



Interventions & Lessons Learned/Observations

Partners for Asthma Action is formerly known as Controlling Asthma in American Cities Project and has been funded largely by the Centers for Disease Control and Prevention

Partners for Asthma Action is a coalition of 60 leading health, education, public policy and community partners focused on improving pediatric asthma care in the Twin Cities. In 2001, Partners in Asthma Action spearheaded the Controlling Asthma Project, which is funded through June 2008 by a grant from the Centers for Disease Control and Prevention (CDC). The Controlling Asthma Project is one of seven CDC-funded communities nationwide providing evidence of best practices in asthma control.

The Controlling Asthma Project's work occurs in Minneapolis and St. Paul, but is aligned with statewide programs and efforts. The work has focused on comprehensive pediatric asthma care interventions that fall into four broad categories:

1. School-based Interventions
2. Health Systems / Professional Education Interventions
3. Community-based Education and Interventions
4. Policy Initiatives

Under these broad categories, the Controlling Asthma Project has implemented a comprehensive and coordinated system of interventions that delivers consistent messages and expectations on how to best manage pediatric asthma. As a result, the Controlling Asthma Project interventions listed below have contributed to measurable improvements in the lives of children with asthma and the lessons learned are transferable to other communities and to the management of other chronic diseases.

2003 – 2008 Long-term Project Goals

Pediatric asthma visits to the hospital will be reduced.

Pediatric asthma emergency department/ urgent care visits will not increase in an environment of decreasing health care coverage.

These goals are measured by three indicators: a symptom survey of students with asthma; emergency department and hospitalization discharge data; and school attendance data.

2005 Results

- Hospitalizations of children with asthma have been reduced by more than half (55%).
- Emergency department/urgent care visits for pediatric asthma-related issues have been reduced by 12%.
- The proportion of parents who reported that asthma symptoms limited their child's activities most or all of the time declined by 27%.
- When the asthma program was implemented in eight Saint Paul Public Schools, students with asthma in those schools had higher attendance than students with asthma in a comparable group of eight Saint Paul Public Schools without the program.
- School attendance for students with asthma was an average of two days higher in Saint Paul schools that implemented the asthma management program compared to schools that had not implemented the program.

Note: For the purpose this document, "providers" is defined as anyone who can make decisions about the diagnosis and treatment of asthma, e.g., physicians, nurse practitioners or physician assistants.

Key Partners

Partners for Asthma Action is a coalition of 60 leading health, education, public policy and community partners focused on improving pediatric asthma care in the Twin Cities.

Alexandria Clinic	Hennepin Care South
Andersen School Clinic	Indian Health Board of Minneapolis
Bethesda Clinic	Minneapolis Regulatory Services
Broadway Family Medicine	Minnesota Council of Health Plans
Cass Lake Indian Health Service	Minnesota Visiting Nurses Association
Children's Hospitals and Clinics	NorthPoint Health and Wellness Center
Community-University Health Care Center	Open Cities
Duluth West Clinic	Pediatric Home Service
Eagan Child and Family Care	Phalen Village Clinic
East Side Family Clinic	Smiley's Clinic
Fairview Northeast Clinic	Teen Age Medical Service
Family Medical Center	United Family Practice
Healthcare for the Homeless in Hennepin County	University of Minnesota College of Pharmacy
HealthPartners Midway	University of Minnesota Pulmonary Function Lab
HealthStart	

Leadership Partners

Organizations

American Lung Association of Minnesota
Children's Hospitals and Clinics
HealthPartners
Hennepin County Medical Center
Medica Health Plans
Metro Asthma Coalition
Minneapolis Department of Health and Family Support
Minneapolis Public Schools
Minneapolis Urban League
Minnesota Department of Health
Saint Paul Public Schools

Saint Paul-Ramsey County Public Health
UCare Minnesota
University of Minnesota School of Nursing

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School-based Interventions

BOTTOM LINE: School-based interventions improve pediatric asthma management by emphasizing routine asthma self-care to prevent asthma episodes. Through increased collaboration and communication among health care providers, school nurses and families of children with asthma, these interventions can help reduce costly emergency department visits and hospitalizations, and help keep students in school learning and actively participating in school life.

1. Minneapolis Public Schools and Saint Paul Public Schools

The Controlling Asthma Project joined Minneapolis Public School's *Healthy Learners Asthma Initiative* (HLAI) and funded the implementation of HLAI in Saint Paul Public Schools. Components of school-based asthma care include case finding; nursing care procedures and delegated procedures; emergency care; care coordination; and student asthma education and counseling. A unique and key aspect of HLAI is that the Asthma Resource Nurse provides trainings and mentoring for school nurses, supports enhanced asthma care, and assists with complex cases. The Controlling Asthma Project funding has allowed the districts to continue capacity building with school nurses and others to adopt evidence-based practices for the management of asthma and other chronic conditions. The program also provides asthma education to students, parents, school staff, and faculty. The HLAI model, evaluation findings, and sustainability efforts have been featured in several national, peer-reviewed journals and is being piloted in rural communities.

Lessons Learned/Observations:

The HLAI experience led to the identification of the essential elements of chronic disease management for students and the development of the Healthy Learner Model for Student Chronic Conditions. The model offers a way for schools and the community to ensure students with chronic health conditions such as asthma are healthy and in school ready to learn. The model has been applied to other chronic conditions in the school setting including diabetes, life-threatening allergies, mental health and attention deficit hyperactivity disorder.

Health Systems / Professional Education Interventions

BOTTOM LINE: Professional Education and Health Systems Interventions can improve pediatric asthma management by increasing the asthma-care knowledge of health professionals and improving the capacity of health systems. These interventions can help reduce costly emergency department visits and hospitalizations and help students miss fewer days of school.

CAPACITY OF SYSTEMS

2. Clinic Systems-change Project

The clinic-based systems-change project, funded by the Controlling Asthma Project and the Medical Foundation, uses a collaborative approach to implement new systems that support and sustain the adherence to the National Heart, Lung and Blood Institute's asthma guidelines in partnering clinics. The initiative uses a continuous quality improvement approach to develop clinic systems that facilitate and ensure high quality asthma care in clinics. Clinic systems-change goals include using spirometry in the diagnosis and management of asthma; assigning an asthma severity rating to all patients with asthma; prescribing an anti-inflammatory (controller) medication for all patients with persistent asthma; writing an asthma action plan for all patients with persistent asthma; and providing asthma education to all patients with persistent asthma. Over 35 clinics in Minnesota have participated or are participating in this project. Professional education offerings (PACE, Spirometry trainings, and Asthma Educator Certificate Course) are included in this project. Clinics participate in this project for a minimum of one year and attend joint clinic meetings quarterly. "Proven Pathways" have been developed by clinics participating earlier in the project to assist new clinics in developing new clinic processes for caring with their asthma patients.

Lessons Learned/Observations:

- Provider behavior change continues to improve after the 12-month project is officially over.
- Clinics express appreciation for the opportunity to be part of a collaborative discussion group, to share lessons learned, and to problem solve together.

ASTHMA EDUCATION IN THE EMERGENCY DEPARTMENT

3. Asthma Education in the Emergency Department

Three area hospitals – Hennepin County Medical Center, Children's Minneapolis and Children's St. Paul – have participated in our "Asthma Education in the Emergency Department" project. This intervention assesses the feasibility of implementing asthma education within an emergency department. Providers and staff are routinely educated about asthma and how to talk to their patients about asthma. The Controlling Asthma Project is examining the methods of implementation in each of the three institutions and the feasibility of incorporating this program into their standard of care.

Lessons Learned/Observations:

- The "Asthma Education in the Emergency Department" project provides a flexible approach to delivering asthma education in ways that meet the unique organizational structure and culture of emergency departments. Asthma education may include face-to-face communication of key asthma messages, short video presentation, and take-home packet of information.
- Asthma education has been implemented in all new employee orientation at Hennepin County Medical Center and Children's Hospital (Minneapolis and St. Paul) and become part of the routine practice of emergency department staff.

- Nurses and new hires have completed training and demonstrate competency in asthma skills.
- These hospitals institutionalized an emergency department asthma education protocol; the protocol includes documentation of educational activities.

PROFESSIONAL EDUCATION

4. **“The Provider Asthma Care Education” (PACE)** program was modified from a University of Michigan School of Medicine and Public Health course. Since January 2003, more than 270 primary care providers (including resident MDs) have completed PACE training in Minnesota. PACE objectives include increasing knowledge of diagnosing asthma, including the use of pulmonary function testing (spirometry); increasing knowledge of asthma management and medications; increasing knowledge of patient communication and education; and increasing knowledge of legal and appropriate documentation and coding. The Controlling Asthma Project exclusively offers PACE training to clinics involved in the Systems Change Project.

Lessons Learned/Observations:

- An estimated 270 Mpls./St. Paul health practitioners took part in PACE training.
- An increase in use of spirometry, asthma action plans, and asthma education was reported at four weeks from baseline and four months from baseline.

5. **“Implementation and Interpretation of Spirometry in Primary Care”** provides two training sessions for the implementation and interpretation of spirometry (an objective breathing test used to diagnose and manage asthma). The “implementation” training is for health professionals (e.g., nurse or lab technician) who are responsible for administering the test. The “interpretation” training is for health providers who interpret test results for diagnosing asthma.

Lessons Learned/Observations:

- Over 180 primary care providers were trained in the “Implementation and Interpretation of Spirometry.”
- 89% of participants are very likely to apply what they learned during the course.
- All participants reported an increase in knowledge of implementation and interpretation of spirometry.
- This course is highly demanded and fills up each time it is offered. The content is well received and thought of as needed by participants.

6. **“Asthma Educator Certificate Course”** is provided by the American Lung Association of Minnesota as a two-day workshop for individuals wanting to improve their ability to provide asthma education for patients and families with asthma. The course was first offered in 2002 and funded by the Controlling Asthma Project until 2005. Based on the National Asthma Educator Certificate Board (NAECB) exam matrix, the 1997 National Heart Lung & Blood Institute Guidelines for Management of Asthma, and the ALA/American Thoracic Society Task Force Guidelines, the course offers participants continuing education credits and should prepare them to take the certified asthma educator exam offered by NAECB to become certified asthma educators.

Lessons Learned/Observations:

- Participant knowledge significantly increased ($p=0.015$) as a result of the course.
- Overall, participants were satisfied with the course in terms of content, applicability, organization, timing, environment, and faculty.
- Over 85% of respondents intended to take the National Certified Asthma Educator exam as reported at the time of the course.
- After three months, 16% of respondents had taken the exam and 80% of those respondents who hadn't yet taken the exam still intended to do so.
- Overall, respondents felt they were able to apply the information and skills learned at the course to their work as reported three months afterwards.
- Faculty was satisfied with the course development process and the course itself.

7. Pharmacist Continuing Education

"Improving the Lives of Our Patients with Asthma: Asthma Interventions for Busy Pharmacists" is a two-hour continuing education program for community pharmacists to impart the knowledge and skills necessary to provide education to their patients with asthma in a busy pharmacy setting. The program curriculum is available online: <http://www.americancitiesmsp.org/AmericanCities/tools/pharmacyintervention.asp>. The program is also offered as a professional education activity of the Minnesota Asthma Coalition.

Participants reported an increase in knowledge about asthma and an increase in comfort level demonstrating inhalers and medication delivery devices. Pharmacists also felt confident in providing asthma education to their patients and reported a high commitment to provide education to their patients with asthma and believed the information presented would be useful in their practice.

Lessons Learned/Observations:

- 102 total participants (85 pharmacists, 19 pharmacy techs, 10 pharmacy student interns) took part in the continuing education program; as of July 2002, there were 63 pharmacies in Minneapolis and St. Paul.
- The majority of participants consistently report satisfaction with the training, usefulness of content, and increased confidence in providing asthma education to patients.
- Since the 2006 implementation of the federal Medicare Modernization Act Part D Prescription Drug Program, which subsidizes the out-of-pocket costs of elderly patients, there has been an increased demand in the role of pharmacists in delivering medication therapy to patients. As a result of this new legislation, the demand for pharmacist professional continuing education opportunities has risen.

8. PharmD Year 4 Asthma Rotation

- Working in collaboration with the University of Minnesota College of Pharmacy, the Controlling Asthma Project has developed an enhanced asthma care rotation for fourth-year pharmacy students to increase their knowledge base of asthma medications and patient asthma education. The rotation involves enhanced written, clinical, and community-based assignments and activities. Students are encouraged to sit for the National Asthma Educator Certification Board Exam after receiving their license after graduation.
- The preceptor for the rotation is Malcolm Blumenthal, MD; the primary site for the rotation is University of Minnesota Physicians Allergy & Asthma Clinic.

Lessons Learned/Observations:

- All rotations offered have been filled; there is a high demand among pharmacy students for this rotation. The student demand for this rotation has outpaced the project's capacity to offer it to all requesting students.

Policy Initiatives

BOTTOM LINE: Working in partnership with policy-makers, health plans and pharmacists, these initiatives improve pediatric asthma management by reducing barriers to quality asthma care. These interventions can help reduce costly emergency department visits and hospitalizations, and help students miss fewer days of school.

9. Health Policy and Advocacy

The Controlling Asthma Project, in collaboration with the Minnesota Council of Health Plans, reduced barriers to quality pediatric asthma care by completing a comprehensive inventory of Minnesota health plans in the areas of asthma-related pharmaceutical and coverage benefits, disease management programs and other services. This work established a common understanding of policies and resulted in the following successes:

- Doctors and pharmacists received a detailed **chart summarizing each health plan's asthma health care coverage** information.
- The Minnesota Department of Human Services allowed **additional inhalers** for children covered by Minnesota Health Care Programs. These additional inhalers can be kept at school, daycare, or at a second home if the child shares time between two homes.
- Medica Health Plans began **reimbursing nationally certified asthma educators** in October 2004 for providing individual asthma education to their public program members.
- In partnership with the Minnesota Pharmacists Association and Minnesota Department of Human Services (DHS), the Controlling Asthma Project **simplified online billing** for durable medical equipment (e.g., spacers and peak flow meters), which is paid by DHS' Minnesota Health Care Programs.

Lessons Learned/Observations:

Collaboration is essential in order to create systematic change that benefits children with asthma. Leadership is critical as we continue to work toward improving asthma care in Minnesota. Health plans and the Minnesota Department of Human Services have been very open to reviewing their coverage policies and making changes that are in the best interest of children with asthma.

Community-based Education and Interventions

BOTTOM LINE: Community-based education and interventions improve pediatric asthma management by increasing the asthma care knowledge of parents, children, and child care providers. These interventions can help reduce costly emergency department visits and hospitalizations, and help students miss fewer days of school.

10. Environmental Improvement for Children with Asthma (home modifications)

The Controlling Asthma Project conducted a number of assessments and environmental modifications (if required) in the homes of children with asthma to reduce asthma triggers and to demonstrate improvement in health-care utilization rates. This closely coordinated effort involves three separate grants and agencies, using the same demographic data collection tools, these grant agencies are the Minneapolis Regulatory Services and St. Paul/Ramsey County Department of Public Health (HUD funded), Minnesota Department of Health (EPA funded) and the Controlling Asthma Project, administered by the American Lung Association of Minnesota (CDC funded). In-home asthma visits are conducted by Pediatric Home Service and trained environmental specialists from the Minneapolis Regulatory Services and St. Paul/Ramsey County Department of Public Health. Over 420 families have been served to date.

Lessons Learned/Observations:

- Home interventions reduce pediatric asthma symptoms.
- Home interventions can reduce the functional limitations (playing, participation in activities and sports) of children with asthma, which increases their quality of life.
- Home interventions can contribute to a reduction in emergency department visits, hospitalizations, unscheduled office visits, and improve parent reported school attendance due to asthma.
- A blended strategy involving healthcare management and regulatory services can successfully drive changes in the home environment.

11. Childcare Provider Education

The Controlling Asthma Project developed a 90-minute training for child care providers to impart practical knowledge and skills about asthma. The training, which is conducted by Minnesota Visiting Nurse Agency staff, covers the following topics: what is asthma; the signs and symptoms of respiratory distress; when to give medications; how to deliver medication and use equipment; and how to make environmental modifications in the childcare environment. The curriculum is available at the Controlling Asthma Project website:

www.americancitiesmsp.org

Lessons Learned/Observations:

- This training was offered 64 times to nearly 878 child care providers and day care centers in Minneapolis and St Paul.
- 960 or more childcare providers complete the in-service and 95% demonstrate sufficient knowledge of asthma.
- In follow-up surveys, 88% of childcare providers who responded reported feeling more prepared administering medications to children with asthma.

12. Community Forums (parent asthma education)

“Managing Your Child’s Asthma,” developed in partnership with the Hennepin County Medical Center, is a 120-minute presentation for families of children with asthma. The presentation, available in English, Hmong Somali and Spanish addresses basics about asthma, triggers, medicines, and self-management skills. Trained speakers are available to provide the curriculum to any community site in Minneapolis and St. Paul and the curriculum is available at the Controlling Asthma Project website: www.americancitiesmsp.org.

The program is currently undergoing outcome evaluation to measure utility of the material and actions taken by participants four weeks after attending.

Lessons Learned/Observations:

- The most effective way to provide this presentation for communities of color is to train someone within the community to deliver the presentation in a location that is familiar and comfortable (e.g., church or other faith organization, community organization, etc.) to each community. This approach, versus providing the presentation at a clinic, builds trust and improves attendance, participation and receptivity to the content.
- Majority of survey respondents found the session to be helpful and all the materials useful.
- Majority intended to use the materials to help manage their child’s asthma.
- Over 90% satisfaction with the class leader, location, materials, and overall session.

13. MN Asthma Information Center Online Clearinghouse

Designed as a one-stop, online information source for asthma information in Minnesota, the Minnesota Asthma Information Center (www.alamn.org/InfoCenter) provides immediate, clear, and accurate asthma information to people with asthma, their families, health care providers, and other professionals. The website has two sections: one for patient/family information; and one for health care providers/ professionals.

The patient/family portion includes basic information about asthma, and information on triggers, schools, childcare, exercise, links, local community services, and links to other sites, educational games, foods, and medications.

The provider/professional portion of the online Minnesota Asthma Information Center (www.alamn.org/InfoCenter) includes patient/family educational materials, community services within Minnesota, continuing education opportunities, asthma-related research, and links to other sites.

Lessons Learned/Observations:

- 33,385 total hits from January - June 2006
 - Average hits per month = 5,564
 - Average unique users per month = 587
- 181,369 total hits from July 1, 2005 - June 30, 2006
 - Average hits per month = 15,114
 - Average unique users per month = 1,005