# Partnering to Improve Pediatric Asthma Quality

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The Pediatric Quality Measure Program (PQMP) asthma quality measures afford an opportunity to address a common and a costly outcome, emergency department (ED) visits for children.[1] The "Rate of ED Visit Use for Children with Asthma" measure calculates the rate of ED visits for children. In addition, timely primary care management of asthma is thought to help prevent ED asthma visits. As a result, the "Primary Care Connection After Emergency Department (ED) Visits for Asthma" measure calculates the frequency that a visit(s) to a primary care provider occurred within 14 days following the ED visit for asthma (Table). Both measures involve a common pediatric chronic illness with considerable cost to families and the health care system. The opportunity and responsibility to improve performance should be shared between primary care practices and health plans.

At the practice level, successful improvement of both quality measures requires a methodical approach where the quality measure is mapped to evidence-based process measures and their drivers. However, many of these key drivers for ED asthma visits may be *beyond* what the typical individual practice can influence independently (Figure). As a result of these multiple drivers of ED visits, the success of this and other similar quality measures relies on health plans partnering with individual practices across disciplines to develop more global interventions that can then help improve outcomes.

Although asthma is *managed* in a primary care or subspecialty setting, in many cases, *treatment* for asthma exacerbations occurs in an urgent care or ED setting that may be physically and administratively disconnected from a patient's primary care practice. Without feedback on performance, it is much more difficult for practices to improve processes of care. Health plans are positioned to provide this feedback on asthma quality measures. When primary care providers of 937 children were randomized to receiving feedback on asthma health service and medication use versus no feedback, after one year there was a 24% drop in emergency department visits and increased timely prescription of controller medications.[2] A cohort study of 4498 children with asthma in Washington State and Tennessee Medicaid managed care programs also demonstrated that children in plans that provided specific feedback to providers about asthma quality had improved medication management.[3] Furthermore, an analysis of ED visits by day of the week, time of day, and seasonality may provide useful insight into factors that drive ED visits. For example, for children 5 to 15 years of age, asthma ED visits tend to have a rapid increase "beginning in mid-August and reaching a peak some 2 weeks after school return."[4]

Individual primary care practices need actionable and timely data from sources outside their own electronic health records married with relevant feedback to understand key drivers of ED asthma visits, develop improvement projects and coordinate primary care follow-up. Traditional practice feedback that relies on medical claims data has a long lag time. However, other sources of data may help practices address asthma outcomes. Health plans may have access to real-time pharmacy data for asthma medication adherence information (ie, if the prescription was filled) or real-time hospital discharge information. These data can provide feedback to practices on opportunities to intervene and impact asthma outcomes for their patient panels. For example, hospital-based practices with integrated electronic health records have shown a reduction in ED visits by identifying high-risk children with asthma in their network by leveraging asthma education, community health workers, access to specialists and assistance with prescriptions.[5]

The application of an effective quality measure should help drive quality improvement (QI), and further practice and health plan collaboration can occur during the QI process. Successful primary care QI learning collaboratives or improvement partnerships (IPs) require an investment and coordination with QI coaches, primary care practices, public health entities, and health plans to promote systems learning.[6] The electronic health record can be used to capture process measures such as asthma severity assessment, assessment of asthma triggers, asthma control assessment, asthma education, and provision of asthma action plans. Improvement partners and health plans can analyze

**Table.** Pediatric Quality Measure Program (PQMP) Asthma Measures

| Measure | Description |
|---|---|
| Rate of ED visit use for children managed for identifiable asthma[21,22] | Numerator: Number of visits to the emergency department<br>Denominator: Children ages 2–21 who meet the criteria for asthma who have been continuously enrolled in the index plan for at least 2 consecutive months immediately preceding the reporting month. |
| Primary care connection after emergency department (ED) visits for asthma[21] | Numerator: Visit(s) to a primary care provider that occurred within 14 days following the ED visit<br>Denominator: All ED visits in which asthma was a primary or secondary diagnosis identified using the provided specifications, in children who are continuously enrolled for at least the 2 months following the ED visit. |

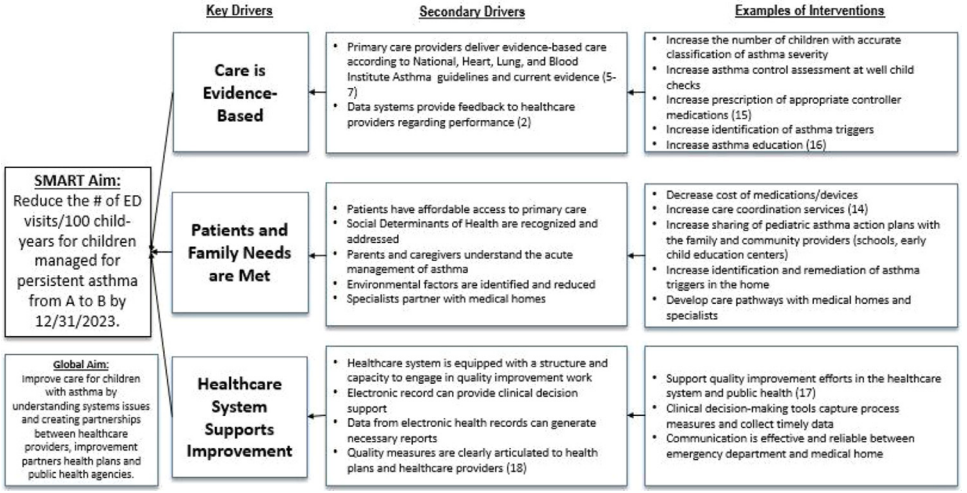


**Figure.** *Key driver diagram of factors affecting pediatric emergency department use (used with permission from Keith Robinson, MD, Christine Pellegrino, MS, Judy Shaw, EdD, MPH, RN).*

performance data using run charts or control charts to determine effectiveness of interventions. Corresponding reports can be generated to evaluate longitudinal performance using run and control charts. These collaborations can harness different perspectives to create innovative ideas and solutions to improve care. When applied effectively for the PQMP asthma quality measure, Harder et al reported that a network of primary care practices participating in a year-long, statewide collaborative through a series of QI cycles focused on reorganizing systems of care was able to decrease pediatric asthma-related ED visit rates, compared to control practices that were not involved in the collaborative.[7]

Although appropriate primary care management is an important component in addressing ED asthma visits, it is not sufficient for improving these quality measures. Social determinants of health affect health outcomes and necessitate care coordination and integration between health plans, public health agencies and health care providers. Asthma ED utilization is associated with other comorbidities, such as obesity,[8] exposure to environmental irritants,[9] and even housing security.[10] Arranging for ED follow-up with a primary care practice can be challenging due to parental time off from work or lack of transportation.[11] Interventions to improve follow-up include monetary incentives, potentially through health plan benefit redesign, telephone coaching by the health plan and/or provider, telehealth follow-up visits and other methods to increase practice access.[12,13] Finally, providing multidisciplinary care coordination services to children with asthma can help address social determinants of health, improve symptom control, and reduce ED visits.[14] Primary care practices need partnership, collaboration, and leadership from health plans and public health agencies to develop resources and services that fall beyond what a typical practice can provide.

On a broader scale, partnerships involving public health departments, health care delivery systems, health plans and advocacy groups can also help address social determinants of health and improve asthma outcomes. An evaluation of the results of several community coalitions focused on asthma included changes in clinical training, increased clinical learning collaboratives, community-wide asthma care coordination, changes in school rules regarding asthma medications as well as legislation regarding smoking.[15] Children in communities with these asthma coalitions were less likely ($P < .04$) to have an asthma-related hospitalization, ED visit, or urgent care visit than children in comparison communities.[16] At the state-level, partnerships to advocate for Medicaid programs to adopt evidence-based quality measures, such as those developed by the PQMP program, can further

advance and promote QI. Implementing these quality measures need to be balanced against their potential administrative burden to health plans.[17–20]

Collaboration and teamwork between practices and health plans to engage in QI and ensure coordination of care are essential to link any outcome measure to meaningful process measures that can improve care for children with asthma. Partnerships to enhance feedback on ED asthma utilization, as well as an investment in the process of improvement can promote systems learning while building QI capacity at the practice level. In addition, the multifactorial nature of ED asthma use, requires broader interventions and care coordination to address asthma triggers, improve timely access to care and ED follow-up. An open question is identifying the best way for payers to partner with practices to improve asthma outcomes. For example, payers could support statewide QI collaboratives; provide real-time data on patient health care utilization, or simply encourage change via individual contract negotiations with practices based on quality measures. The best approach most likely differs in any market or community, based on the strengths, abilities and needs of payers, practices and the populations served. Improving outcomes for children with asthma will require a systems-approach, with health care delivery viewed holistically and broadly. Attempts to improve outcomes will be complicated and will require thoughtful partnerships to test innovations, analyze results, learn, and move forward. The success of improving asthma quality measures associated with ED use include practice-level improvements, as well as interventions beyond the level of what any single practice can address.

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