

Purpose of Study

The pediatric asthma focus study for EQR 1999 assessed selected components of care provided to children diagnosed with asthma. Asthma is the foremost serious chronic disease in children and the leading cause for school absenteeism related to chronic illnesses. Studies estimate that one-third of the 17 million asthmatics in the United States are children under 18 years of age. Asthma is characterized by swelling of the bronchial tubes causing wheezing and breathing difficulty. Asthma, a reversible lung disease, can be life threatening if not properly managed (American Lung Association Website, 1999).

Study Population

The study population included enrollees with the diagnosis of asthma between the ages of five and eighteen years. A minimum of 12 months continuous enrollment during the review period was also required. A diagnosis of asthma was confirmed by the use of at least two asthma-related prescription drugs, or one asthma-related emergency room (ER) visit, or one asthma-related inpatient stay. Enrollees selected for the medical record abstraction experienced a minimum of one office visit during the study period with a primary care provider or an asthma specialist.

Study Questions

The study used criteria developed in accordance with the National Heart, Lung, and Blood Institute's National Asthma Education and Prevention Program (NAEPP2) to evaluate pediatric asthma care. Study questions based on criteria developed from NAEPP2 standards were used to divide the report into sections. The study questions are listed below:

- Does clinical management of children with asthma include use of peak flow meter, interval history, self management or educational instructions, medication monitoring, assessment of functional status?
- What is the proportion of enrollees with service use that does not include ambulatory (office) visits with a primary or specialty provider?
- What is the ER visit rate and inpatient admission rate for all children identified in the asthma population?

Limitations

The measurements for pediatric asthma care reported in the EQR 1998 study were based on a sample of enrollees aged seven to 18 years while the population age range for EQR 1999 included enrollees aged five to 18 years. Due to a sampling error, children aged five and six were omitted from the EQR 1998 study. The 1999 enrollees must also have had two asthma-related prescriptions filled, or an asthma-related ER visit, or an asthma related inpatient admission during the study period for EQR 1999. The 1998 EQR required only an office visit with the PCP. These differences in sample selection criteria may have an effect on the comparability of data from year to year.

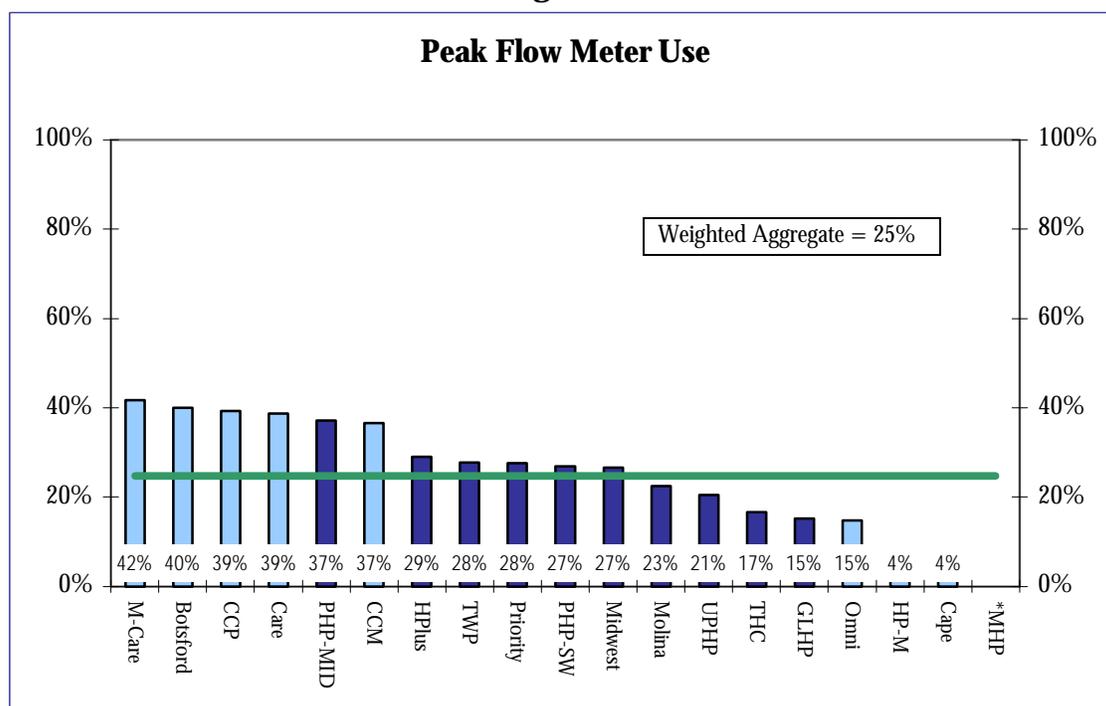
Results

Peak Flow Meter Use

⇒ **25% of children with asthma received a spirometry or peak flow meter reading during the study period**

This review assessed whether at least one peak expiratory flow rate (PEFR) or spirometry measurement was documented in the medical record for enrollees during the study period. These could have been performed in the physician's office, or the enrollee could have performed peak flow meter readings at home. These tests provide valuable information of a patient's lung function and capacity. Results displayed in Figure 2.1 revealed that 25% of enrollees received one peak expiratory flow rate or a spirometry measurement was documented during the study period. There were no comparative data for this indicator in previous EQR studies. There were five plans with rates for this measure above the weighted aggregate rate for EQR 1999. Three of the QHPs demonstrated rates lower than the weighted aggregate.

Figure 2.1



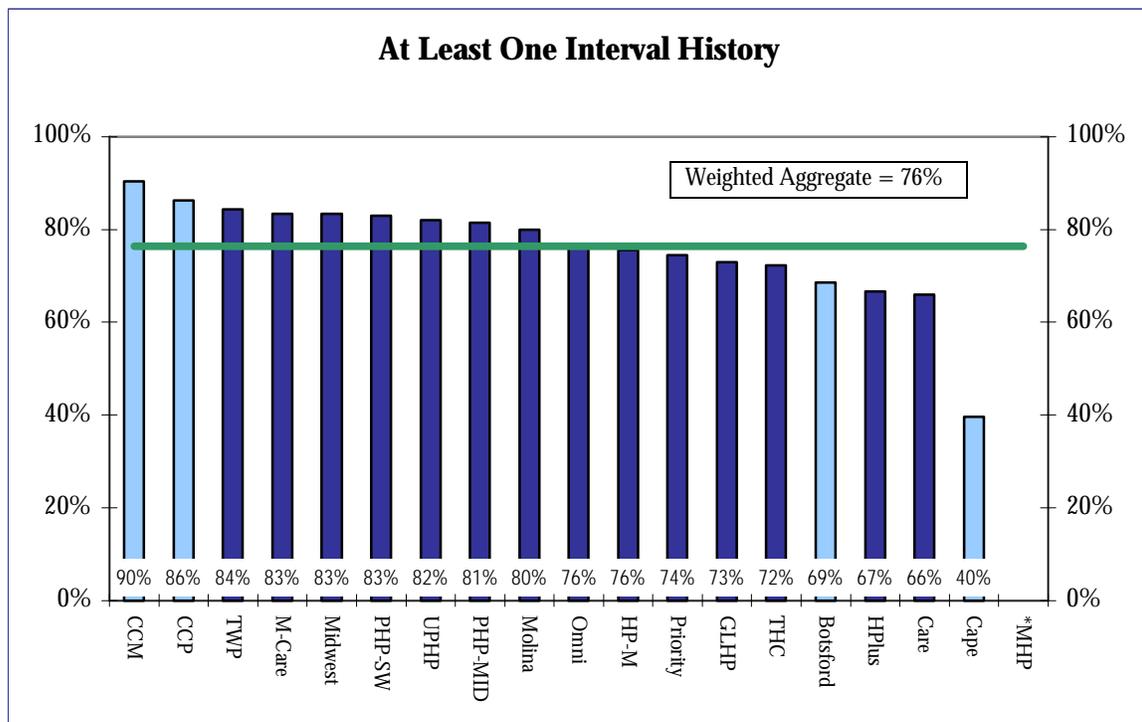
* Rates not displayed; based on sample or population < 30.

Interval History

⇒ **76% of the enrollees received an interval history during the study period**

Documentation of an interval history demonstrates reassessment of enrollee symptoms and interventions and on-going evaluation of the patient's response to treatment by the health care provider. EQR 1999 results displayed in Figure 2.2 indicated that an interval history was documented for 76% of the enrollees during the review period. This rate was lower than the weighted aggregate rate of 84% for EQR 1998. Two of the QHPs demonstrated rates above the weighted aggregate, and there were two plans with rates below the weighted aggregate rate for this measurement.

Figure 2.2



* Rates not displayed; based on sample or population < 30.

Education or Self-Management Plan

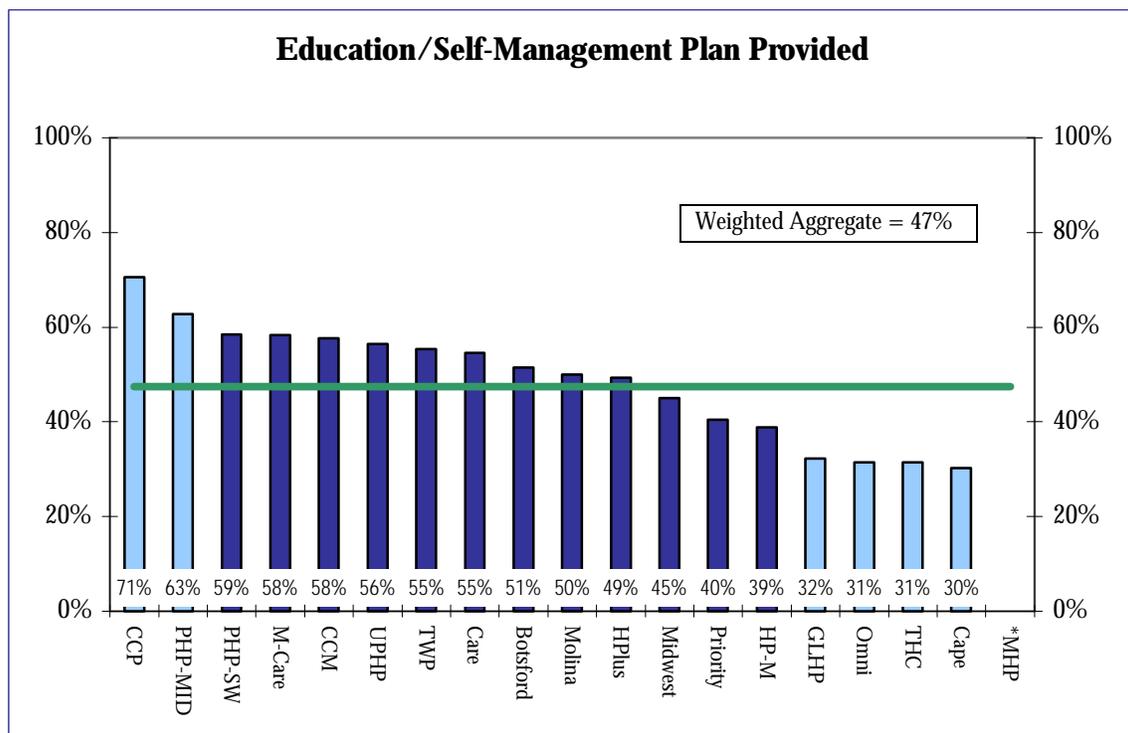
⇒ **47% of enrollees received educational instructions from the physician or had a self-management plan**

“Health care providers need to systematically teach and frequently review with patients how to manage and control their asthma. Patients also should be provided with and taught to use a written daily self-management plan and an action plan for exacerbations” (National Institutes of Health, 1997). Long-term management of children with the diagnosis of

asthma focuses on the education of the patient and parents in the use of inhalers, spacers, and peak flow meters.

This study evaluated whether or not the enrollee received educational instructions during the review period or was being managed with a self-management plan. Among the records, 47% included documented evidence that education was provided to the enrollee or a self-management plan was in place during the review period. There was no comparable indicator in EQR 1998. Figure 2.3 graphically illustrates the rates for this measure for each QHP. There were two QHPs with rates higher than the weighted aggregate and four QHPs with rates lower than the weighted aggregate rate for EQR 1999.

Figure 2.3



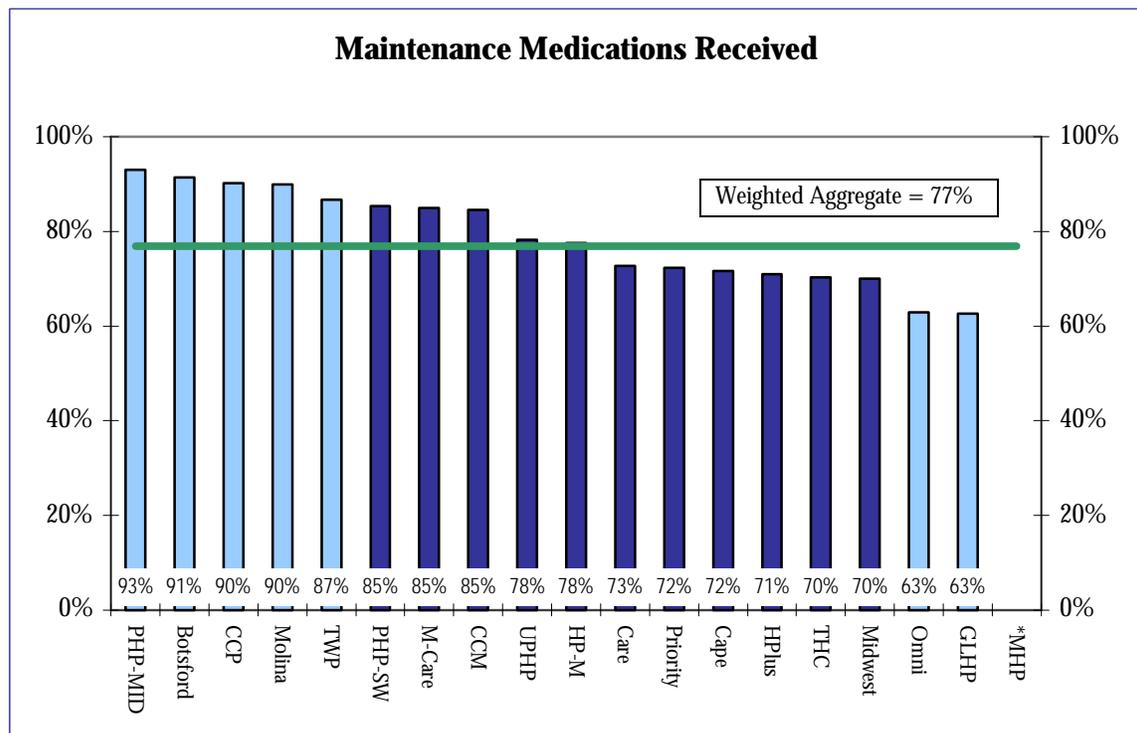
* Rates not displayed; based on sample or population < 30.

Maintenance Medications

⇒ **77% of enrollees received maintenance medications for asthma control**

The EQR 1999 study searched for documented evidence that maintenance medications were included for ongoing treatment of asthma. To objectively measure this indicator, a list of asthma control medications was developed and approved for the 1999 EQR study. Results displayed in Figure 2.4 indicate that 77% of enrollees received maintenance medications during the 1999 EQR study period. Comparative data from EQR 1998 were not available since this indicator was not measured during that study year. Five of the QHPs demonstrated a rate higher than the weighted aggregate rate of 77% for this measure, while rates for two QHPs were lower than the weighted aggregate rate for this EQR 1999 measure.

Figure 2.4



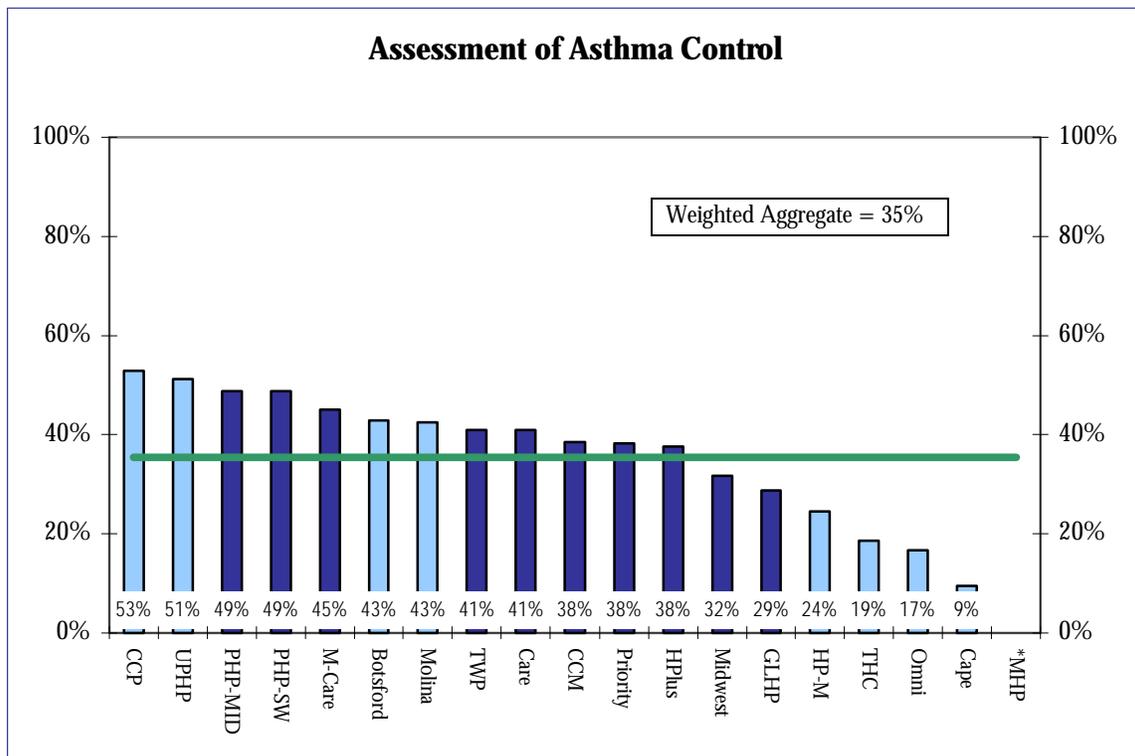
* Rates not displayed; based on sample or population < 30.

Asthma Control

⇒ **35% of enrollees received a documented assessment of asthma control using functional indicators**

Three functional indicators were used as measurements of asthma control: school attendance, sleep patterns, or activity intolerance. These indicators are reliable descriptors for the assessment of asthma control. Assessment of asthma control was documented for 35% of the enrollees during the review period as presented in Figure 2.5. This indicator was not evaluated in previous studies. Four of the QHPs demonstrated rates higher than the weighted aggregate result for EQR 1999, and four of the QHPs produced results lower than the weighted aggregate rate for EQR 1999.

Figure 2.5

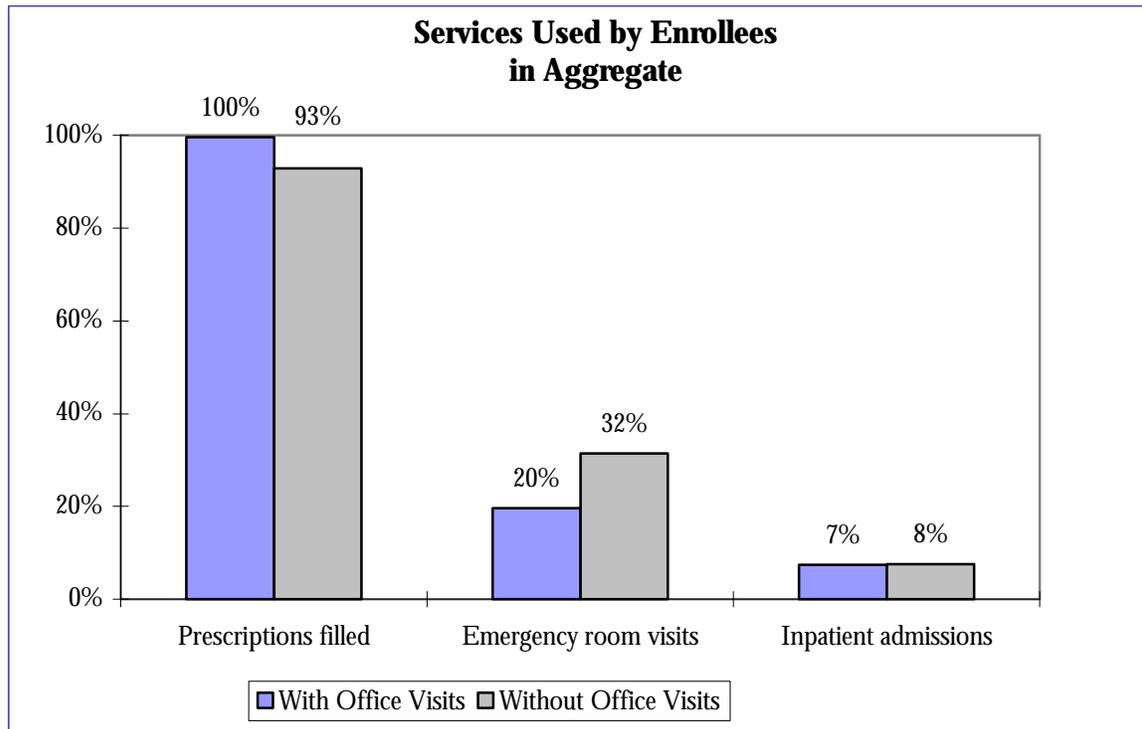


* Rates not displayed; based on sample or population < 30.

Service Use

The administrative data from each of the QHPs were reviewed to determine when enrollees with asthma did not present for an office visit with their health care provider, yet used other health care services. The administrative data revealed that 18% of the enrollees did not receive an office visit during 1999. Figure 2.6 presents the weighted aggregate rates for prescriptions filled, asthma related emergency room visits, and inpatient admissions for the enrollees without office visits, and compares these rates to those enrollees with office visits. Enrollees with no office visits received fewer prescriptions, which was expected. The higher emergency room visit rate was also expected due to the lack of primary care in this population. The 12% higher rate for those without office visits is indicative of this finding. The inpatient admission rate, however, was similar among the two groups. While this may be seen as a positive outcome, the focus of emergency room care is the response to crisis or exacerbation, not primary prevention.

Figure 2.6



Administrative data received from the QHPs were also reviewed to determine the prescriptions filled, the inpatient admission rate, and the emergency room visit rate for all enrollees with asthma in the population. The inpatient admission rate for all enrollees was 8%, and this was similar to the rate for those enrollees without office visits. The emergency room visit rate for all enrollees was 22%, which was 10 percentage points lower than the rate for enrollees without office visits (See Table 2.1).

Table 2.1
Services Used by All Enrollees in Population
in Aggregate

Type of Service Used	Rate
Emergency room visits	22%
Inpatient admissions	8%

The enrollees demonstrated high rates for prescriptions filled during the study period. This was an expected result since the chronic nature of asthma requires consistent use of medications to control symptoms and prevent exacerbation of the disease. As expected, the ER visit rate for the entire population was lower than the ER visit rate for those enrollees without office visits. These individuals may be using their local emergency department as their primary source of medical care. This, however, did not translate into a higher rate of inpatient admissions for those enrollees without visits to their physicians.

Discussion

This focus study for EQR 1999 included changes in some of the study questions and criteria that were intended to improve and refine the study. This may limit the comparability between EQR 1998 and EQR 1999 as discussed in the limitations section of this focus study. The primary change to this focus study was the refinement of the sample selection parameters to better define those enrollees included in the sample.

The indicator for peak flow meter use was modified for EQR 1999 to incorporate the use of spirometry in the home or physician's office. This was included as a broader range of pulmonary function assessment. This change in the indicator prevents comparison to the previous study. These data can be examined, if not compared, when addressing whether or not pulmonary function was being monitored or evaluated by the physician. EQR 1998 identified that 30% of the enrollees performed peak flow measurements, while the 1999 EQR results demonstrated a rate of 25% for peak flow or spirometry readings.

The EQR 1999 rate for interval history documentation (76%) was significantly lower than the rate for EQR 1998. This type of documentation is most often used as a means for following assessments, changes in care, and responses to therapy. The omission of this documentation may increase the difficulty of monitoring the continuity of care and affect patient outcomes, and may warrant further evaluation.

The presence of a self-management plan was evaluated for the EQR 1998 study, along with an indicator to determine if education was provided to the enrollee. The indicator for the 1999 EQR was expanded to include both of these indicators from 1998. The goal was to identify all of the education that was being provided to the enrollees in the population. The presence of a self-management plan assumes a strong educational component in order to be successful. The rate for this overall measure of education for EQR 1999 was 47%. In the EQR 1998 study, the rate for enrollee education was 19%, while the rate for self-management plan was 18%.

The maintenance of optimal status requires appropriate monitoring of the enrollee's medication regimen, and the assessment of this status using appropriate indicators. Indicators for the measure of medication monitoring and functional assessment of asthma control were added for EQR 1999. This may provide valuable information in future studies to help evaluate practice patterns for the ongoing maintenance of optimal asthma control in this population.

Service use for this population was evaluated to determine usage rates for those enrollees with and without office visits to determine whether there was a difference. The data shows a higher emergency room usage rate in those enrollees without office visits. The inpatient admission rate, however, was similar between the two groups. One hundred percent of those enrollees with office visits filled prescriptions, while only 93% of those without office visits had prescriptions filled. This difference may help account for the higher number of emergency room visits in this population.

The data from this focus study were used to calculate a score to determine the performance of each plan for each indicator. The maximum score for each indicator was three, with a minimum of one. A score of "three" was assigned when the rate for the plan for each

indicator was statistically significantly higher than the weighted aggregate rate for that indicator. A score of “two” was assigned for rates similar to the weighted aggregate, and a score of “one” was assigned when the rate was significantly lower than the weighted aggregate. An average was then calculated to determine a composite score for each QHP for the focus study. The QHPs were then sorted by score to determine the ranking of each plan within the range of scores.

Using this process, nine of the QHPs achieved a composite score higher than two. Community Choice Plan achieved a composite score of 3.0, and was the only QHP to achieve this score. Five of the QHPs demonstrated scores less than two for this focus study as shown below in Table 2.2.

Table 2.2
EQR 1999 Summary of Indicator Results

QHP	Peak Flow Meter	Interval History	Education	Medication Monitoring	Control Assessment	Total Score
Comm	3	3	3	3	3	3.0
Botsford	3	1	2	3	3	2.4
CCM	3	3	2	2	2	2.4
Molina	2	2	2	3	3	2.4
PHP-MID	2	2	3	3	2	2.4
Care	3	2	2	2	2	2.2
M-Care	3	2	2	2	2	2.2
TWP	2	2	2	3	2	2.2
UPHP	2	2	2	2	3	2.2
HPlus	2	2	2	2	2	2.0
Midwest	2	2	2	2	2	2.0
PHP-SW	2	2	2	2	2	2.0
Priority	2	2	2	2	2	2.0
GLHP	2	2	1	1	2	1.6
HP-M	1	2	2	2	1	1.6
THC	2	2	1	2	1	1.6
Cape	1	1	1	2	1	1.2
Omni	1	2	1	1	1	1.2
MHP	*	*	*	*	*	*

* Rates based on sample or population < 30 not included in calculations.

References

American Lung Association. (1999). American Lung Association Fact Sheet for Asthma in Children. [Web Page]. <http://www.lungusa.org/asthma/ascpedfac99.html>. [Accessed January, 2001].

National Institutes of Health. (1997). Guidelines for the Diagnosis and Management of Asthma. Bethesda, MD: National Heart, Lung and Blood Institute. July, 1997; Report No.: 97-4051.