

Asthma Outcomes: What can we do better?

The burden of asthma affects patients, families and society in terms of lost work and missed school, reduced quality of life, disruption with emergency visits to the clinic or emergency room, hospitalizations, and even death. Asthma care has improved significantly over the past several years due in part to better understanding of the disease and its triggers, more effective treatment strategies, better medications, increased emphasis on monitoring control, and other interventions. The development of national and international treatment guidelines have aided immeasurably the ability of physicians and other care givers to select effective interventions.

Goals for asthma care as defined in the Global Initiative for Asthma include:

- reduction in asthma symptoms and improved quality of life;
- no missed work or school; no disruption in sleep;
- maintenance of normal activity levels;
- no (or minimal) need for emergency department visits, hospitalizations, or other unscheduled office visits;
- normal, or near normal lung function.

Such goals are necessary because of the impact of asthma on individuals and families. Twenty-one million Americans have asthma, 1/3 of whom are below age 18. This represents a 75% increase in prevalence since 1980. Six percent of preschool children have asthma. Asthma deaths total 4-5000/year in this country, with two million visits to the emergency room and a similar number of hospitalizations every year. In addition to these devastating numbers, asthma has a significant impact on quality of life. Every year, 49% of children with asthma and 25% of adults miss work or school. Thirty percent awaken at night weekly. Nearly 40% of asthmatics report their asthma interferes with their normal activities and 1 in 4 report their disease interferes with their social lives

Achieving optimal asthma outcomes is the primary goal of asthma therapy. Emerging evidence in large clinical trials indicates caregivers applying nationally derive guidelines can have a significant impact on a variety of outcomes:

- Reduced asthma care utilization, including 45% reduction in walk-in visits for worsening asthma, 50% reduction in ER visits, and 50-67% fewer hospitalizations
- Improved asthma care:
 - A 75% reduction in asthma awakenings, reduced night-time cough, sleep deprivation, and lessened need for rescue inhaler use
 - Significant improvement in objective measures of lung performance
 - Improved quality of life, including physical functioning, social functioning, mental health and personal productivity
 - Decreased missed work and school, and improved productivity while there

- Cost studies have generally shown a neutral or mildly reduced cost for asthma care, largely due to increased costs due to asthma medications while reducing direct and indirect costs of uncontrolled asthma

What are the factors that are leading to such improvement? As a consequence of improved understanding of the disease and application of effective treatment guidelines, the following elements of asthma care are being seen as increasingly important:

- Earlier diagnosis and institution of effective care
- Increased appreciation of the role of allergic triggers in many asthmatics, delineating those triggers and where possible avoiding them
- More consistent and earlier use of anti-inflammatory controller medications, like leukotriene modifiers and inhaled corticosteroids
- More frequent measurements of lung function for diagnosis and monitoring response to treatment
- More regular office visits to monitor progress, educate patients, check medication compliance and proper administration
- Emergence of managed care programs focusing on effective asthma care
- Improved focus on care after an exacerbation. If one does require emergent care, the following have been shown to reduce the likelihood of repeated difficulties and ongoing utilization of emergency facilities for a chronic condition that can and should be managed in a clinic setting:
 - Set up an appointment for follow-up in your caregiver's office within one week following an emergent visit
 - There, determine what factors led to the exacerbation, and what could have been done. Further and repeated education about their disease and triggers empowers patients and leads to better decisions in the future
 - Check adherence to prescribed medications, and make adjustments in order to prevent future severe exacerbations
 - Check inhaler technique and use of a spacer if indicated
 - Use of a peak flow meter if indicated
 - Review or prepare an Asthma Action Plan for the future

While the consequences of uncontrolled asthma are often devastating, expensive, and impact in a major way on quality of life, management strategies exist today that can substantially improve asthma outcomes no matter the severity or complexity of the disease.