

Closing the Quality Gap: A Practical Model for Pediatric Asthma Care

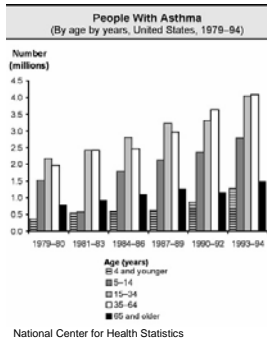
Brooke Latzke • Maternal & Child Health Program • Department of Health Services • University of Washington

Public Health Concern

Asthma is a complex chronic disease that can neither be prevented nor cured. However, with effective treatment and management, children with asthma can lead lives that are relatively symptom- and exacerbation-free.^{1,2}

The Facts:

- Asthma disproportionately affects children, low income populations and minorities, specifically African Americans and Latinos living in inner-city neighborhoods.³
- Asthma affects approximately 6.1 million children nationwide.^{2,4}
- One in four children with asthma have some limited activity due to the disease.⁴
- Asthma is the leading cause of missed school days among children.⁵
- The estimated annual cost for treating childhood asthma is \$3.2 billion.⁶ This number is expected to increase dramatically over the course of the next 12 years.⁷



Approach

Stout and colleagues were funded to implement a multi-modal pilot intervention program that incorporates the use of spirometry and written action plans for asthma care in pediatric practice.¹⁰ This intervention focuses on two components of the clinical guidelines: use of spirometry, an objective assessment of lung function, and proper distribution of a written asthma action plan.¹

Study Design:	Quasi-experimental
Population:	General pediatricians and their staff
Setting:	Sixteen (16) pediatric practices in New York State
Goal:	Adoption of spirometry at practice level and implementation of asthma action plans via a distance-learning training program.
Theoretical Framework:	Chronic Care Model, Diffusion Theory ^{11,12}
Intervention Activities:	<p>Phase I – Intervention sites receive a spirometer, a Spirometry Fundamentals™ CD-ROM, and participate in an expert-led, interactive call series focusing on spirometry for diagnosis and severity assessment. Sites transmit their flow-volume curves (produced by spirometry) to research team via Internet. Research team provides structured audit and feedback, as well as input when needed throughout project. Control sites receive a delayed intervention five months later.</p> <p>Phase II – Sites receive examples of written asthma action plans and participate in expert-led call series focusing on written plans for self-management support. At end of project period, research team will conduct a retrospective chart review and provide audit and feedback to practices.</p>
Measurement:	<p>Phase I – Assess frequency of the following activities: Spirometry use, appropriate documentation of asthma severity, and appropriate controller medication use in intervention versus control practices.</p> <p>Phase II – Assess frequency with which written action plans are present in asthmatic patients' medical records in intervention versus control practices.</p> <p>Pre- and post-tests for each of these processes of care; assess the effect of the intervention by conducting a difference-of-differences analysis.</p>



World Health Organization



New York State Department of Health

Findings

There is a gap between clinical guidelines and the care that patients actually receive in the primary care setting.² As a result, health care providers systematically underestimate the asthma severity of their patients.⁸ A correct diagnosis and severity assessment are the first steps in properly managing asthma. Without it, the prescribed treatment, if any, is more likely to be inappropriate and/or inadequate, which can lead to increased symptoms, disruption of daily life, and potentially life-threatening acute disease episodes.

Research demonstrates that passive distribution of clinical guidelines or other instructional materials are not likely to result in changing provider behavior.⁹ Interventions that utilize both independent and guided learning, as well as audit and feedback, may be more likely to result in behavior change.^{2,9} These types of interventions are needed to lessen the gap between the scientific evidence and clinical practice.²

Implications

Even though it cannot be prevented or cured, it is possible for children with asthma to lead lives that are relatively symptom- and exacerbation-free.^{1,2} It is the responsibility of the health care system and the public health infrastructure to lessen the gap between the recommended care and the actual care that is delivered to this population.

Tackling the disease will be achieved in small increments, such as training providers and their staff to properly perform and interpret spirometry and utilize asthma action plans. It is an important step toward reducing the disease burden for children and their families.

References

1. National Asthma Education and Prevention Program. Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma. Bethesda, MD: U.S. Department of Health and Human Services, Public Health Service, 2007. NIH Publication No. 07-4051.
2. Bravata DM, Sundaram V, Lewis R, et al. Closing the Quality Gap: A Critical Analysis of Quality Improvement Strategies. Technical Review 9 (Prepared by the Stanford University-UCSF Evidence-based Practice Center under Contract No. 290-02-0017). AHRQ Rockville, MD: Agency for Healthcare Research and Quality. January 2007. Publication No. 04(07)-0051-5.
3. U.S. Department of Health & Human Services, Office of the Assistant Secretary for Planning and Evaluation. Action Against Asthma: A Strategic Plan for the Department of Health and Human Services. May 2000. Accessed April 19, 2008 from <http://aspe.hhs.gov/sp/asthma/>.
4. Mannino D et al. Surveillance of Asthma – United States, 1980-1999. MMWR Weekly Report. 51(SS01): 1-13, March 2002.
5. Asthma Facts and Figures. Washington: Allergy and Asthma Foundation of America.
6. Weiss KB, Sullivan SD, Lytle CS. Trends in the cost of illness for asthma in the United States, 1985-1994. J Allergy Clin Immunol. 106(3): 493-499, 2000.
7. Lara M, Rosenbaum S, Rachelefsky G, et al. Improving Childhood Asthma Outcomes in the United States: A Blueprint for Policy Action. Pediatrics. 2002 May;109(5):919-930.
8. Wolfenden LL, Diette GB, Krishnan JA, et al. Lower physician estimate of underlying asthma severity leads to undertreatment. Arch Intern Med 2003;163(2):231-6.
9. Davis DA, Thomson MA, Oxman AD, et al. Changing physician performance: A systematic review of the effect of continuing medical education strategies. JAMA. 1995 Sep 6;274(9):700-5.
10. Stout JW, Mangione-Smith R. A Practical Model to Transform Childhood Asthma Care. Grant Proposal. Agency for Healthcare and Research Quality.
11. Wagner EH, Austin BT, Davis C, et al. Improving chronic illness care: translating evidence into action. Health Aff (Millwood). 2001 Nov-Dec;20(6):64-78.
12. Glanz K, Rimer BK, Lewis FM (Eds). Health Behavior and Health Education: Theory, Research and Practice. 3rd Edition. 2002. Jossey-Bass. Chapter 14, Diffusion of Innovations; p. 312-334