

# Illinois EMS for Children Quality Improvement and Indicator Monitoring Report

Title of Project: **Peak-Flow (PEFR) Measurements for Asthma Patients**  
 Date of Report: April 28, 2003  
 EMSC Region: Region 7  
 Facility: All Participating Facilities in the Regional CQI Effort

## 1. Opportunity / Problem Identification (PLAN)

- Opportunity: Pediatric PEFR measurements for asthma patients in the ED
- Problem: Less than adequate pre-treatment evaluation of PEFR (4%), nebulizer treatments (60%), and post-treatment PEFR measurement (12%)
- Desired Outcome: 100% pre-treatment PEFR measurement, 100% nebulizer treatment, and 100% post-treatment PEFR measurement

## 2. Most Likely Causes

- Lack of staff awareness of expectations
- Lack of existing guidelines, protocols
- Inadequate pediatric asthma management knowledge

## 3. Solution(s) Implemented (DO)

- Multidisciplinary approach
- Educational presentations
- Reminder materials
- Development/revision of asthma management guidelines

## 4. Data Elements Collected for Evaluation

- Age
- Pre-treatment PEFR measurement
- Treatment: nebulizer, MDI
- Post-treatment PEFR
- Each hospital evaluates up to 30 charts per quarter

## 5. Results and Data Analysis (STUDY)

- Pre-treatment PEFR: 39% improvement
- Nebulizer Treatment: 36% improvement
- Post-treatment PEFR: 27% improvement

## 6. Conclusions and Recommendations (ACT)

- Conclusion: The emergency departments in Illinois EMSC Region 7 have shown progress toward meeting the desired outcomes for PEFR measurements and nebulizer treatments for children presenting with asthma. This improvement follows a multidisciplinary systems approach and specific educational efforts.
- Recommendations: Continue on-going efforts to maintain and promote awareness of pediatric asthma management. Perform literature review to determine the current efficacy of PEFR measurements for pediatric management of acute asthma exacerbations in the ED. Ongoing data analysis.

**Region 7 EMSC CQI – Peak-Flow Measurements for Asthma  
Regional Totals for 2002**

Note: Error bars represent 95% confidence intervals.

