediatric Lower Respiratory Infection Readmission Measure
- 3189: Rate of Emergency Department Visit Use for Children Managed for Identifiable Asthma: Visits per 100 Child-years (*submitted by the same Developer for review in this project*)

Since the measure was not recommended, none of these were discussed.

Standing Committee Recommendation for Endorsement: Did not pass Validity

Rationale

- The Committee did not recommend the measure because it did not pass Validity due to insufficient testing.

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6. Public and Member Comment: April 12-May 11, 2017

- One commenter noted that this and similar measures proposed by this measure steward were critically appraised by the NQF Pulmonary and Critical Care Standing Committee and agreed with the concerns raised by the NQF Pulmonary and Critical Care Standing Committee; the Pediatric Committee did not discuss this issue since the discussion did not progress to that aspect of validity, given the other concerns. The Pulmonary Committee's comments, which were accessed at the NQF website (http://www.qualityforum.org/Publications/2016/10/Pulmonary_and_Critical_Care_2015-2016_Final_Report.aspx) are:

  "The Committee raised concern about the lack of stratification by risk. While the developer stratified by age, the Committee expressed concern about clinical differences across the age spectra, especially in the first six years of life, which are not accounted for by the measure. The Committee also noted that while the developer provided for stratification by race, it did not address demographic and environmental factors that impact race (e.g., location), which can affect patient risk and quality of care… The Committee discussed the lack of stratification by risk leading to misinterpretation of results as a potential unintended consequence if the measure is implemented… Noting differences in rates, the Committee was concerned with the lack of adjustment for sociodemographic factors (SDS)."

- **Developer response:** We have submitted this to the Pediatric Committee in part because of its greater sensitivities to the issues specific to children and in this case asthma in children. Nearly half of U.S. children are covered by public health insurance programs. Equity of outcomes across race and social class is a preeminent concern and value in child health, especially for asthma. As the internationally accepted NHLBI guidelines states, "As a general rule, patients with well-controlled asthma should have:
  - Few, if any, asthma symptoms.
  - Few, if any, awakenings during the night caused by asthma symptoms.
  - No need to take time off from school or work due to asthma.
  - Few or no limits on full participation in physical activities.
  - No emergency department visits.
  - No hospital stays.
  - Few or no side effects from asthma medicines."

- Further, it is not clear whether those stressors that increase asthma burden are likely to increase or to decrease the level of appropriateness of ED use for asthma. Cogent arguments can be made in either direction, or for not at all.

- Measure 2816, Appropriateness of Emergency Department Visits for Children and Adolescents with Identifiable Asthma, is stratified by age, specifically the measure is reported for children ages 2-5,6-11, 12-18, and optionally, 19-21. This is because asthma and its management are related both to the child's age and stage of development. Hence comparing performance in young children is very different from performance in adolescents.

- Further, this measure of appropriateness is best interpreted in light of other measures, such as the rate of ED use for asthma. High levels of appropriateness may suggest a highly functional primary care and outpatient approach to asthma. However high levels of appropriateness and high levels of utilization may together suggest that asthma outcomes form outpatient management are not as desired. Hence, this measure informs but is not dispositive without other data.
- Our formal RAND style panel of national experts did not recommend risk adjustment by race or social class. They recommend stratification by the age groups indicated below. Environmental differences may produce unequal burdens on various health plans, but the field's capacity to discriminate and risk adjust in that manner is of uncertain value and such data for adjustment are neither readily available, nor is there a consensus on what and when and how to adjust for such exposure.
- Establishment of asthma control should occur from an early age. Because of challenges in identifying asthma before the age of 2, we have not included this age group in our specification.
- For purchasers who are interested in stratification beyond race and age we provide OPTIONAL specifications that allow them to ask health plans to incorporate additional stratification in the measure (e.g. insurance status, county rates of poverty, and rurality/urban/city). Contracting health plans can negotiate with purchasers and other accountability agencies to demonstrate stratified performance if they so desire.
- This measure requires stratification by the following age groups:

  - Age 2-5 years (second birthday to the day before the 6th birthday);

  - Age 6-11 years (sixth birthday to the day before the 12th birthday);

  - Age 12-18 years (twelfth birthday to the day before the 18th birthday); and

  - Age 19-21 years (nineteenth birthday to the day before the 21st birthday).

These age strata are to be reported distinctly and not combined for reasons noted above.

This measure has optional stratifications for the following that can be determined by the reporting agency to use all or none, as appropriate:

- Race/Ethnicity: Hispanic, Non-Hispanic Black, Non-Hispanic White; Non- Hispanic Asian/Pacific Islander, other Non-Hispanic
- Insurance type (Public, Commercial, Uninsured)
- Benefit type (if insured): HMO, PPO, Medicaid Primary Care Case Management (PCCM) Plan, Fee for Service (FFS), other relevant enrollment categories (e.g., TANF, SSI)
- Urban influence codes: Identify the Urban Influence Code or UIC. (2013 urban influence codes available at: http://www.ers.usda.gov/data-products/urban- influence-codes.aspx#.UZUvG2cVoj8). Use parent or primary caregiver's place of residence to determine UIC. State and county names can be linked or looked up directly or zip codes can be linked to county indirectly, using the Missouri Census Data Center (http://mcdc.missouri.edu/). These data will link to county or county equivalents as used in various states.
- Urban Influence Codes (UIC) have been developed by the USDA to describe levels of urbanicity and rurality. While each UIC has its own meaningful definition, some researchers choose to aggregate various codes. Well regarded schemas for aggregation of codes include Bennett and colleagues at the South Carolina Rural Research Center. Their aggregation scheme brings together Codes 1 & 2 as Urban; 3,5, & 8 as micropolitan rural; 4,6, & 7 as rural adjacent to a metro area; and 9, 10, 11, & 12 as remote rural. We acknowledge that UIC 5 (adjacent rural area) may appropriately be aggregated with 4,6,&7 as rural. Frontier health care may be

approximated by analysis of the remote rural categories (UIC 9, 11 and 12). Alternatively, Gary Hart, Director of the Center for Rural Health at the University of North Dakota School of Medicine & Health Science suggests that UIC 9-12 is the best overall approach to using county level data to study frontier health. Inclusion of UIC 8 would make the analysis more sensitive to including frontier areas but at a meaningful cost in specificity.

- Those interested in care specific to large cities may wish to aggregate the rural area and analyze UIC 1 and 2 separately.

- When stratifying by urbanicity or UIC, the reporting and accountability entities should specify clearly what if any aggregating schema was used.

- Identify the Level of Poverty in the parent or primary caregiver's county of residence. The percent of all residents in poverty by county or county equivalent are available from the US Department of Agriculture at http://www.ers.usda.gov/data-products/county-level-data-sets/download- data.aspx. Our stratification standards are based on 2011 US population data that we have analyzed with SAS 9.3. Using parent or primary caregiver's state and county of residence (or equivalent) or FIPS code, use the variable PCTPOVALL_2011 to categorize into one of 5 Strata:

 o Lowest Quartile of Poverty if percent in poverty is <=12.5%
 o Second Quartile of Poverty if percent in poverty is >12.5% and <=16.5%
 o Third Quartile of poverty if percent in poverty is >16.5% and <=20.7%
 o First Upper Quartile (75th-90th) if percent in poverty is >20.7% and <=25.7%
 o Second Upper Quartile (>90th percentile)

These classification standards may be updated by the accountability entity using more recent data if desired.

To summarize:

Appropriateness of ED visits is a new construct for pediatric asthma. As such, there are no pre-existing data to suggest a disparate burden of either appropriate or inappropriate ED visits by socioeconomic class or by health plans caring for them. The NHLBI guideline is clear in articulating the expectation that outcomes should be equally good across the general population of individuals regardless of who they are and even how severe their asthma is (obviously there are true exceptions here, but they would not be well accounted for in any risk adjustment or stratification schema that we have ever seen). The Pediatric Committee is in a better position to understand and appreciate the implications of all of this for children and to incorporate such insights into their evaluation of this measure (and the similar rate measure). The lack of required stratifications by risk does not lead to misinterpretation of results as a potential unintended consequence if the measure is implemented. In fact, this measure is specified to give flexibility to plans and to purchasers to respond to local conditions and needs by using stratification as needed and desired to compare performance within specified strata. These are desirable attributes for child health quality measures.

Developer Request for Reconsideration:

- At the in-person meeting, the Committee did not reach consensus on Evidence for measure #2816, the measure passed on Gap, and did not pass on Reliability. The developer requested reconsideration of this measure on the grounds of additional testing information provided. The additional materials are in Appendix B of the voting memo. While the developer requested reconsideration for both this measure and #3189, it did not provide a separate, specific rationale for this measure. The developer noted that the data provided for #3819 also informs this measure; no additional information was provided specifically related to evidence or appropriateness.

Committee response:

- The Committee reviewed the new material prior to the call and, after discussion, agreed that the new information was not sufficient to reconsider the measure. Specifically, the Committee agreed the new information did not address the issues raised previously with the validity of the numerator construct (i.e., the measure was still only tested at one institution); the Committee also agreed its concerns about the evidence were not adequately addressed.
- Requests for reconsideration require greater than 60% of the Committee voting for reconsideration. The Committee unanimously voted not to move forward with the request (17 no votes), so the measure remained not recommended.

7. Consensus Standards Approval Committee (CSAC): July 12, 2017

Vote to Uphold Committee Recommendation: Y-14; N-0

3189 Rate of Emergency Department Visit Use for Children Managed for Identifiable Asthma: Visits per 100 Child-years

Submission

Description: This measure estimates the rate of emergency department visits for children ages 2 – 21 who are being managed for identifiable asthma, using specified definitions. The measure is reported in visits per 100 child-years.

Numerator Statement: The numerator estimates the number of emergency department (ED) visits for asthma among children being managed for asthma. To enhance validity, a numerator event may be identified either as an ED visit or as a hospitalization.

Denominator Statement: The denominator represents the person time experience among eligible children with identifiable asthma. Assessment of eligibility is determined for each child monthly. The total number of child months experienced is summed and divided by 1200 to achieve the units of 100 child years for the denominator.

Assessing eligibility for the denominator requires 2 years of data, the reporting year and the 12 month period before the reporting year. (See Appendix 1, Figure 1)

Exclusions: Children with specified concurrent or pre-existing diagnosis and children who have not been consecutively enrolled in the reporting plan for at least three months, as specified in the details section.

Adjustment/Stratification: Other In order to allow for more granular comparisons this measure is specified to be stratified. Stratification for risk adjustment of this measure would not be justified by the literature. Although epidemiological findings support our stratification schema, no biological evidence exists to support intrinsic correlation of ED rates with stratification variables. This measure calls for stratification by age group, by race/ethnicity, and by age group and race/ethnicity. Several additional stratifications are recommended but optional. These may be required by the accountability entity or reported by the reporting entity. These variables include rurality/urbanicity and county level of poverty.

Age groups are 2-5, 6-11, 12-18, and 19-20, each inclusive. (reporting entity should specify whether to use age at month of qualifying event or age on first day of reporting year)

Race/ethnicity should incude White non-Hispanic, Black non-Hispanic, and Hispanic as well as other groups as requested by the accountability entity and consistent with current HHS usage.

For social demographic stratification: identify County equivalent of child's residence. If County and State or FIPS code are not in the administrative data, the zip codes can be linked to County indirectly, using the Missouri Census Data Center (http://mcdc.missouri.edu/). These data will link to County or County equivalents as used in various states.

i.Identify the Urban Influence Code (1) or UIC for the county of child's residence. (2013 urban influence codes available at: http://www.ers.usda.gov/data-products/urban-influence-codes.aspx#.UZUvG2cVoj8).

ii.Identify the Level of Poverty in the child's county of residence. The percent of all residents in poverty by county or county equivalent are available from the US Department of Agriculture at http://www.ers.usda.gov/data-products/county-level-data-sets/download- data.aspx. Our stratification standards are based on 2011 US population data that we have analyzed with SAS 9.3. Using child's state and county of residence (or equivalent) or FIPS code, use the variable PCTPOVALL_2011 to categorize into one of 5 Strata:

 a.Lowest Quartile of Poverty if percent in poverty is <=12.5%

 b.Second Quartile of Poverty if percent in poverty is >12.5% and <=16.5%

 c.Third Quartile of poverty if percent in poverty is >16.5% and <=20.7%

 d.First Upper Quartile (75th-90th) if percent in poverty is >20.7% and <=25.7%

 e.Second Upper Quartile (>90th percentile)

iii.Categorize age by age at the last day of the month that ends the assessment period. Aggregate into age categories 2-4, ages 5 through 11, ages 12-18, ages 19-21.

iv.Categorize Race/Ethnicity as Hispanic, Non-Hispanic White, Non- Hispanic Black, Non-Hispanic Asian/Pacific Islander, and Non-Hispanic Other

v.Categorize Insurance Type as Private (Commercial), Public, None or Other

vi.Categorize benefit type as HMO, PPO, FFS, PCCM, or Other

Level of Analysis: Population : Community, County or City, Health Plan, Population : Regional and State

Setting of Care: Hospital : Acute Care Facility, Emergency Department, Hospital, Other

Type of Measure: Outcome

Data Source: Claims (Only), Claims (Other)

Measure Steward: University Hospitals Cleveland Medical Center

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STANDING COMMITTEE MEETING [03/02/2017]

1. Importance to Measure and Report: <u>The measure meets the Importance criteria</u>
(1a. Evidence, 1b. Performance Gap)

1a. Evidence: **21-Pass; 1-No Pass;** 1b. Performance Gap: **9-H; 13-M; 1-L; 0-I**

<u>Rationale</u>:

- This measure was originally submitted to the Pulmonary Committee and was not recommended. It has been revised to address issues raised by that Committee and resubmitted. It is an outcome measure based on the rationale that accessible, high-quality primary care reduces the need for ED visits for persistent asthma, which are an undesirable outcome.
- The Committee agreed asthma is a serious condition, many ED visits should be preventable, and the link to the evidence for the measure is strong.

- Committee members raised concerns, however, about the specifications' lower age limit of two years, noting that accurate diagnoses of asthma (versus persistent wheezing due to viral infections) are challenging at that age; they suggested ages three or four years would be a better lower limit.
- Committee members also noted that asthma is strongly influenced by environmental and social factors out of the control of providers or plans, and that some ED visits would only be preventable with social interventions—i.e., asthma outcomes cannot solely be attributed to the care provided. The developer explained that it constructed and tested the measure using chart review data, so does not have data available on environmental triggers, etc., but that the National Heart, Lung, and Blood Institute guidelines indicate that children in more challenging circumstances need to be managed more aggressively to prevent ED visits (a goal for all children).
- Committee members generally agreed there is evidence of disparities in care, and the developer's testing found differences in performance by race, urbanity, and quartile of poverty.

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2. Scientific Acceptability of Measure Properties: <u>The measure does not meet the Scientific Acceptability criteria</u>

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **N/A-H; 1-M; 4-L; 18-I** 2b. Validity: **X-H; X-M; X-L; X-I**

<u>Rationale</u>:

- This is a claims-based measure. The developer submitted additional reliability testing the morning of the Committee's in-person meeting, since the original submission had not met NQF's minimum standards. The Committee was unable to review the data prior to its discussion. The developer explained it had examined reliability a number of ways, with different plans as an index, and the measure scores differentiated performance.
- In addition to the insufficiency of the original data and the lack of time to review the new data, the Committee requested additional information and/or testing, such as confirmation that the claims data would match a chart review. The Committee agreed the reliability testing was insufficient.
- The Committee also remained concerned about the denominator time interval specified by the measure. The denominator for this measure is, "The person time experience among eligible children with identifiable asthma. Assessment of eligibility is determined for each child monthly. The total number of child months experienced is summed and divided by 1200 to achieve the units of 100 child years." The Committee requested additional clarification, noting that an ED visit in February would include 13 months to be diagnosed with asthma, but the time interval for a visit in December would be 20 months. It requested additional information on whether this might bias the results, especially given the seasonality of asthma.
- Since the measure did not pass Reliability, the Committee did not discuss the remaining criteria. The Committee agreed, however, to review and re-discuss the measure on the post-comment call.
- The Committee also provided other high-level feedback to the developer about the specifications, including requests to confirm whether including or excluding bronchitis affects the measure, and the impact of excluding short-acting beta agonists.

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3. Feasibility: X-H; X-M; X-L; X-I

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)

Rationale:

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4. Usability and Use: X-H; X-M; X-L; X-I

(Used and useful to the intended audiences for 4a. Accountability and Transparency; 4b. Improvement; and 4c. Benefits outweigh evidence of unintended consequences)

Rationale:

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5. Related and Competing Measures

The Developer did not include information on any of the related or competing measures. However, NQF staff identified the following measures that may be related and/or competing.

- 0047: Asthma: Pharmacologic Therapy for Persistent Asthma
- 0728: Asthma Admission Rate (PDI 14)
- 1800: Asthma Medication Ratio
- 2414: Pediatric Lower Respiratory Infection Readmission Measure
- 2816: Appropriateness of Emergency Department Visits for Children and Adolescents with Identifiable Asthma (*submitted by the same Developer for review in this project)*

Since the measure was not recommended, none of these were discussed.

Standing Committee Recommendation for Endorsement: **Did not pass Reliability**

Rationale

- The Committee did not recommend the measure because it did not pass Reliability due to insufficient testing.

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6. Public and Member Comment: April 12-May 11, 2017

- During the comment period, no NQF member or public comments were received, but the developer did submit a request for reconsideration. The additional materials are in Appendix B of the voting memo.

  Developer Rationale for Reconsideration: "At the in-person meeting, measure #3189 passed on Evidence and Gap, and was voted insufficient for Reliability. In general, the sense of the group [the Committee] at the in-person meeting was that measure #3189 is a very viable measure, but having to conform to the NQF procedure, the group required a little bit more data, which is provided herein:

  1) Reliability
  2) Inclusion/Exclusion
  3) Pharmacy Data
  4) Race Disparities
  5) Data Element Validity"

- **Committee response:** The Committee reviewed the new material prior to the call. During the call, after the developer presented its request for reconsideration, the Committee questioned the look-back period, noting that for a measurement month in January, the look-back is 12

months, but for November, the look-back period is 23 months. The developer explained that longer look-back periods are more reliable. Committee members did not have additional questions, and voted on whether to reconsider the measure; the vote was nine Yes to reconsider and eight No, against reconsideration. Because the threshold for reconsideration is greater than 60% voting yes, the Committee did not reconsider the measure.

7. Consensus Standards Approval Committee (CSAC): July 12, 2017

Vote to Uphold Committee Recommendation: Y-14; N-0

3219 Anticipatory Guidance and Parental Education

Submission

Description: This measure is used to assess the degree to which pediatric clinicians discussed key recommended anticipatory guidance and parental education (AGPE) topics. Necessarily, anticipatory guidance questions vary by child age. Anticipatory guidance for children ages 0-9 months include 15 questions. Anticipatory guidance for children ages 10-18 months includes 16 questions; and anticipatory guidance for children ages 19-48 months includes 16 questions.

Numerator Statement: The numerator is the number of parents who had a well child visit within the last 12 months and who indicated that they received anticipatory guidance and education, that their questions were answered or that they already had the information and did not require anticipatory guidance on that topic.

Denominator Statement: Parents whose children ages 0-48 months who received a well-child visit in the last 12 months and who responded to at least half of the AGPE items (see Attachment A-2 pages 8-10) on the Promoting Healthy Development Survey (PHDS: www.wellvisitsurvey.org)

Exclusions: Unknown and missing values (responses coded missing) are excluded in the data analysis. Approximately 2.6% of parents who started the Online PHDS did not complete the survey (range 0.0-3.3% for top 5 providers with highest number of surveys; see Testing form, pages 23-24 for more detailed information on missing data).

Adjustment/Stratification: No risk adjustment or risk stratification Although no stratification is required, the Promoting Healthy Development Survey (PHDS) includes a number of variables that allow for stratification of the findings by possible vulnerability, should any individual provide have sufficient data (parent responses) to do so. Potential variables for stratification include:

(1) Child demographic characteristics (e.g., the child's age, race);

(2) Child health and descriptive characteristics (e.g., children at high risk for developmental, behavioral or social delays, special health care needs); and/or

(3) Parent health characteristics (e.g., children whose parents are experiencing symptoms of depression)

Level of Analysis: Clinician : Individual

Setting of Care: Clinician Office/Clinic

Type of Measure: Outcome: PRO

Data Source: Other

Measure Steward: Child and Adolescent Health Measurement Initiative

1. Importance to Measure and Report: <u>The measure does not meet the Importance criteria</u>
(1a. Evidence, 1b. Performance Gap)
1a. Evidence: (First Vote: 15-Pass; 7-No Pass) **Second Vote: 8-Pass; 14-No Pass**; 1b. Performance Gap: **1-H; 17-M; 1-L; 3-I** (made void by revote)
<u>Rationale</u>:

- This patient-reported outcome performance measure (PRO-PM) assesses, at the clinician level, whether providers gave anticipatory guidance to parents on a number of age-appropriate topics within three domains (physical health, behavior/language/learning, and injury prevention). The score is based on the percent of parents who said either that they received anticipatory guidance, or that they did not need that information, for all of the topics.
- The evidence base for this measure, the American Academy of Pediatrics' Bright Futures guidelines, suggests that a perfect score (discussion of all items) actually leads to better outcomes than a lower score (discussion of some items). Providers receive a report noting which areas were discussed and where they are falling short. However, Bright Futures suggests that just 3-5 items should be covered in each visit, with the premise that the full set is covered over time. Committee members also noted that research shows behavior change is more likely when a few items are focused on rather than a laundry list.
- The Committee raised concerns about whether checklists and surveys are actually helpful for parents, or if they are increasing burden. Committee members noted that parents may find some of the questions challenging or invasive, and that while parents have to put in time answering the survey, they do not get any benefits other than a list of topics they should ask about at the next visit – which may be a year away. Some Committee members, however, noted that a parental perception of what was discussed may be more important than what was actually discussed, as it informs providers that they may not be discussing topics in a meaningful way.
- While some Committee members agreed there is an action providers can take to affect the outcome, there also were members who wondered if it is actionable by a pediatrician. In particular, Committee members expressed concern that the discussion may not have been with the "final" provider, but could have occurred with another provider. In such a case, actionability to affect the score cannot be linked to the provider sending the survey and being judged by the results.
- As a PRO-PM, NQF's algorithm uses the outcome pathway for evidence (pass/no pass)— whether there is a relationship between the measured health outcome and at least one healthcare option. The Committee found this a challenging question and discussed it in detail. Some Committee members were uncomfortable with the measure as an outcome, thinking of it instead as a process measure. Other Committee members noted that even if viewed as a process measure, the measure is based on the Bright Futures guidelines—i.e., the developer had supported the survey instrument and subsequent PRO-PM with the best evidence currently available.
- Committee members discussed the confounding factor of multiple visits, and whether using the tool is improving scores over time versus the relationship building and increase in rapport that happens over multiple visits. The developer explained that, while developing the measure, the focus groups of parents reported that they really liked giving feedback to the providers, and that they (the parents) saw improvement. The developer agreed, however, that the available data

could not differentiate whether it was the use of the tool or the relationship building over time that improved performance.

- Committee members agreed there was a performance gap, noting there was a large range of performance in the testing data submitted by the developer--the proportion of parents who reported discussion of all anticipatory guidance and parental education topics or reported no need of discussion among unaddressed topics ranged 46.8-84.8% across the top five observed providers; all children averaged 60 percent. The Committee also agreed that there are disparities in performance across race/ethnicity, for some socioeconomic factors, and when there were language barriers.
- Committee members felt additional information on the gap at the provider level would be useful, noting that the raw data for subgroups is less informative than data showing whether providers have differential quality for their higher or lower income patients, etc.
- This measure passed Evidence during the first vote taken, but after additional discussion on Scientific Acceptability, a second vote on Evidence was taken because questions arose about the timing of the survey/PRO-PM's administration and the "look-back" period for the measure construct beyond the last visit, which called into question for some whether the measured entity (provider) could take an action to change the score if he/she had not been the provider. Of concern is that questions are constructed, "since your child was born" or "in the last 12 months," and the results sent to the provider may not actually assess care provided, nor actions taken, by the individual provider being measured. The measure did not pass Evidence during the second vote.

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2. Scientific Acceptability of Measure Properties:

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **X-H; X-M; X-L; X-I** 2b. Validity: **X-H; X-M; X-L; X-I**

Rationale:

- Committee members noted discrepancies in the timeline for the questions from the survey, ranging from "since your child was born" to "during the last 12 months". Committee members felt it would be difficult to hold one provider accountable for the care provided, since the wording could include many providers (including those outside the practice of the provider who sent the survey), and that parents may be asked different questions by different providers during a visit. Committee members also were troubled by the assumption a child would always see the same provider or would even be at the same practice during the entire measurement reference period. They also noted that the more a child visits providers (i.e., for many sick visits), the higher the chance they will receive anticipatory guidance, but it then becomes more difficult to attribute to one provider, as this PRO-PM does. They felt the results may not reflect the care provided by the person receiving the results, and hence that provider could not take action to influence the score. On a related note, they were concerned that the developer had presented the measure as giving feedback to the providers to improve their own care, but with NQF endorsement comes the possibility of measures being used for physician-level accountability; the way the questions were worded make it challenging to use the measure for individual provider accountability.
- The developer noted that this is the way several CAHPS measures are structured, and the measure is intended to match both CAHPS and questions on the National Survey of Children's Health. One Committee member responded that the CAHPS Patient Centered Medical Home (PCMH) survey is constructed in a way that makes it clear the primary care provider is

responsible for all care delivered to a patient (even if he/she is not directly providing the care), and the primary care physician is expected to identify and solve gaps in care. It also was noted that many medical homes are considered at a facility level, rather than an individual clinician level (although solo practitioners can also be considered medical homes).

- Committee members noted that originally the survey from which this PRO-PM was derived was endorsed at the state level, and that the survey had been used to compare providers within a practice and practices within plans. It is now intended for scoring at the individual provider level, and concerns were expressed about testing to support application and attribution to an individual provider.

- Committee members also raised a number of additional concerns, noting that the measure relies on parental recall, and that recall can be inaccurate, especially as time elapses from the visit; there may be differences in responses one day after a visit versus three days, but no information in this regard was provided by the developer nor was data collection standardized to include only responses within a specified number of days. Some Committee members noted, however, that patient-reporting might be better than EHRs in terms of accurately reporting what was discussed during a visit.

- The developer explained that it does not control when the survey is sent, as that is up to the provider—it could go out immediately following a visit or not for some period of time. The Committee felt that the lack of a clear timeframe for sending the surveys and accepting responses was a significant issue with the reliability and validity of the measure.

- Committee members agreed the methods of reliability testing were acceptable, noting that the developer used three different studies, each with an adequate sample and variability in patient populations and acceptable Cronbach's alphas. They noted that test/re-test testing also would have been useful, especially given their concerns around survey timing.

- After extensive discussion on the details of the timing of when the care being asked about was provided, and the ability of the measure to attribute care to the one provider who is receiving the results and, in turn, the ability of that provider to undertake an action to influence the outcome (the threshold for Evidence for a PRO-PM), the Committee requested a revote on Evidence. During the second vote, it did not pass Evidence.

- Committee members were concerned about health literacy and language issues, noting that the survey is only available in English, which they felt was a major issue, and that parents and providers may not be speaking the same language. They also noted the survey instrument is set at an 8th-9th grade reading level, which may present challenges for the parents taking the survey.

- Since the Committee elected to revote on Evidence, and the measure did not pass, no votes were taken on Reliability or Validity.

3. Feasibility: X-H; X-M; X-L; X-I

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)

Rationale:

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4. Usability and Use: X-H; X-M; X-L; X-I

(Used and useful to the intended audiences for 4a. Accountability and Transparency; 4b. Improvement; and 4c. Benefits outweigh evidence of unintended consequences)

Rationale:

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5. Related and Competing Measures

- This measure is related to a set of measures submitted by the same developer for review in this project; all are harmonized.

Standing Committee Recommendation for Endorsement: **Y-X; N-X**

Rationale

- The measure did not pass Evidence due to concerns about the measure's construct of the applicable timeframe and subsequent attribution to a single provider, so it was not recommended.

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6. Public and Member Comment: April 12-May 11, 2017

- There were no comments received for this measure.

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7. Consensus Standards Approval Committee (CSAC): July 12, 2017

Vote to Uphold Committee Recommendation: Y-14; N-0

3220 Ask About Parental Concerns

Submission

Description: This measure is used to assess the proportion of children whose parents were asked by their child's health care provider if they have concerns about their child's learning, development and behavior.

Numerator Statement: The numerator measures the number of parents who had a well child visit within the last 12 months and who indicated that they were asked about their concerns about their child

Denominator Statement: Children age 3 months to 48 months who received a well-child visit in the last 12 months and whose parents responded to the items Ask About Parental Concerns (see Attachment A-2, page 14) on the Promoting Healthy Development Survey (PHDS: www.wellvisitsurvey.org)

Exclusions: Missing data for the Ask About Parental Concerns questions are excluded from analysis

Adjustment/Stratification: No risk adjustment or risk stratification Although no stratification is required, the Promoting Healthy Development Survey (PHDS) includes a number of variables that allow for stratification of the findings by possible vulnerability, should any individual provide have sufficient data (parent responses) to do so. Potential variables for stratification include:

(1) Child demographic characteristics (e.g., the child´s age, race);

(2) Child health and descriptive characteristics (e.g., children at high risk for developmental, behavioral or social delays, special health care needs); and/or

(3) Parent health characteristics (e.g., children whose parents are experiencing symptoms of depression)

Level of Analysis: Clinician : Individual

Setting of Care: Clinician Office/Clinic

Type of Measure: Outcome: PRO

Data Source: Other

Measure Steward: Child and Adolescent Health Measurement Initiative

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STANDING COMMITTEE MEETING [03/02/2017]

1. Importance to Measure and Report: <u>The measure did not reach consensus on the Importance criteria</u>
(1a. Evidence, 1b. Performance Gap)

1a. Evidence: **10-Pass; 12-No Pass** (consensus not reached); 1b. Performance Gap: **1-H; 18-M; 3-L; 0-I**

<u>Rationale</u>:

- Committee members noted this question should be asked at every visit, and that a primary care provider is responsible for ensuring that someone is asking this question during every well-child visit. The Committee agreed that evidence exists that the outcome can be influenced by a provider, but as with #3219, expressed concerns with the timing and attribution issues. While the survey may be sent after the 15-month visit, the wording of the question refers, again, to the last 12 months and any provider seen: "In the last 12 months, did your child's doctor or other health provider (could be a general doctor, a specialist, a pediatrician, a nurse practitioner, a physician assistant, a nurse or any one else your child would see for health care) ask if you have concerns about your child's learning, development or behavior?"
- The Committee did not reach consensus on Evidence.
- The Committee agreed there was a gap in performance: The developer's testing data indicated nearly half of parents do not report being asked this question, and there are variations by child's age, race/ethnicity, level of risk for developmental, behavioral, or social delays, respondent education level, birth order, and children's special health care needs status.

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2. Scientific Acceptability of Measure Properties: <u>The measure does not meet the Scientific Acceptability criteria</u>
(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **0-H; 7-M; 13-L; 2-I** 2b. Validity: **X-H; X-M; X-L; X-I**

<u>Rationale</u>:

- As with #3219, the Committee raised significant reliability issues, specifically around the timing of the survey and lack of standardization in the timeframe to administer the survey and timing for response completion. The developer noted that in its studies, the survey was sent soon after

a visit, but the Committee felt the measure could not be used for accountability purposes without more specificity.

- Committee members noted that additional validity testing that would demonstrate parents were actually answering about what happened in a particular practice – as opposed to being asked by a WIC nurse, a school nurse, or ED doctor –would make them feel more comfortable with the measure. Committee members felt the current wording confounded the question of which practice the parent may be referring to in his or her response.
- Due to concerns about the timeframe of the questions, when the survey is to be sent, a cut-off time for returned responses, and the inability of the measure to attribute care to one provider, the measure did not pass Reliability and did not move forward.

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3. Feasibility: X-H; X-M; X-L; X-I

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)

Rationale:

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4. Usability and Use: X-H; X-M; X-L; X-I

(Used and useful to the intended audiences for 4a. Accountability and Transparency; 4b. Improvement; and 4c. Benefits outweigh evidence of unintended consequences)

Rationale:

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5. Related and Competing Measures

- This measure is related to a set of measures submitted by the same developer for review in this project; all are harmonized.

Standing Committee Recommendation for Endorsement: Y-X, N-X

Rationale

- The measure did not pass Reliability due to concerns about attribution to a single provider, the lack of standardization in the survey administration, and the lack of a cut-off for responding to of the survey, so it was not recommended.

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6. Public and Member Comment: April 12-May 11, 2017

- A commenter noted that eliciting parental strengths and needs promotes this learning and affirms and strengthens the role of the family as primary partner in health promotion. Since families most often are responsible for implementing next steps and recommendations, it is important that healthcare professionals listen to and learn from their perspectives. The commenter encouraged NQF to consider this continuum of health in the context of a partnership between families, physicians, and payers. The commenter acknowledged the importance of eliciting parental concerns, and stated it understands the difficulty in attributing outcomes within these areas to specific providers and experiences. The commenter disagreed with assessing parental concerns at the individual level and instead recommended that NQF measure this concept at a clinic/system levels which recognizes team

based care. Finally, the commenter proposed a list of measure concepts that could address this measurement gap area.

Committee response:

- Thank you for providing this comment. The issue has been added to the list of measure gaps in this report.

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7. Consensus Standards Approval Committee (CSAC) Vote to Uphold Committee Recommendation: Y-14; N-0

3221 Family Centered Care

Submission

Description: This measure is used to assess the average percentage of recommended of aspects of family-centered care (FCC) regularly received by the parent from the pediatric clinician. Topics specifically focus on the following components of FCC:

(1) whether the health care provider understands specific needs of child and concerns of parent;

(2) builds confidence in the parent;

(3) explains things in a way that the parent can understand; and

(4) shows respect for a family's values, customs, and how they prefer to raise their child.

Numerator Statement: The numerator measures the number of parents who had a well child visit within the last 12 months and who experienced family centered care in 7 specific areas.

Denominator Statement: The denominator is the number of parents with children ages 0-48 months who have completed a well child visit within the last 12 months who answered the Family Centered Care questions on the Promoting Healthy Development Survey (see Attachment A-2, page 12).

Exclusions: Missing data for the Family Centered Care questions excluded from analysis.

Adjustment/Stratification: No risk adjustment or risk stratification Although no stratification is required, the Promoting Healthy Development Survey (PHDS) includes a number of variables that allow for stratification of the findings by possible vulnerability, should any individual provide have sufficient data (parent responses) to do so. Potential variables for stratification include:

(1) Child demographic characteristics (e.g., the child´s age, race);

(2) Child health and descriptive characteristics (e.g., children at high risk for developmental, behavioral or social delays, special health care needs); and/or

(3) Parent health characteristics (e.g., children whose parents are experiencing symptoms of depression)

Level of Analysis: Clinician : Individual

Setting of Care: Clinician Office/Clinic

Type of Measure: Outcome: PRO

Data Source: Other

Measure Steward: Child and Adolescent Health Measurement Initiative

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STANDING COMMITTEE MEETING [03/02/2017]

1. Importance to Measure and Report: <u>The measure does not meet the Importance criteria</u>

(1a. Evidence, 1b. Performance Gap)

1a. Evidence: **6-Pass; 16-No Pass**; 1b. Performance Gap: **X-H; X-M; X-L; X-I**

<u>Rationale</u>:

- As with the two previous measures, #3219 and #3220, the Committee expressed concerns about the limited ability of this measure to attribute results to a single provider and, given this, the ability of that provider to influence the score. The Committee further noted that for this particular set of questions, it would be difficult for a physician to receive the results and understand how to intervene to improve on the measure. The Committee also expressed concern about the developer's data showing no improvement in these questions over time among providers who participated in the cited studies
- The Committee questioned the title of the measure, since family-centered care is an approach to care and encompasses much more than what is included in the items included in the measure.
- The Committee also noted that the questions presented were conceptually similar to the survey questions discussed in measure #3220: Ask About Parental Concerns.
- A Committee member asked if the automated reporting system and website had launched in February 2017, as planned. The developer stated that the website had not launched yet, but was expected to launch in March 2017.
- Due to the concerns about the measure's ability to attribute care to one provider, it did not pass Evidence and did not move forward.

2. Scientific Acceptability of Measure Properties:

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **X-H; X-M; X-L; X-I** 2b. Validity: **X-H; X-M; X-L; X-I**

<u>Rationale</u>:

3. Feasibility: X-H; X-M; X-L; X-I

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)

<u>Rationale</u>:

4. Usability and Use: X-H; X-M; X-L; X-I

(Used and useful to the intended audiences for 4a. Accountability and Transparency; 4b. Improvement; and 4c. Benefits outweigh evidence of unintended consequences)

<u>Rationale</u>:

5. Related and Competing Measures

Standing Committee Recommendation for Endorsement: Y-X; N-X

<u>Rationale</u>

- The measure did not pass Evidence due to concerns about the inability of the measure to attribute care to one provider, so it was not recommended.

6. Public and Member Comment: April 12-May 11, 2017

- A commenter noted the importance of family experiences and care, but also noted the difficulty in attributing outcomes within these areas to specific providers and experiences. The commenter encouraged NQF to consider mechanisms for family-centered care delivery when examining and testing methods to measure family-centered care, given its importance to pediatrics, and encouraged NQF to consider additional measures that assess family-centered care at the clinic/system levels.

Committee Response:

- Thank you for providing this comment. The issue has been added to the list of measure gaps in this report.

7. Consensus Standards Approval Committee (CSAC): July 12, 2017

Vote to Uphold Committee Recommendation: Y-14; N-0

3222 Assessment of Family Alcohol Use, Substance Abuse and Safety

Submission

Description: This measure is used to evaluate the proportion of children whose parents reported being assessed for one or more of the recommended topics regarding alcohol use, substance abuse, safety, and firearms in the home.

Numerator Statement: The numerator measures the number of parents who had a well child visit within the last 12 months and who were asked about alcohol use, substance abuse, safety and firearms in the house.

Denominator Statement: The denominator is the number of parents with children ages 0-48 months who have completed a well child visit within the last 12 months and answered all of the Family Alcohol Use, Substance Abuse and Safety questions on the Promoting Healthy Development Survey(PHDS, see Attachment A-2, page 17).

Exclusions: Missing data were excluded from the analysis.

Adjustment/Stratification: No risk adjustment or risk stratification Although no stratification is required, the Promoting Healthy Development Survey (PHDS) includes a number of variables that allow for stratification of the findings by possible vulnerability, should any individual provide have sufficient data (parent responses) to do so. Potential variables for stratificationners include:

(1) Child demographic characteristics (e.g., the child´s age, race);

(2) Child health and descriptive characteristics (e.g., children at high risk for developmental, behavioral or social delays, special health care needs); and/or

(3) Parent health characteristics (e.g., children whose parents are experiencing symptoms of depression)

Level of Analysis: Clinician : Individual

Setting of Care: Clinician Office/Clinic

Type of Measure: Outcome: PRO

Data Source: Other

Measure Steward: Child and Adolescent Health Measurement Initiative

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STANDING COMMITTEE MEETING [03/02/2017]

1. Importance to Measure and Report: <u>The measure does not meet the Importance criteria</u>

(1a. Evidence, 1b. Performance Gap)

1a. Evidence: **7-Pass; 15-No Pass**; 1b. Performance Gap: **X-H; X-M; X-L; X-I**

<u>Rationale</u>:

- The Committee agreed this measure was similar in content and structure to the previous measures presented (#3219, #3220, #3221, #3222). This measure evaluates the proportion of children whose parents report being assessed for three items: alcohol use, substance abuse, and firearms in the home. It can be used by providers to determine the level at which they discuss these issues with the parents.
- The developer indicated that the American Academy of Pediatrics and U.S. Maternal and Child Health Bureau Bright Futures guidelines include recommendations related to assessments of alcohol and drug use, the presence of guns, family violence, and other safety issues in the family.
- The Committee questioned why #3222 and #3223: Family Psychosocial Screening were split into different measures, because these kinds of questions are typically asked together in clinical practice. The developer clarified that #3223 was intended to focus on psychosocial screening and emotional well-being versus other environmental risk factors.
- The Committee again had concerns regarding attribution of performance, and therefore a provider's ability to influence his or her score, so the measure did not pass Evidence and did not move forward.

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2. Scientific Acceptability of Measure Properties:

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **X-H; X-M; X-L; X-I** 2b. Validity: **X-H; X-M; X-L; X-I**

<u>Rationale</u>:

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3. Feasibility: X-H; X-M; X-L; X-I

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)

<u>Rationale</u>:

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4. Usability and Use: X-H; X-M; X-L; X-I

(Used and useful to the intended audiences for 4a. Accountability and Transparency; 4b. Improvement; and 4c. Benefits outweigh evidence of unintended consequences)

<u>Rationale</u>:

5. Related and Competing Measures

- This measure is related to a set of measures submitted by the same developer for review in this project; all are harmonized.

Standing Committee Recommendation for Endorsement: Y-X, N-X

Rationale

- The measure did not pass Evidence due to concerns about the inability of the measure to attribute care to one provider, so it was not recommended.

6. Public and Member Comment: April 12-May 11, 2017

- There were no comments received on this measure.

7. Consensus Standards Approval Committee (CSAC): July 12, 2017

Vote to Uphold Committee Recommendation: Y-14; N-0

3223 Assessment of Family Psychosocial Screening

Submission

Description: This measure is used to assess the proportion of children whose parents were assessed by a health provider on one or more of the recommended psychosocial well-being topics, including depression, emotional support, changes or stressors in the home, and how parenting is working.

Numerator Statement: The numerator is the number of parents who had a well child visit within the last 12 months and who were asked about psychosocial well-being.

Denominator Statement: The number of parents with children ages 0-48 months who have completed a well child visit within the last 12 months and all answered questions related to the family psychosocial screening scale (see Attachment A-2, page 18).

Exclusions: Missing data are excluded from the analysis.

Adjustment/Stratification: No risk adjustment or risk stratification Although no stratification is required, the Promoting Healthy Development Survey (PHDS) includes a number of variables that allow for stratification of the findings by possible vulnerability, should any individual provide have sufficient data (parent responses) to do so. Potential variables for stratification include:

(1) Child demographic characteristics (e.g., the child´s age, race);

(2) Child health and descriptive characteristics (e.g., children at high risk for developmental, behavioral or social delays, special health care needs); and/or

(3) Parent health characteristics (e.g., children whose parents are experiencing symptoms of depression)

Level of Analysis: Clinician : Individual

Setting of Care: Clinician Office/Clinic

Type of Measure: Outcome: PRO

Data Source: Other

Measure Steward: Child and Adolescent Health Measurement Initiative

STANDING COMMITTEE MEETING [03/02/2017]

1. Importance to Measure and Report: <u>The measure does not meet the Importance criteria</u>
(1a. Evidence, 1b. Performance Gap)
1a. Evidence: **8-Pass; 14-No Pass**; 1b. Performance Gap: **X-H; X-M; X-L; X-I**
<u>Rationale</u>:

- The Committee found that this measure was similar in construct and evidence to the other related measures previously discussed (#3219, #3220, #3221, and #3222). The Committee noted that the questions are part of Bright Futures, and have been endorsed by the American Academy of Pediatrics and the U.S. Maternal and Child Health Bureau.
- One Committee member raised concern about the impact on parents of being asked about potentially difficult mental health issues, noting that it could be upsetting, and it is not clear what benefit, if any, parents receive from completing the survey.
- Overall, however, the Committee supported the importance of parents being involved in the development of this type of measure.
- As with the other measures, attribution to a single provider—and the ability of that provider to improve his or her score—continued to be a concern, given the construct of the measure/questions. The measure did not pass Evidence and did not move forward.

2. Scientific Acceptability of Measure Properties:
(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)
2a. Reliability: **X-H; X-M; X-L; X-I** 2b. Validity: **X-H; X-M; X-L; X-I**
<u>Rationale</u>:

3. Feasibility: X-H; X-M; X-L; X-I

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c.Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)
<u>Rationale</u>:

4. Usability and Use: X-H; X-M; X-L; X-I

(Used and useful to the intended audiences for 4a. Accountability and Transparency; 4b. Improvement; and 4c. Benefits outweigh evidence of unintended consequences)
<u>Rationale</u>:

5. Related and Competing Measures

- This measure is related to a set of measures submitted by the same developer for review in this project; all are harmonized.

Standing Committee Recommendation for Endorsement: Y-X; N-X

Rationale

- The measure did not pass Evidence due to concerns about the inability of the measure to attribute care to one provider, so it was not recommended.

6. Public and Member Comment: April 12-May 11, 2017

- There were no comments received on this measure.

7. Consensus Standards Approval Committee (CSAC): July 12, 2017

Vote to Uphold Committee Recommendation: Y-14; N-0

Measures Withdrawn from Consideration

Ten measures previously endorsed by NQF were not re-submitted for maintenance of endorsement or were withdrawn during the endorsement evaluation process. Endorsement for these measures was removed.

Measure	Reason for withdrawal
0010 Young Adult Health Care Survey (YAHCS)	Developer is no longer able to support the measure.
0011 Promoting Healthy Development Survey (PHDS)	Measure was submitted during this cycle as five new measures: NQF #2219, #3220, #3221, #3222, and #3223
0718 Children Who Had Problems Obtaining Referrals When Needed	Developer is no longer able to support the measure.
0723 Children Who Have Inadequate Insurance Coverage For Optimal Health	Developer is no longer able to support the measure.
1330 Children With a Usual Source for Care When Sick	Developer is no longer able to support the measure.
1332 Children Who Receive Preventive Medical Visits	Developer is no longer able to support the measure.
1334 Children Who Received Preventive Dental Care	Developer is no longer able to support the measure.
1335 Children Who Have Dental Decay or Cavities	Developer is no longer able to support the measure.
1337 Children With Inconsistent Health Insurance Coverage in the Past 12 Months	Developer is no longer able to support the measure.
1448 Developmental Screening in the First Three Years of Life	Developer is no longer able to support the measure.

Appendix B: NQF Pediatric Portfolio and Related Measures

NQF's portfolio of measures that include the pediatric population consists of 102 measures. Most measures within the pediatric portfolio have been assigned, for various reasons, to other Standing Committees, including for example: Patient Safety (adverse outcomes), EENT (ear infection measures), Care Coordination (discharge planning measures), and Health and Well-Being (screening measures).

This appendix provides information on the complete portfolio of pediatric measures, by clinical area, including those overseen by the Pediatrics Committee and by other Standing Committees. Only endorsed measures are included.

Behavioral Health

- 0004 Initiation and Engagement of Alcohol and Other Drug Dependence Treatment (IET)
- 0108 Follow-Up Care for Children Prescribed ADHD Medication (ADD)
- 0418 Preventive Care and Screening: Screening for Clinical Depression and Follow-Up Plan
- 0576 Follow-Up After Hospitalization for Mental Illness (FUH)
- 1365 Child and Adolescent Major Depressive Disorder (MDD): Suicide Risk Assessment
- 2800 Metabolic Monitoring for Children and Adolescents on Antipsychotics
- 2801 Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotics
- 2806 Adolescent Psychosis: Screening for Drugs of Abuse in the Emergency Department
- 3148 Preventive Care and Screening: Screening for Clinical Depression and Follow-Up Plan
- 3132: Preventive Care and Screening: Screening for Depression and Follow-Up Plan (eMeasure version of 3148)

Cardiovascular

- 0715 Standardized adverse event ratio for children < 18 years of age undergoing cardiac catheterization

Care Coordination

- 0297 Procedures and Tests
- 0496 Median Time from ED Arrival to ED Departure for Discharged ED Patients
- 0497 Admit Decision Time to ED Departure Time for Admitted Patients
- 2789 Adolescent Assessment of Preparation for Transition (ADAPT) to Adult-Focused Health Care
- 2842 Family Experiences with Coordination of Care (FECC)-1 Has Care Coordinator
- 2843 Family Experiences with Coordination of Care (FECC) -3: Care coordinator helped to obtain community services
- 2844 Family Experiences with Coordination of Care (FECC) -5: Care coordinator asked about concerns and health
- 2845 Family Experiences with Coordination of Care (FECC) -7: Care coordinator assisted with specialist service referrals
- 2846 Family Experiences with Coordination of Care (FECC)-8: Care coordinator was knowledgeable, supportive and advocated for child's needs
- 2847: Family Experiences with Coordination of Care (FECC) -9: Appropriate written visit summary content

- 2849 Family Experiences with Coordination of Care (FECC)-15: Caregiver has access to medical interpreter when needed
- 2850 Family Experiences with Coordination of Care (FECC)-16: Child has shared care plan

Health and Well-Being

- 0024 Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents (WCC)
- 0038 Childhood Immunization Status (CIS)
- 0041 Influenza Immunization
- 1659 Influenza Immunization
- 0226 Influenza Immunization in the ESRD Population (Facility Level)
- 0727 Gastroenteritis Admission Rate (PDI 16)
- 0728 Asthma Admission Rate (PDI 14)
- 1385 Developmental screening using a parent completed screening tool (Parent report, Children 0-5)
- 1392 Well-Child Visits in the First 15 Months of Life
- 1407 Immunizations for Adolescents
- 1516 Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life
- 1959 Human Papillomavirus Vaccine for Female Adolescents (HPV)
- 2508 Prevention: Dental Sealants for 6-9 Year-Old Children at Elevated Caries Risk
- 2509 Prevention: Dental Sealants for 10-14 Year-Old Children at Elevated Caries Risk
- 2511 Utilization of Services, Dental Services
- 2517 Oral Evaluation, Dental Services
- 2528 Prevention: Topical Fluoride for Children at Elevated Caries Risk, Dental Services
- 2689 Ambulatory Care Sensitive Emergency Department Visits for Dental Caries in Children
- 2695 Follow-Up after Emergency Department Visits for Dental Caries in Children
- 2797 Transcranial Doppler Ultrasonography Screening Among Children with Sickle Cell Anemia
- 2803 Tobacco Use and Help with Quitting Among Adolescents
- 3070 Preventive Care and Screening: Influenza Immunization (eMeasure)

Eye, Ear, Nose, and Throat (EENT)

- 0653 Acute Otitis Externa: Topical therapy
- 0654 Acute Otitis Externa: Systemic antimicrobial therapy – Avoidance of inappropriate use
- 0655 Otitis Media with Effusion: Antihistamines or decongestants – Avoidance of inappropriate use
- 0656 Otitis Media with Effusion: Systemic corticosteroids – Avoidance of inappropriate use
- 0657 Otitis Media with Effusion: Systemic antimicrobials – Avoidance of inappropriate use
- 1354 Hearing screening prior to hospital discharge (paper measure)
- 2946 Hearing screening prior to hospital discharge (eMeasure)
- 3058 Hearing screening prior to hospital discharge (bucket measure)
- 1360 Audiological Evaluation no later than 3 months of age (EHDI-3)
- 1361 Signed Part C Individual Family Service Plan (IFSP) before 6 months of age
- 2721 Screening for Reduced Visual Acuity and Referral in Children
- 2811 Acute Otitis Media - Appropriate First-Line Antibiotics

Infectious Disease

- 0069 Appropriate Treatment for Children With Upper Respiratory Infection (URI)
- 0405 HIV/AIDS: Pneumocystis jiroveci pneumonia (PCP) Prophylaxis
- 0409 HIV/AIDS: Sexually Transmitted Diseases – Screening for Chlamydia, Gonorrhea, and Syphilis

Neurology

- 0507 Diagnostic Imaging: Stenosis Measurement in Carotid Imaging

Perinatal and Reproductive Health

- 0033 Chlamydia Screening in Women (CHL)
- 0304 Late sepsis or meningitis in Very Low Birth Weight (VLBW) neonates (risk-adjusted)
- 0475 Hepatitis B Vaccine Coverage Among All Live Newborn Infants Prior to Hospital or Birthing Facility Discharge
- 0478 Neonatal Blood Stream Infection Rate (NQI #3)
- 0483 Proportion of infants 22 to 29 weeks gestation screened for retinopathy of prematurity.
- 0716 Unexpected Complications in Term Newborns
- 1382 Percentage of low birthweight births
- 2902 Contraceptive Care - Postpartum
- 2903 Contraceptive Care – Most & Moderately Effective Methods
- 2904 Contraceptive Care - Access to LARC

Person- and Family-Centered Care

- 2548 Child Hospital CAHPS (HCAHPS)

Pulmonary/Critical Care

- 0047 Asthma: Pharmacologic Therapy for Persistent Asthma
- 0334 PICU Severity-adjusted Length of Stay
- 0335 PICU Unplanned Readmission Rate

Readmissions

- 2393 Pediatric All-Condition Readmission Measure
- 2414 Pediatric Lower Respiratory Infection Readmission Measure

Renal

- 1423 Minimum spKt/V for Pediatric Hemodialysis Patients
- 1424 Monthly Hemoglobin Measurement for Pediatric Patients
- 1425 Measurement of nPCR for Pediatric Hemodialysis Patients
- 1667 Pediatric Kidney Disease : ESRD Patients Receiving Dialysis: Hemoglobin Level < 10g/dL
- 2706 Pediatric Peritoneal Dialysis Adequacy: Achievement of Target Kt/V

Safety

- 0138 National Healthcare Safety Network (NHSN) Catheter-associated Urinary Tract Infection (CAUTI) Outcome Measure
- 0139 National Healthcare Safety Network (NHSN) Central line-associated Bloodstream Infection (CLABSI) Outcome Measure
- 0337 Pressure Ulcer Rate (PDI 2)
- 0344 Accidental Puncture or Laceration Rate (PDI #1)
- 0348 Iatrogenic Pneumothorax Rate (PDI 5)
- 0350 Transfusion Reaction Count (PDI 13)
- 0362 Retained Surgical Item or Unretrieved Device Fragment Count (PDI 03)
- 2337 Antipsychotic Use in Children Under 5 Years Old
- 2723 Wrong-Patient Retract-and-Reorder (Wrong Patient-RAR) Measure
- 2726 Prevention of Central Venous Catheter (CVC)-Related
- 2820 Pediatric Computed Tomography (CT) Radiation Dose
- 2983 Potassium Sample Hemolysis in the Emergency Department

Surgery

- 0269 Timing of Prophylactic Antibiotics - Administering Physician
- 0339 RACHS-1 Pediatric Heart Surgery Mortality Rate (PDI 06)
- 0340 RACHS-1 Pediatric Heart Surgery Volume (PDI 7)
- 0733 Operative Mortality Stratified by the 5 STAT Mortality Categories
- 0743 Participation in a National Database for Pediatric and Congenital Heart Surgery
- 1815 Pediatric Cardiac Surgery Stratified Mortality and Volume Pair
- 2681 Perioperative Temperature Management
- 2683 Risk-Adjusted Operative Mortality for Pediatric and Congenital Heart Surgery

Appendix C: Pediatric Portfolio—Use in Federal Programs

NQF #	Title	Federal Programs: Finalized as of March 15, 2017
0004	Initiation and Engagement of Alcohol and Other Drug Dependence Treatment (IET)	Merit-based Incentive Payment System
0024	Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents (WCC)	Merit-based Incentive Payment System
0033	Chlamydia Screening in Women (CHL)	Merit-based Incentive Payment System
0038	Childhood Immunization Status (CIS)	Merit-based Incentive Payment System; Children's Health Insurance Program Reauthorization Act Quality Reporting
0041	Influenza Immunization	Merit-based Incentive Payment System
0069	Appropriate Treatment for Children With Upper Respiratory Infection (URI)	Merit-based Incentive Payment System
0108	Follow-Up Care for Children Prescribed ADHD Medication (ADD)	Merit-based Incentive Payment System
0138	National Healthcare Safety Network (NHSN) Catheter-associated Urinary Tract Infection (CAUTI) Outcome Measure	Hospital Inpatient Quality Reporting, Hospital Value-Based Purchasing, Hospital-Acquired Condition Reduction Program, Inpatient Rehabilitation Facility Quality Reporting, Long-Term Care Hospital Quality Reporting, Prospective Payment System (PPS)-Exempt Cancer Hospital Quality Reporting
0139	National Healthcare Safety Network (NHSN) Central line-associated Bloodstream Infection (CLABSI) Outcome Measure	Hospital Compare, Hospital Inpatient Quality Reporting, Hospital Value-Based Purchasing, Hospital-Acquired Condition Reduction Program, Prospective Payment System (PPS)-Exempt Cancer Hospital Quality Reporting
0405	HIV/AIDS: Pneumocystis jiroveci pneumonia (PCP) Prophylaxis	Merit-based Incentive Payment System
0409	HIV/AIDS: Sexually Transmitted Diseases – Screening for Chlamydia, Gonorrhea, and Syphilis	Merit-based Incentive Payment System
0418	Preventive Care and Screening: Screening for Clinical Depression and Follow-Up Plan	Merit-based Incentive Payment System; End-Stage Renal Disease Quality Incentive Program
0496	Median Time from ED Arrival to ED Departure for Discharged ED Patients	Hospital Outpatient Quality Reporting
0497	Admit Decision Time to ED Departure Time for Admitted Patients	Hospital Inpatient Quality Reporting

NQF #	Title	Federal Programs: Finalized as of March 15, 2017
0507	Diagnostic Imaging: Stenosis Measurement in Carotid Imaging Reports	Merit-based Incentive Payment System
0576	Follow-Up After Hospitalization for Mental Illness (FUH)	Merit-based Incentive Payment System; Inpatient Psychiatric Facilitates Quality Reporting; Children's Health Insurance Program Reauthorization Act Quality Reporting
0653	Acute Otitis Externa: Topical therapy	Merit-based Incentive Payment System
0654	Acute Otitis Externa: Systemic antimicrobial therapy – Avoidance of inappropriate use	Merit-based Incentive Payment System; Children's Health Insurance Program Reauthorization Act Quality Reporting
1365	Child and Adolescent Major Depressive Disorder (MDD): Suicide Risk Assessment	Merit-based Incentive Payment System
1392	Well-Child Visits in the First 15 Months of Life	Children's Health Insurance Program Reauthorization Act Quality Reporting
1407	Immunizations for Adolescents	Merit-based Incentive Payment System; Children's Health Insurance Program Reauthorization Act Quality Reporting
1423	Minimum spKt/V for Pediatric Hemodialysis Patients	End-Stage Renal Disease Quality Incentive Program
1516	Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life	Children's Health Insurance Program Reauthorization Act Quality Reporting
1659	Influenza Immunization	Hospital Inpatient Quality Reporting; Inpatient Psychiatric Hospital Quality Reporting
1667	Pediatric Kidney Disease : ESRD Patients Receiving Dialysis: Hemoglobin Level < 10g/dL	Merit-based Incentive Payment System
2681	Perioperative Temperature Management	Merit-based Incentive Payment System
3148	Preventive Care and Screening: Screening for Clinical Depression and Follow-Up Plan	Hospital Inpatient Quality Reporting

Appendix D: Project Standing Committee and NQF Staff

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Appendix E: Measure Specifications

3136 GAPPS: Rate of Preventable Adverse Events per 1,000 Patient-Days Among Pediatric Inpatients

STEWARD

Center of Excellence for Pediatric Quality Measurement

DESCRIPTION

GAPPS is a measure of the number of preventable adverse events per 1,000 patient-days among pediatric inpatients. It is designed to compare rates across institutions and over time. The GAPPS measure utilizes the GAPPS trigger tool to identify adverse events.

TYPE

Outcome

DATA SOURCE

Electronic Health Record (Only), Paper Records Primary Review Form, Suspected Adverse Event Form, Secondary Review Form A Secondary Review Form B, Consensus Form

Available in attached appendix at A.1 Attachment S.2b_Data_Dictionary_Code_Table_Manual_-_Automated_Trigger_Lists.xlsx

LEVEL

Facility

SETTING

Hospital : Acute Care Facility

NUMERATOR STATEMENT

The number of preventable adverse events found in a patient sample.

NUMERATOR DETAILS

Adverse events are defined as "unintended physical injuries resulting from or contributed to by medical care that require additional monitoring, treatments, or hospitalizations, or that result in death."[1,2] This matches the Institute for Healthcare Improvement's adult Global Trigger Tool's (IHI GTT's) definition of harm since "harm" and "adverse event" are used synonymously in the context of patient safety.[1] GAPPS includes assessments of preventability to facilitate the identification of clinical areas with potential for immediate improvement.

The GAPPS measure requires two physicians to review and independently rate the preventability of each adverse event case they review. When physicians disagree on an event's preventability, they discuss the rationale for their ratings with one another until both agree on whether an adverse event is preventable or not. A third physician is consulted in the rare occasion that the two physicians continue to disagree on an event's preventability after discussing with one another.

REFERENCES

1.   Griffin FA, Resar RK. IHI Global Trigger Tool for Measuring Adverse Events (Second Edition). Institute for Healthcare Improvement; 2009. (IHI Innovation Series white paper).

2.   Classen DC, Resar R, Griffin F, Federico F, Frankel T, Kimmel N, et al. "Global Trigger Tool" Shows That Adverse Events In Hospitals May Be Ten Times Greater Than Previously Measured. Health Aff (Millwood). 2011 Apr 1;30(4):581–9.

Below is a list of example triggers from the GAPPS Measure that are often found by reviewers in various sections of the medical record. For a full list of GAPPS triggers and a description of each, see appendix A.1.

Discharge summary

•   All inpatient deaths

•   Mechanical ventilation >48 hours

•   Hospital readmission within 30 days

•   Return to surgery

Laboratory reports

•   Valproic acid >170 mcg/ml

•   Carbamazepine >20 mcg/ml

•   Serum creatinine doubling

•   Nephrotoxin use (e.g., aminoglycosides, cyclosporine, tacrolimus, vancomycin) and rising creatinine (Cr)

•   Hepatotoxic medications and elevated liver enzymes (AST, ALT)

•   Drop of hemoglobin (Hgb) or hematocrit (Hct) of >25% in less than 24 hours

Radiology results

•   Patient fall

Physician orders

•   Abrupt medication stop

•   Transfer to higher level of care

Medication administration records (MARs)

•   Vitamin K administration after warfarin

•   Naloxone administration

•   Hypoglycemia (<2 mmol/L or 40 mg/dL)

Nursing flow sheets

•   Surgical site infection

•   Infiltration/phlebitis documentation

•   Embolus/thrombus documentation

•   Pressure ulcer documentation (= stage 2)

Procedure notes (diagnostic, surgical)

•   Any code or arrest, or rapid response team activation

•   Mechanical ventilation greater than 48 hours post-operative

Nursing/Physician/Multi-disciplinary progress notes

- Opiate-related constipation with intermittent laxative use
- Healthcare-associated infections: positive C. difficile test
- Healthcare-associated infections: positive blood culture (only after 48 hours from admission)
- Healthcare-associated infections: positive urine culture (only after 48 hours from admission)
- Healthcare-associated infections: positive respiratory or GI viral test (only after 48 hours from admission)
- Racemic epinephrine administration (patients mechanically ventilated within the last 24 hours)

DENOMINATOR STATEMENT

The denominator is 1,000 patient-days for all sampled pediatric patients who meet inclusion, but not exclusion, criteria.

DENOMINATOR DETAILS

The denominator includes all patients who meet the following criteria:

1. Patients <18 years of age at admission;

2. Patients with length of stay (LOS) greater than or equal to 24 hours;

3 Patients admitted for acute care. Acute care does not include patients discharged from the Emergency Department without admission to the hospital; or patients in rehabilitation and residential units, non-acute inpatient psychiatric units, newborn nurseries, and day treatment areas. If a patient is initially admitted acutely but subsequently transferred to inpatient psychiatric care, the acute portion of the hospitalization should be included; and

4. Patients who were discharged from, who were transferred out of, or who died during the inpatient or observation hospital stay.

EXCLUSIONS

N/A

EXCLUSION DETAILS

N/A

RISK ADJUSTMENT

Statistical risk model

STRATIFICATION

Stratification is not required within institutions. However, if desired, quality improvement teams may choose to stratify preventable adverse event rates. Variables commonly used to stratify outcome measures include service (e.g., medical versus surgical), department (e.g., cardiology, neurology, etc.), and patient safety focus area (e.g., healthcare-associated infections).

For comparisons between institutions, preventable adverse event rates should be stratified by teaching versus community hospitals due to differences in types (e.g., complexity) of patient populations

Rate/proportion better quality = lower score

GAPPS allows quality improvement teams to measure preventable adverse event rates over time among pediatric inpatients. GAPPS can be applied within entire hospitals, individual divisions or services, or specific programs. The original candidate trigger list (n=54 triggers) was developed through literature searches and expert panel determination. After the national field test, we selected the final manual triggers (n=27 triggers) based on incidence and positivity rates (i.e., the frequency with which a trigger identifies an AE). To form our automated trigger list, we compiled all of the manual triggers that could be automated in an academic tertiary care hospital's EHR system and all candidate triggers that had a low frequency in the national field test that could feasibly be automated and had a positivity rate =10% when further tested at the academic tertiary care hospital (n=30 triggers), and recommended inclusion of all manual triggers in a final automated trigger list. As compared with our final manual list (n=27 triggers), the final automated list added triggers that are relatively rare, but when present have a high positivity rate for identifying AEs (there is a lower bar for including triggers in the automated tool because it does not involve manual effort).

The main advantages of using the automated, rather than manual, GAPPS approach are speed (it eliminates the need to find triggers manually in medical records and allows primary reviewers to avoid looking at non-flagged records) and consistency of trigger detection (it reduces human error during review). Whether an institution uses the manual or automated trigger list, the implementation of the measure to identify adverse events is the same. For more detailed instructions on how to find preventable adverse events using either GAPPS' manual or automated approach, refer to Appendix A.

Step 1 – Assemble a review team

The GAPPS review team should consist of:

•   Two primary reviewers who are responsible for reviewing and identifying adverse events in medical records. The second primary reviewer will only review a subset of the first primary reviewer's charts for a reliability check. It is recommended that each primary reviewer have extensive clinical experience, have familiarity with multiple clinical settings and interventions (including diagnostic tests, medications, and procedures), and be well-acquainted with the hospital's medical record system and typical delivery of care. The primary reviewer in trigger tool applications has historically been a nurse, but physicians, physician assistants, and pharmacists – among others –may also be good candidates.

•   Two secondary reviewers who are responsible for reviewing any suspected adverse event identified by a primary reviewer. The secondary reviewers verify the occurrence of adverse events, as well as the ratings of severity and preventability for the events. They do not review medical records directly; instead, they listen to the primary reviewer's description of the adverse events he or she identified and ask questions as needed for clarification. Some secondary reviewers may choose to read the primary reviewer's written assessment in addition to listening to the reviewer's description of the hospitalization. Secondary reviewers should be physicians.

Step 2 – Select relevant hospitalizations

We recommend that the main primary reviewer selects a random sample of at least 20 inpatient hospitalizations each month from a list of all inpatient hospitalizations with discharge dates that

fall within the month being reviewed; the hospitalizations may be drawn from an entire hospital or from a specific division, service, or program. The hospitalizations should meet eligibility criteria (noted below) for a minimum of 60 hospitalizations per quarter. For institutions with high pediatric patient volume, records for 60 unique patients typically will be reviewed. However, patients who have multiple discharges that fall within a given quarter may have their records reviewed multiple times.

A two-stage process is used to determine which pediatric medical records should be included in the GAPPS sample frame. The first stage determines whether patients meet the inclusion criteria listed below. For patients who meet inclusion criteria, certain exclusion criteria – also described below, are then applied.

Inclusion Criteria:

GAPPS is intended for broadly reviewing the medical records of pediatric patients who meet the following criteria:

•   Patients <18 years of age at admission;

•   Patients with length of stay (LOS) =24 hours;

•   Patients admitted for acute care. Acute care does not include patients discharged from the Emergency Department without admission to the hospital; or patients in rehabilitation and residential units, non-acute inpatient psychiatric units, newborn nurseries, and day treatment areas. If a patient is initially admitted acutely but subsequently transferred to inpatient psychiatric care, the acute portion of the hospitalization should be included; and

•   Patients who were discharged from, who were transferred out of, or who died during the inpatient or observation hospital stay.

Exclusion Criteria:

Patients with inpatient LOS <24 hours are excluded because patients with brief hospital stays are less likely to have received the amount of medical intervention necessary to evaluate the quality of care.

Patients =18 years of age at admission are excluded because the Center of Excellence for Pediatric Quality Measurement's (CEPQM) task was to create a tool for measuring patient safety in the pediatric age group (i.e., <18 years of age). With this in mind, GAPPS is designed to perform exclusively in pediatric patients.

Step 3 – Review of patient records by primary reviewers and secondary reviewers

Primary reviewers should spend up to 30 minutes reviewing each hospitalization in a medical record. They should focus on identifying and recording triggers and adverse events (for lists of the GAPPS manual and automated triggers, see Appendix A).

•   Identifying triggers: When a trigger is discovered in the record (either manually or automatically via an electronic health record (EHR) system that flags hospitalizations), primary reviewers should look for information relevant to that trigger to investigate whether an adverse event occurred. Reviewers typically identify many more triggers than adverse events. If no adverse event is found, continue reviewing the remainder of the record for additional triggers. The manner in which the trigger is identified (manually or automatically) has no impact on the rest of the GAPPS measure process. The automated trigger list removes the arduous human identification factor from the process, but the measure remains exactly the same following trigger identification.

o   Some adverse events will be found without the identification of a related trigger. These events should still be recorded in the Primary Review Forms and Suspected Adverse Event Forms.

•   Identifying adverse events: Whether discovered due to a positive trigger or encountered while searching for triggers, adverse events and their corresponding information should be recorded by the primary reviewer. We recommend that reviewers consider the following items when determining whether an adverse event has occurred:

o   Harm likely occurred through event(s) in which people experiencing the event would be unhappy the event occurred (e.g., IV infiltrate, even if minor).

o   Adverse events are, by definition, the result of medical treatment. If an incident was part of the natural progression of a patient's disease process, it is unlikely to be an adverse event (e.g., patient admitted for respiratory failure due to pneumonia worsens despite appropriate management and consequently needs to be intubated), unless medical care somehow contributed to the incident.

o   Incidents that are the intended results of medical care are not considered adverse events (e.g., neutropenia with chemotherapy).

o   Psychological harm alone is not generally considered an adverse event (e.g., stress).

All identified adverse events should be recorded, regardless of location. The Primary Review Forms and Suspected Adverse Event Forms allow reviewers to specify where harms occurred, so harms occurring outside the hospital can be analyzed separately or removed from assessments of unit/hospital care quality as needed.

•   Determining severity

o   Severity: Reviewers should assign severity to an adverse event using the five-point severity scale below, which is a modified version of the National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP) Index for Categorizing Errors. Since the categories are not mutually exclusive, reviewers should assign the highest severity category that applies to the adverse event. It is important to note that adverse events in high-severity categories do not have to meet all of the requirements of lower-harm-level categories. For example, an adverse event can be categorized in harm level H (i.e., insulin bolus) but not qualify as a G-level harm (i.e., permanent injury).

Category E: Temporary harm to the patient and required intervention

Category F: Temporary harm to the patient and required initial or prolonged hospitalization

Category G: Permanent patient harm

Category H: Intervention required to sustain life

Category I: Patient death

Step 4- Determine preventability of adverse event

Primary reviewers (nurses) record preventability for data collection and internal validity assessment purposes. However, the final determination of preventability is made by the secondary reviewers (physicians). All reviewers should rely on the category definitions provided below and their own clinical experience when determining preventability. Training sessions, discussions with the review team, and experience with reviews will be crucial in developing consistent preventability ratings.

Categories of Preventability [1]

- Definitely not preventable: Events in which no obvious error occurred; necessary precautions were taken; no alteration in method or care exists to prevent the event.

o Drug-associated rash (no prior exposure or history): A 9-year-old male with no known allergies presented to the emergency department for a sore throat, cough, and fever. When the patient was given ibuprofen for his fever, he developed hives and itching. The patient was then given diphenhydramine and responded well to the drug with no respiratory distress. Ibuprofen was discontinued and listed as an allergy on the patient's medical record.

- Probably not preventable: Events that do not appear preventable but would require further investigation to assess certainty.

o Procedural complications (with skilled proceduralist and no errors): Despite nursing standards being followed, a 7-year-old female developed an IV infiltrate.

- Probably preventable: Events that appear preventable but would require further investigation to assess certainty.

o Hospital-acquired infections: A male infant born at 35 weeks estimated gestation age had an umbilical catheter placed. An inflamed wound developed at the catheter site, and he was started on antibiotics. An abscess formed at the site over the next few days, so the wound was drained, and cultures were obtained that were positive for MRSA and Enterobacter spp.

- Definitely preventable: Events where error was identified; necessary precautions were not taken; event was preventable by modification of behavior, technique, or care.

o Medication overdose: A 13-year-old female was given an overdose of insulin during treatment for diabetic ketoacidosis. Her blood glucose dropped precipitously, and she required a D50 bolus.

[1] While secondary reviewers can select one of four preventability rankings for each adverse event, preventability rankings are categorized into two groups when assessing secondary reviewer agreement and during data analysis. Specifically, adverse events ranked as "definitely not preventable" and "probably not preventable" are considered "nonpreventable," and adverse events ranked as "definitely preventable" and "probably preventable" are considered "preventable."

Step 5 – Record data in appropriate forms

Primary reviewers

Primary reviewers should complete the Primary Review Form for each hospitalization. For each adverse event, they should also complete the Suspected Adverse Event Form.

Secondary reviewers

Secondary Reviewer A should complete the Secondary Review Form A for each suspected adverse event identified by a primary reviewer, either confirming or denying that an adverse event occurred. Secondary Reviewer B should complete the Secondary Review Form B for each suspected adverse event identified by the primary reviewers, either confirming or denying that an adverse event occurred.

In cases in which Secondary Reviewers A and B disagree about whether an adverse event occurred or do not independently rate an adverse event with the same severity and preventability (note: preventability agreement is determined dichotomously, i.e., definitely/probably preventable vs. definitely/probably not preventable), the secondary reviewers must discuss the issues and reach consensus on all rankings. If the two secondary reviewers are unable to reach a consensus after discussing the case, a third physician should be

consulted. Once reviewers agree on all rankings, one of the reviewers should complete the Consensus Form.

Step 6 – Check reliability

To assess the reliability with which institutions use GAPPS to identify triggers and adverse events, a second primary reviewer should perform a completely independent review of a random 10% sample of the medical records reviewed by the main primary reviewer from each sampling time frame (i.e., 6 records per quarter). This second review should occur at the end of each year on a total of 24 records annually. During this check, the second primary reviewer completes the same forms as the first primary reviewer: the Primary Review Form and, for each adverse event identified in a medical record, the Suspected Adverse Event Form. Knowing the rates at which primary reviewers identify and agree about adverse events will allow institutions to assess the reliability of their adverse event detection and to improve training efforts for reviewers as needed.

Step 7 – Analyze data

After the primary and secondary reviewers complete their reviews in each collection period, the data should be analyzed by computing preventable adverse events per 1,000 patient-days using the following equation: [(Total number of preventable adverse events identified in all the medical records in the sampling frame)/(Sum of the total number of inpatient days for all of the medical records reviewed in the sampling period)]*1,000. When comparing across institutions, the unit of time should be annual.

Case-mix adjustment for inter-hospital comparisons:

We recommend groups use mixed effects negative binomial regression to adjust preventable adverse event rates based on patient characteristics and type of service. Specifically, the outcome is the number of preventable adverse events for an admission (exposure time equal to length of stay), case-mix variables are fixed effects, and a hospital-level random intercept represents the variation between hospitals. Case-mix models should be stratified by hospital type (teaching vs. community). The case-mix data are obtained from the Primary Review Forms.

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N/A

3153 Continuity of Primary Care for Children with Medical Complexity

STEWARD

Seattle Children's Research Institute

DESCRIPTION

This measure assesses the percentage of children with medical complexity age 1 to 17 years old who have a Bice-Boxerman continuity of care index (hereafter referred to as Bice-Boxerman COC index) of >=0.5 in the primary care setting over a 12-month period.

TYPE

Structure

Claims (Only) Denominator: ICD-9 or ICD-10 codes are needed during the 12-month measurement period (January 1 to December 31) to identify children with complex conditions using PMCA-V2.

Numerator: Administrative claims data, ie. CPT codes and ICD-9/ICD-10 codes, for all primary care utilization - including both preventive and acute care visits - are needed during the 12-month measurement period (January 1 to December 31) to calculate the Bice-Boxerman COC index. The National Provider Identifier (NPI) code is also needed for each primary care visit that occurred during the measurement period.

No data collection instrument provided Attachment COC_Data_Dictionary_FINAL.xlsx

LEVEL

Health Plan

SETTING

Clinician Office/Clinic

NUMERATOR STATEMENT

Number of eligible children(1) who have a Bice-Boxerman COC index >=0.50 in the primary care setting during the measurement year.

1. Eligible children are defined as children who are continuously enrolled for 12 months with no more than a 30-day gap in enrollment. Children with a gap greater than 30 days are excluded because of the potential for them to be enrolled in a different health plan at that time. In such cases, the child's administrative data for the health plan being measured would be incomplete and thus might not reflect the health plan's true performance on the measure. The timeframe of 30 days as the length of the gap was chosen to be consistent with the month-to-month eligibility assessments used by many Medicaid health plans.

NUMERATOR DETAILS

Administrative claims data, i.e. CPT codes and ICD-9 (or ICD-10) codes, for all primary care utilization – including both preventive and acute care visits – are needed during the 12-month measurement period to calculate the Bice-Boxerman COC index. The National Provider Identifier (NPI) code is also needed for each primary care visit that occurred during the measurement period.

DENOMINATOR STATEMENT

Children with medical complexity(1) who are 1-17 years old(2) and who have had >= 4 primary care visits(3) during the measurement year.

1. Children with medical complexity are defined as children who are classified by the Pediatric Medical Complexity algorithm, Version 2 (PMCA-V2) as having no chronic illness or non-complex chronic illness.

2. Children must be >=1 year and <=17 years of age on the last day of the measurement year.

3. Research has shown that stability of the COC index increases as the number of visits increases (ie. less subject to significant change as a result of minor variations in care dispersion).(1) We therefore established a minimum of four visits as has been done in previous studies.(1-3)

References

1. Christakis DA, Wright JA, Koepsell TD, Emerson S, Connell FA. Is greater continuity of care associated with less emergency department utilization? Pediatrics. 1999;103(4 Pt 1):738-742.

2. Christakis DA, Mell L, Koepsell TD, Zimmerman FJ, Connell FA. Association of lower continuity of care with greater risk of emergency department use and hospitalization in children. Pediatrics. 2001;107(3):524-529.

3. Tom JO, Tseng C-W, Davis J, Solomon C, Zhou C, Mangione-Smith R. Missed well-child care visits, low continuity of care, and risk of ambulatory care-sensitive hospitalizations in young children. Arch Pediatr Adolesc Med. 2010; 11:1052-1058.

DENOMINATOR DETAILS

The details for denominator identification using the PMCA-V2 are provided at http://www.seattlechildrens.org/research/child-health-behavior-and-development/mangione-smith-lab/measurement-tools/, including the ICD-9 codes used for determining PMCA-V2 categorization.

The ICD-9/ICD-10 combined PMCA SAS programming will be available at this website in March of 2017. The draft version is attached as an Appendix to this submission.

EXCLUSIONS

N/A

EXCLUSION DETAILS

N/A

RISK ADJUSTMENT

No risk adjustment or risk stratification

STRATIFICATION

N/A, no stratification is recommended.

TYPE SCORE

Rate/proportion better quality = higher score

ALGORITHM

To produce scores for the Continuity of Primary Care for Children with Medical Complexity quality measure, the following steps should be taken in this order:

1. Identify child enrollees age >=1 and <=17 on December 31 of the measurement year.

2. Retain those who were continuously enrolled for the 12 months of the measurement year with no more than a 30-day gap in enrollment.

3. Run the PMCA-V2 algorithm and retain only those classified as having complex chronic disease using the SAS programming code available at http://www.seattlechildrens.org/research/child-health-behavior-and-development/mangione-smith-lab/measurement-tools/.

4. Retain those with >=4 primary care visits during the measurement year. The denominator population has now been determined.

5. Calculate the Bice-Boxerman COC index score for eligible child enrollees in the denominator population using the SAS code available at http://www.seattlechildrens.org/research/child-health-behavior-and-development/mangione-smith-lab/measurement-tools/.

6. Calculate the percentage of eligible child enrollees with a Bice-Boxerman COC index >=0.5 by dividing the number of eligible child enrollees with a Bice-Boxerman COC index>=0.5 by the denominator of all eligible children determined by steps 1-4 above.

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N/A

3154 Informed Participation

STEWARD

The Children's Hospital of Philadelphia

DESCRIPTION

Improved measurement of the continuity of insurance coverage in the Medicaid and CHIP population is needed to help maximize insurance continuity and coverage for vulnerable children. To further this goal, the AHRQ-CMS CHIPRA PQMP Center of Excellence at the Children's Hospital of Philadelphia developed the metric Informed Coverage. The metric is designed to more accurately measure coverage among children enrolled in Medicaid or CHIP at the state level and overcome the current inability in the Medicaid Analytic eXtract (MAX) dataset to determine whether a child disenrolled from Medicaid and CHIP due to loss of eligibility (such as due to parental income increase or the acquisition of employer-sponsored insurance, a "good" reason) or failure to appropriately re-enroll (a "bad" reason). This measure can help federal and state programs develop strategies to retain children eligible for coverage and minimize gaps that can occur during the renewal process. Informed Coverage assesses the continuity of enrollment of children in publicly financed insurance programs (Medicaid and CHIP), as defined by the ratio of enrolled month to eligible months over an 18 month observation window. Informed Coverage uses a natural experiment based on the random event of appendicitis to "inform" the estimate of coverage in a given state, bounded by two extreme assumptions regarding unknown eligibility information: Coverage Presumed Eligible (PE) and Coverage Presumed Ineligible (PI).

TYPE

Outcome

DATA SOURCE

Claims (Only) The Medicaid Analytic eXtract (MAX) claims data are used for this metric.

No data collection instrument provided No data dictionary

LEVEL

Population : Regional and State

No Applicable Care Setting

NUMERATOR STATEMENT

The numerator for Informed Coverage represents the sum (within a state) of months enrolled in Medicaid/CHIP for all children over an 18-month window.

NUMERATOR DETAILS

The numerator is the summation (within a state) of months enrolled in Medicaid/CHIP for all children (0-18 years) over an 18-month window. A month is considered "covered" if a child has greater than 14 enrolled days in that month or if there is an indicator for S-CHIP coverage for that month. Figures 1 and 2 in the Appendix provide an illustration of Coverage PE and Coverage PI.

To determine what is the best assumption to use (either the Appendectomy Coverage Rate (or ACR), PI, or PE) inside each state, we compare the observed appendectomy coverage rate in a state, to the estimated coverage rate that would be calculated in that state with either PI, or PE assumptions. If PE < ACR < PI, we utilize ACR. If ACR > PI, we use PI, and if ACR < PE we use PE.

The ACR reflects a natural experiment since appendicitis is a random event, not dependent on healthcare of SES status. Appendicitis is defined using principal diagnosis (ICD-9 CM codes 540-541 Appendicitis; ICD-10 codes K35.2, K35.3, K35.80, K35.89, K37) or procedure (ICD-9 CM 47.0-47.09, 47.2 Appendectomy; ICD-10 codes 0DTJ4ZZ, 0DTJ0ZZ, 0DTJ7ZZ, 0DTJ8ZZ, 0D9J00Z, 0D9J0ZZ, 0D9J30Z, 0D9J3ZZ, 0D9J40Z, 0D9J4ZZ, 0D9J70Z, 0D9J7ZZ, 0D9J80Z, 0D9J8ZZ). This condition is utilized as it (1) has an acute onset (reflecting a discrete point in time); (2) has an incidence rate that is not influenced by prior care, insurance coverage, or by factors that may influence obtaining coverage, such as socioeconomic status; and, (3) would require hospitalization for all children regardless of insurance status. If a child is hospitalized and generates a bill seen in the Medicaid claims, they must have been eligible for Medicaid. If a child was not enrolled at the time of developing appendicitis, but was eligible, the appendicitis should still be observed because Medicaid and most CHIP programs allow up to three months of retroactive coverage and most states have policies of presumptive eligibility for their public insurance program. By identifying appendicitis hospitalizations and determining whether these children were enrolled prior to their hospitalization, we can utilize the rate of existing enrollment at the specific time point of the event to estimate the participation rate for the state population (number enrolled over number eligible at a given point in time). We determine if a child was enrolled prior to hospitalization using a look-back to their state of enrollment 4 months prior to hospitalization. The numerator for the appendicitis calculation is the number of children with an appendicitis hospitalization during the same 18-month observation window used for the Coverage PE and Coverage PI intermediate calculations, who are enrolled in Medicaid/CHIP four months prior to their inpatient stay.

DENOMINATOR STATEMENT

The sum (within a state) of months eligible for Medicaid/CHIP for all children (0-18 years) over an 18-month window. In addition, months that could be defined as "eligible" are based on known events recorded in the MAX data that would affect eligibility (birth or ageing out).

For the intermediate calculations of "Coverage Presumed Eligible (PE)" and "Coverage Presumed Ineligible (PI)", the denominator is the summation (within a state) of the months a child is eligible for Medicaid/CHIP over an 18-month observation window. The assumptions used to define a child as "eligible" for Medicaid/CHIP coverage for a given month is specific to which intermediate computation is being calculated. When calculating the intermediate computation of "Coverage Presumed Eligible (PE)", a child is defined as being eligible based on an 18-month observation, in combination with an 18-month look-back period. If any enrollment is observed in the 18-month look-back period, the child is defined as eligible for the entire 18-month observation window. If there is no evidence of enrollment in the 18-month look-back period, eligibility is defined from the first point of enrollment in the observation window. When calculating the intermediate computation of "Coverage Presumed Ineligible (PI)", a child is defined as being eligible solely on the 18-month observation window. For Coverage PI, eligibility starts from the first enrolled month during the 18-month observation window.

Again using the point-in-time analysis of appendicitis to calculate the observed participation rate, the denominator for the appendicitis calculation, is the number of children with an appendicitis hospitalization during the same 18-month observation window used for the Coverage PE and Coverage PI intermediate calculations. Appendicitis is defined using principal diagnosis (ICD-9 CM codes 540-541 Appendicitis; ICD-10 codes K35.2, K35.3, K35.80, K35.89, K37) or procedure (ICD-9 CM 47.0-47.09, 47.2 Appendectomy; ICD-10 codes 0DTJ4ZZ, 0DTJ0ZZ, 0DTJ7ZZ, 0DTJ8ZZ, 0D9J00Z, 0D9J0ZZ, 0D9J30Z, 0D9J3ZZ, 0D9J40Z, 0D9J4ZZ, 0D9J70Z, 0D9J7ZZ, 0D9J80Z, 0D9J8ZZ). Appendicitis was chosen because the aim was to create a population where both enrolled and unenrolled eligible children are identifiable in MAX, we sought a condition that: (1) has an acute onset (reflecting a discrete point in time); (2) has an incidence rate that is not influenced by prior care, insurance coverage, or by factors that may influence obtaining coverage, such as socioeconomic status; and, (3) would require hospitalization for all children, regardless of insurance status. Appendicitis meets these three criteria. Appendicitis has an acute onset which occurs at random and is not influenced by previous care or insurance status; it is not influenced by child or parental characteristics or actions that affect likelihood of coverage; and if children develop appendicitis, they will be hospitalized. If a child is hospitalized and generates a bill seen in the Medicaid claims, they must have been eligible for Medicaid. If a child was not enrolled at the time of developing appendicitis, but was eligible, the appendicitis should still be observed because Medicaid and most CHIP programs allow up to three months of retroactive coverage and most states have policies of presumptive eligibility for their public insurance programs.

EXCLUSIONS

For the appendicitis calculation, the population is limited to children between the ages of 2 to 16 years old. To determine what is the best assumption to use (either the Appendectomy Coverage Rate (or ACR), PI, or PE) inside each state, we compare the observed appendectomy coverage rate in a state, to the estimated coverage rate that would be calculated in that state with either PI, or PE assumptions.

EXCLUSION DETAILS

For children who are born within the 18-month window of observation, the total months of eligibility begins from date of birth. Finally, for children who reach the age of 18 before the end

of the 18-month window of observation, the total month of eligibility ends with their 18th birthday.

No risk adjustment or risk stratification

No stratification

Other (specify): better quality = higher score

The following describes the steps for calculating the intermediate computations and their use for the final determination. A minimum of three continuous years of MAX claims data are required. The first 18 months are used for a lookback and the second 18 months are the observation period. The same 18-month observation window is used for all calculations. All calculations are done within a state.

Determine the appendectomy participation rate (APR) Intermediate Calculation:

The prior participation of eligible patients developing appendicitis 4 months prior to developing appendicitis

Step 1- Calculate the denominator for appendectomy participation rate: 1) Identify all children between the ages 2 and 16 at the start of the 18-month observation window; 2) Identify the number of children with an inpatient admission for either a principal diagnosis of appendicitis (ICD-9 CM codes 540-541; ICD-10 codes K35.2, K35.3, K35.80, K35.89, K37) or a principal procedure of appendectomy (ICD-9 CM codes 47.0-47.09, 47.2; ICD-10 codes 0DTJ4ZZ, 0DTJ0ZZ, 0DTJ7ZZ, 0DTJ8ZZ, 0D9J00Z, 0D9J0ZZ, 0D9J30Z, 0D9J3ZZ, 0D9J40Z, 0D9J4ZZ, 0D9J70Z, 0D9J7ZZ, 0D9J80Z, 0D9J8ZZ). Step 2- calculate the numerator for appendectomy coverage rate: 1) Identify the total number of children with pre-existing enrollment in Medicaid or CHIP. Pre-existing enrollment is defined as an observed enrollment exactly four months prior to their date of admission. Step 3- Calculate the appendectomy participation rate: compute the percentage of children admitted for appendicitis/appendectomy with pre-existing enrollment in Medicaid or CHIP, defined by enrollment 4 months prior to the admission.

Determination of the Appendectomy Never Participated Rate (ANPR) Intermediate Calculation: The fraction of eligible appendectomy patients who did not have any participation noted at any point 4 or more months prior to developing appendicitis (within the limits of the observation and lookback period data).

Coverage PE Intermediate Calculation:

Step 4- To determine the denominator for Coverage PE (total months of eligibility using the PE approach): 1) identify all children enrolled in Medicaid/CHIP at any point within the 18-month window of observation AND/OR the 18-month look back, excluding those older than 18 at the beginning of the 18-month observation window; 2) Identify all children who are born within the 18-month window of observation – for these children, total months of eligibility begin from date of birth; 3) Identify all children who reach the age of 18 before the end of the 18-month window of observation – for these children, total months of eligibility end with their 18th birthday; 4) Identify all children who DO NOT APPEAR as covered at any point within the 18-month look back

period ("covered" defined as at least one day of coverage) – for these children, total months of eligibility begin with their first day of coverage within the 18-month observation window; 5) For all other children who do not represent populations in Steps 1, 2, or 3, total months of eligibility equals all 18 months in the observation window; and 6) The Coverage PE denominator is the summation of total number of eligible months for all children in the eligible population. Step 5- to determine the numerator for Coverage PE (total months of coverage using PE approach): 1) Identify total number of months in the 18 month observation window covered by MAX/CHIP for each child in the eligible population. A month is considered "covered" if the child has greater than 14 days of enrollment in that month or if there is an indicator for S-CHIP coverage for that month; and 2) The Coverage PE numerator is the summation of total months covered within the 18-month observation window for all children in the eligible population. Step 6- Calculate the Coverage PE intermediate value: compute the percentage of months covered within the 18-month observation window (Coverage PE numerator divided by Coverage PE denominator).

PE adjustment for patients never enrolled (PE´): See appendix for derivation (Figure 3). PE´=PE*(1-ANPR).

Coverage PI Intermediate Calculation:

Step 7- To determine the denominator for Coverage PI (the total months of eligibility using the PI approach): 1) identify all children enrolled in Medicaid/CHIP at any point within the 18-month window of observation, excluding those children older than 18 at the beginning of the 18-month observation window; 2) Identify all children who are born within the 18-month window of observation – for these children, total months of eligibility begin from date of birth; 3) Identify all children who reach the age of 18 before the end of the 18-month window of observation – for these children, total months of eligibility ends with their 18th birthday; 4) For all other children who do not represent populations in Steps 1, 2, or 3, months of eligibility begins with the first observed enrollment in the observation window and continues for the remainder of the observation window; and 5) The Coverage PI denominator is the summation of the total number of eligible months for all children in the eligible population. Step 8- to determine the numerator for Coverage PI (total months of coverage using PI approach): 1) Identify the total number of months in the 18-month observation window covered by MAX/CHIP for each child in the eligible population. A month is considered "covered" if the child has greater than 14 days of enrollment in that month or if there is an indicator for S-CHIP coverage for that month; and 2) The Coverage PI numerator is the summation of the total months covered within the 18-month observation window for all children in the eligible population. Step 9- Calculate the Coverage PI intermediate value: compute the percentage of months covered within the 18-month observation window (Coverage PI numerator divided by Coverage PI denominator).

Informed Coverage:

Step 10- The Informed Coverage is the weighted mean of the state Coverage PE´ and state Coverage PI values, where the weights are determined by the state appendectomy participation rate.   The closer the appendectomy rate is to Coverage PE, the more weight that Coverage PE receives in the informed coverage measure, and the closer the appendectomy rate is to Coverage PI, the more weight that Coverage PI receives in the informed coverage.

3166 Antibiotic Prophylaxis Among Children with Sickle Cell Anemia

STEWARD

QMETRIC - University of Michigan

DESCRIPTION

The percentage of children ages 3 months to 5 years old with sickle cell anemia (SCA, hemoglobin [Hb] SS) who were dispensed appropriate antibiotic prophylaxis for at least 300 days within the measurement year.

TYPE

Process

DATA SOURCE

Claims (Only) NA

No data collection instrument provided Attachment QMETRIC_SCDAntibioticProphlaxis_National_Drug_Codes.xlsx

LEVEL

Health Plan

SETTING

Other Any setting represented with prescription medication claims data

NUMERATOR STATEMENT

The numerator is the number of children ages 3 months to 5 years old with SCA (Hb SS) who were dispensed appropriate antibiotic prophylaxis for at least 300 days within the measurement year.

NUMERATOR DETAILS

Target population (children with SCA): Children with SCA (Hb SS) are identified through the presence of at least three separate healthcare encounters related to Hb SS within the measurement year. These encounters are identified through either ICD-9 or ICD-10 codes. Children ages 3 months to 5 years are included within the target population (i.e., must not have a 6th birthday within the measurement year). Children must be continuously enrolled within the health plan in which claims are available and must have no other form of health insurance for the entire measurement year.

Cases from target population with target process (appropriate antibiotic prophylaxis dispensed for at least 300 days within the calendar year): Antibiotic prophylaxis is defined as at least 300 days covered within the measurement year, which is the summed total of the number of days' supply of antibiotics dispensed within the measurement year (see National Drug Codes (NDC) table attached in S.2b.).

NOTE: Although NHLBI guidelines specifically recommend penicillin for antibiotic prophylaxis, some children may have or be suspected to have penicillin sensitivity. The American Academy of Pediatrics Section on Hematology/Oncology and Committee on Genetics suggests an alternative for children who are allergic to penicillin: "Erythromycin prophylaxis may be used as an alternative for children with suspected or proven penicillin allergy" (Citation: American Academy

of Pediatrics Section on Hematology/Oncology and Committee on Genetics (Pediatrics 2002; 109(3):526-535; Reaffirmed in 2016). Therefore, we have included a broader definition of antibiotic prophylaxis than penicillin in this measure. This is intended to avoid underestimation of the proportion of children with SCA who are protected against pneumococcal infection.

DENOMINATOR STATEMENT

The denominator is the number of children ages 3 months to 5 years with SCA (Hb SS) within the measurement year.

DENOMINATOR DETAILS

Children with SCA (Hb SS) are identified through the presence of at least three separate healthcare encounters related to Hb SS within the measurement year. Hb SS-related healthcare encounters are identified through either ICD-9 or ICD-10 codes (See specification in S.1). Children ages 3 months to 5 years are included within the target population (i.e., must not have a 6th birthday within the measurement year). Children must be continuously enrolled within the health plan in which claims are available and must have no other form of health insurance for the entire measurement year.

Note: Children with SCA are included starting at 3 months of age to account for any lag in identification and confirmation of the sickle cell disease status of the child.

EXCLUSIONS

There are no denominator exclusions.

EXCLUSION DETAILS

NA

RISK ADJUSTMENT

No risk adjustment or risk stratification

STRATIFICATION

NA

TYPE SCORE

Rate/proportion better quality = higher score

ALGORITHM

1. Identify the denominator: Determine the eligible population using administrative claims. The eligible population is all individuals who satisfy all specified criteria, including age, continuous enrollment, and benefit requirements within the measurement year.

2. Identify the numerator: Identify numerator events using administrative claims for all individuals in the eligible population (denominator) within the measurement year.

3. Calculate the rate: (numerator/denominator).

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N/A