BostonBreathes: An RCT to Improve Pediatric Asthma Care with a Home-Based Interactive Website for Patient Education, Monitoring, and Clinical Teamwork

John M. Wiecha, MD, MPH. Department of Family Medicine, Boston Medical Center and Boston University School of Medicine, Boston, MA, USA.

William G. Adams, MD, MS. Department of Pediatrics, Boston Medical Center and Boston University School of Medicine, Boston, MA, USA.

Abstract: The BostonBreathes (BB) system is an interactive website enabling physician-physician and physician-patient communication, monitoring (peak-flow, medication use, symptoms) of asthma patients in the home, and patient and family asthma education. The system helps primary care physicians to function in team relationships with asthma specialists and nurses. Patients and families can interact with their health professionals online as members of the care team. BB uniquely combines patient education, monitoring, and clinical teamwork functions into one integrated web environment.

Problem: To achieve modern and effective management of patients with chronic disease in the primary care setting requires a reengineering of health care systems and relationships to create interdisciplinary teams of professionals providing evidence-based patient-centered care.

Asthma has long been recognized as the most common chronic disease of childhood. It has become increasingly prevalent and severe in recent decades despite effective medical therapy. In urban areas and among the disadvantaged, these trends are particularly marked.

Research data illustrate that proper use of effective medications, environmental control interventions, teamwork among health care professionals, and patient education for self-management each independently, and even more powerfully when employed in combination, can reduce asthma morbidity and associated health care costs.

This poster will describe design and results of a new method of promoting each of these factors to achieve improved outcomes.

Degree to which the system or service has been deployed: The system is currently functional with 55 patients and 41 physician users. Using a randomized clinical trial design, this project is testing the hypothesis that the BB website will improve patient knowledge and medication adherence, and teamwork among individuals caring for pediatric asthma patients, resulting in improved quality in the process and outcomes of asthma care. This team approach will be adaptable to many other chronic diseases managed in diverse primary care delivery systems. The evaluation period will be complete in summer, 2007.

This poster will describe the barriers to improving quality of care of pediatric asthma, and the design of the patient and health care provider websites that are BB, the educational content and processes, the clinical teamwork processes, and final evaluation outcomes including utilization, patient and provider feedback, and impact on asthma outcomes including adherence to medication, symptoms, and quality of life. This research and development is supported by The Commonwealth Fund, NYC.