Asthma
Award-Winning Asthma Program Helps Patients Breathe Easier

In May 2008 the U.S. Environmental Protection Agency (EPA) awarded the U-M Health System the National Environmental Leadership Award in Asthma Management. The award, for providing high-quality, coordinated asthma care, was presented at a ceremony held in Washington, D.C. Only three winners nationwide were selected by the EPA during a highly competitive application process.

Asthma affects more than 10 percent of the population; rates are higher in Michigan, and studies have found that up to 50 percent of adult patients in the State don't have good control over their condition. A leading cause of emergency room visits, hospitalizations and school absences, asthma can indeed be effectively controlled with strategies such as avoiding environmental triggers and proper medication regimens. “The key is to improve control. Asthma doesn’t have to be a debilitating disease,” says Georgiana Sanders, MD (below), of the Allergy and Clinical Immunology division, “individuals should be able to live a normal life and participate in all the activities they usually do.”

This U-M program was developed and has been led by the Asthma Quality Improvement Steering Committee, co-chaired by Dr. Sanders and Karla Grossman, BSN, RN, clinical care coordinator of the UMH Pediatric Clinic. The multi-disciplinary team is comprised of primary care physicians, allergists, pulmonologists, respiratory therapists, pharmacists, data management specialists and nurse educators. Since 2005 the group has been working toward its goal: to coordinate and improve the care of patients with asthma within the U-M Health System.

One of the committee’s early accomplishments was to create a validated registry of more than 12,000 asthma patients—an achievement not to be taken lightly since no single diagnostic test exists for the disease. The registry enables the committee to give treating physicians patient-centered feedback related to asthma care. It also allows the steering committee to measure the efficacy of interventions and to target specific groups of patients for further follow-up, such as teens who have made emergency visits to the hospital and do not currently have an asthma action plan—a written plan jointly created by patient and doctor to manage the disease—on record.
To improve the number of patients who receive such an action plan, and to improve consistency of the format used, the committee also spearheaded efforts to create an electronic asthma action plan. The age-appropriate action plan templates, now available online at www.getasthmahelp.org, include drop-down menus that list indicated medications and proper dosages. The plan templates were created according to National Heart, Lung and Blood Institute guidelines. They also will be integrated with the electronic medical record.

Nurse educators have visited satellite health centers to present information about the importance of using the electronic plans and, as a result, use has tripled among the clinics visited.

The U-M Asthma Program also includes specialized clinical and educational initiatives for high-risk patients such as the Children’s Asthma Wellness Program and the Michigan Visiting Nurses’ Asthma Home Environmental Assessment Program, in which specially trained nurses visit patient homes to identify possible triggers. From June 2006 to June 2007, patients taking part in the program reduced emergency department visits by 60 percent and hospitalizations by 85 percent.

In addition to her work as committee co-chair, Dr. Sanders conducts clinical research on medications to control asthma, including Omalizumab (Xolair). She and a pediatric resident have been investigating the use of an online asthma control tracking tool in one satellite pediatric clinic to determine whether it improves action plan creation and adherence.
Translating Asthma Research into Clinical Care

Alan Baptist, MD, MPH (below), also involved in the Asthma Quality Improvement Steering Committee, conducts clinical research on numerous aspects of the disease. In one project, he is investigating a relatively new biomarker of lung inflammation, a hallmark of asthma called FENO for fraction of exhaled nitric oxide.

“What we’ve realized is that there's no one-size-fits-all ‘right’ number we should be targeting,” explains Dr. Baptist. In fact, earlier research has shown that levels of FENO might be higher in African American adults, so using the same standard for other populations might not be appropriate. He and his colleagues have already completed studies of FENO in hospitalized children and in asthma patients visiting the emergency department. The work has been published in The Journal of Asthma, the Annals of Allergy, Asthma and Immunology, and Allergy and Asthma Proceedings. He currently is conducting a third study in conjunction with the U-M Ypsilanti Health Center on FENO measurements in African American children.

Working with Noreen Clark, PhD, a professor in the School of Public Health and director of the Center for Managing Chronic Disease, Dr. Baptist is developing a tailored self-management asthma intervention program for the elderly. “Asthma in this population has been overlooked for a long time,” he says. “Older adults have less typical asthma symptoms, such as fatigue or lethargy, which are easily missed, and many asthma patients are misdiagnosed with chronic obstructive pulmonary disease, which further delays the start of appropriate treatment.”

Through focus groups, Dr. Baptist and collaborators from Wayne State University also found that older adults find it difficult to distinguish between cardiac and asthma symptoms and were eager for ways to help discern signs. Participants also were eager and enthusiastic about a program tailored to their age group and unique concerns.

In another highly collaborative venture with Henry Ford Health System and Children’s Hospital of Michigan, Dr. Baptist and colleagues are developing a computerized, tailored educational program for African American teens. After proving effective in a high school setting, the program will be expanded to emergency departments at both hospitals. Teens would then virtually attend four subsequent sessions from home.

“We intend to improve and expand these types of interventions. For example, we’re currently in discussions with Wayne State University to develop new interventions for hospitalized asthma patients,” he says. “Innovative educational strategies can be a very effective way to decrease the tremendous health care disparities seen in asthma care.”