

Pediatric Quality Indicators

A tool to help improve quality of health care for children.

What are the Pediatric Quality Indicators?

The Pediatric Quality Indicators (PDIs) are a set of measures that focus on children's health care quality using routinely collected hospital discharge data as the basis for indicator specification.

Development of quality indicators for the pediatric population involves many of the same challenges associated with the development of quality indicators for the adult population. These challenges include the need to carefully define indicators using administrative data, establish validity and reliability, detect bias and design appropriate risk adjustment, and overcome challenges of implementation and use.

Simply applying adult indicators to younger age ranges is insufficient. For example, many quality indicators dealing with common chronic diseases in adults simply do not apply to children, whereas other indicators derived from the adult setting require careful consideration of their validity due to different causative factors in the pediatric population. Others require modified definitions due to different coding practices for children. Therefore, the development of the Pediatric Quality Indicators module required careful consideration of each of these factors.

The population for the Pediatric Quality Indicators is as follows:

- Age under 18 years
- Not in Major Diagnostic Category (MDC) 14 (Pregnancy, Childbirth & the Puerperium)
- Not in adult Diagnostic Related Groups (DRGs)

Stratification categories include pediatric age in years, age in days, and birth weight.

How can the PDIs be used to improve health care quality for children?

All but two of the thirteen provider-level measures are cross-cutting, applying to children admitted for a variety of procedures and/or conditions. Pediatric heart surgery mortality and volume may be more applicable to children's hospitals than community hospitals, although some community hospitals perform less complex heart surgeries. For indicators where hospital case mix is expected to vary, stratification is available to allow a hospital with a more complex case mix to examine rates by risk groups separately and pinpoint quality concerns further. This set of measures also includes five area-level indicators that allow policy makers to target specific groups that appear to be developing more severe disease requiring hospitalization. Higher than anticipated rates may reflect poor access to care, barriers to timely care, barriers to adherence to medical advice, cultural influences that preclude seeking early treatment, or higher prevalence of poor health behaviors. Interventions may address any of these factors.

Provider-level indicators provide a measure of the potentially preventable complication for patients who received their initial care and the complication of care within the same hospitalization. Provider-level indicators include only those cases where a secondary diagnosis code flags a potentially preventable complication.

- **Accidental Puncture or Laceration**
- **Decubitus Ulcer**
- **Foreign Body Left During Procedure**
- **Iatrogenic Pneumothorax in Neonates**
- **Iatrogenic Pneumothorax in Non-neonates**
- **Pediatric Heart Surgery Mortality**
- **Pediatric Heart Surgery Volume**
- **Postoperative Hemorrhage or Hematoma**
- **Postoperative Respiratory Failure**
- **Postoperative Sepsis**
- **Postoperative Wound Dehiscence**
- **Selected Infections Due to Medical Care**
- **Transfusion Reaction**

Area-level indicators are specified to include principal diagnosis, as well as secondary diagnoses, for the complications of care. This specification adds cases where a patient's risk of the complication occurred in a separate hospitalization.

- **Asthma Admission Rate**
- **Diabetes Short-term Complication Rate**
- **Gastroenteritis Admission Rate**
- **Perforated Appendix Admission Rate**
- **Urinary Tract Infection Admission Rate**

The document *Measures of Pediatric Health Care Quality Based on Hospital Administrative Data, The Pediatric Quality Indicators*, software, and software documentation are available on the AHRQ Quality Indicators web site: http://www.qualityindicators.ahrq.gov/pdi_download.htm.