

# Children's Outcomes

## Pediatric Core Measures – A New Phase in Quality of Care Reporting

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For many years, measures of the quality of pediatric hospital care have been routinely reported to the Joint Commission (JCAHO) via their mandatory ORYX reporting system. When ORYX was first introduced in 1997, organizations were encouraged to propose and submit quality metrics to JCAHO. The result was the reporting of a large number of unvalidated and incomparable measures. In 2002, with input from professional and governmental organizations, JCAHO quickly moved away from a large number of “non-core” measures and established a (growing) panel of mandatory “core” measures that are required to be submitted by all adult-care organizations as part of their JCAHO accreditation. Core measures have stringent case definitions and exclusions to ensure uniformity and comparability across institutions. Current core measure sets focus on acute myocardial infarction, heart failure, pneumonia, surgical infection prevention, and pregnancy-related conditions. Although there is controversy regarding the strength of the evidence linking specific ORYX core measures to the quality of care and to improved clinical outcomes, the ORYX program has become a widely-used source of publicly-reported clinical quality metrics nation-wide (see <http://www.qualitycheck.org>).

In pediatrics, attempts to adopt or adapt adult-based quality measures have been largely unsuccessful (although attempts to do so continue to this day!). Developing clinically-meaningful validated pediatrics quality measures has been difficult due to the broader diversity of pediatric illnesses and populations. Thus, pediatrics has continued to report JCAHO-approved non-core ORYX measures. Pediatric facilities were required to develop and report nine non-core measures each quarter. Working with Medical Management Partners (MMP), TCH and other pediatric institutions helped define a set of clinically-relevant validated non-core ORYX measures focused on nosocomial blood stream infections, mislabeled specimens, unplanned extubations in the PICU, unplanned returns to the PICU and asthma care. MMP's BENCH system has been TCH's JCAHO-approved ORYX vendor.

In the late 1990's, JCAHO began re-assessing the continued use of “non-core” ORYX measures in pediatric hospital care. Seeking to repeat adult medicine's migration from a large set of non-validated non-core measures to a smaller set of validated core measures, JCAHO engaged the pediatrics community to create acceptable core measures. In 2000, an industry-wide initiative called the Pediatric Data Quality Systems (Pedi-QS) was formed to propose and evaluate candidate pediatric core measures. TCH participated in numerous Pedi-QS validation initiatives. Although measures from a wide variety of pediatric

diseases were considered, three measures from hospital-based asthma care eventually were brought forward, pilot-tested, and approved. On December 1, 2006, JCAHO announced the Children's Asthma Care (CAC) measures as the initial set of pediatric ORYX core measures. Data collection started April 1, 2007. The first required data submission for April 1 – June 30, 2007 asthma admissions is due October 1, 2007. In addition to the three new core measures, pediatric facilities were required to continue reporting 6 non-core measures.

As the most prevalent, and growing, chronic disease in children and as a leading cause of pediatric morbidity, it is not surprising that asthma care would be a strong candidate for the initial pediatric ORYX core measures. In 2003, Silber estimated that 200,000 pediatric admissions in the United States annually, with an estimated cost of \$3 billion. Deaths from childhood asthma, while rare at approximately 2 per 1,000,000 children age 0-17, have remained relatively stable for nearly 10 years.

Asthma has a substantial body of literature that has shown the relationship between specific clinical practices and improved asthma outcomes. Evidence-based guidelines for the diagnosis and treatment of asthma have been developed by the National Asthma Education and Prevention Program (NAEPP) of the National Heart, Lung, and Blood Institute and by the American Academy of Pediatrics. The NAEPP recommendations are based on four core components of asthma care aimed at first achieving and then maintaining asthma control: 1) accurate diagnosis, severity assessment and monitoring; 2) controlling factors that complicate asthma; 3) appropriate use of controller medications for persistent asthma; and 4) education and partnering with patients and families in their care through the use of an asthma action plan. In studies where the NAEPP asthma care recommendations were successfully implemented, decreases in asthma hospitalizations and ED visits have been documented.

Using the available evidence and the results of the Pedi-QS validation exercises, the three ORYX pediatric core measures (called the CAC measures) are:

1. The use of reliever medications for inpatient asthma.
2. The use of system corticosteroids for inpatient asthma.
3. The use of a home management plan given to the patient/caregiver upon discharge for inpatient asthma

Measures #1 and #2 are endorsed by the National Quality Forum (NQF). Measure #3 has not received NQF endorsement and therefore is considered a “test” measure. A 100+ page document

from JCAHO provides extensive definitions for each of these measures. Providers can document contraindications for using reliever medications or corticosteroids for specific patients. JCAHO has provided detailed specifications for the elements that are to be included in the home management plan (TCH calls this document the “Asthma Action Plan”, a term commonly used in the asthma care literature).

To meet this new JCAHO reporting requirement and anticipating JCAHO’s probable future requirement for additional core measures, the National Association of Children’s Hospitals and Related Institutions (NACHRI) and the Child Health Corporation of America (CHCA) partnered to create the Pediatrics Quality Measurement System (PQMS). PQMS allows institutions to submit a standard data set which can be used to create both core and non-core JCAHO measures. TCH has a long-standing data submission relationship with both CHCA and NACHRI, which provide TCH with access to a number of multi-institutional comparative databases (a topic of a future newsletter). Approximately 25 pediatric institutions have agreed to join PQMS, which will provide an opportunity to compare non-core and core measures across similar institutions. Based on our existing relationships and the large number of comparable institutions that will be participating, TCH will be replacing MMP/BENCH as our ORYX vendor with NACHRI/CHCA’s PQMS system. Although the first submission to JCAHO is not due until October 1, 2007, trial data submissions from TCH to NACHRI/PQMS for the first core measure submission have already started.

Two interesting strategic issues for TCH that these new JCAHO reporting requirements bring to the foreground are:

- Can TCH use the clinical documentation capabilities of the EPIC EMR to collect the required CAC data elements as part of standard clinical care? The use/non-use of relievers and corticosteroid medications can be extracted using MAR records. But the presence of clinical contraindications and the use of an asthma action plan require more standardized clinical documentation procedures than are currently used.
- Should TCH use the clinical decision support capabilities of the EPIC EMR to ensure 100% compliance with the CAC measures? Should disruptive “hard stop” alerts be used to require clinical documentation of contraindications and asthma action plans? It is well documented that systems that trigger too many alerts and hard-stops result in “alert-fatigue” where clinicians simply ignore or by-pass the large volume of non-urgent alerts. Thus, each new alert / hard stop needs to be considered very carefully against the existing clinician alert burden. Is this an area where TCH should “consume” a precious alert? As JCAHO adds new core measures in the future, do we continue to add alerts just because it is a JCAHO core measure?

If the trend in adult medicine is a harbinger for what is likely to happen in pediatric medicine, additional ORYX core measures will be developed and mandated and non-core measures will be phased out. As highlighted above, EPIC could reduce the burden of collecting and reporting core measures and could also ensure high compliance with the clinical practices which underlie the measures.

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