FINAL NARRATIVE REPORT

FOR THE PREVENTIVE HEALTH AND HEALTH SERVICES

BLOCK GRANT AGREEMENT #6H0117

BETWEEN THE DISTRICT OF COLUMBIA GOVERNMENT

DEPARTMENT OF HEALTH AND

NATIONAL CAPITAL ASTHMA COALITION

GRANT PERIOD: AUGUST 9, 2006 THROUGH JULY 31, 2007

NO COST EXTENSION PERIOD ENDING DECEMBER 31, 2007

AS OF JUNE 2, 2008

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I. INTRODUCTION

This final narrative report summarizes the accomplishments, issues and recommendations arising from the implementation of an asthma-friendly schools program under the DC Department of Health (DOH) Preventive Health and Health Services Block Grant Agreement #6H0117. NCAC greatly appreciates the support and guidance provided for the *Managing Asthma and Allergies in DC Schools Program* by the Government of the District of Columbia, Department of Health, Community Health Administration, Preventive Health and Health Services Block Grant Program and District of Columbia Control Asthma Now (DC CAN) Program. NCAC developed *Managing Asthma and Allergies in DC Schools* in partnership with The George Washington University Mid-Atlantic Center for Children's Health and the Environment. For more detailed information about the implementation of this program between October 2007 and June 2007, please see Attachment 6 and our previous narrative reports submitted to DOH on May 16, 2007 and July 1, 2007, respectively.

Furthermore, NCAC and several key partners provided critical additional funding support for the program which enabled us to complete the deliverables and other accomplishments summarized in this report. We gratefully acknowledge the financial contributions of AMERIGROUP District of Columbia, DC Chartered Health Plan, Health Right, Inc., The HSC Foundation, and the National Capital Asthma Coalition. Moreover, we thank the National Association of State Boards of Education for generously donating copies of its publication, *Fit, Healthy, and Ready to Learn: A School Health Policy Guide, Policies on Asthma, School Health Services, and Healthy Environments* for use by DC Public Schools administrators and staff. We also thank GlaxoSmithKline, Monaghan Medical Corporation, and The Food Allergy & Anaphylaxis Network for donating placebo devices for the trainings of school administrators and personnel.

II. COLLABORATION

Through regular consultation in numerous committee, small group, and one-on-one meetings, NCAC maintained the strong engagement of officials and staff from DOH and from DC Public Schools (DCPS) and of representatives and experts from diverse organizations in the development of the school asthma and anaphylaxis trainings, education and resource guide, policies and procedures, and standard DC Asthma Action Plan. (Committee meeting minutes are available at www.dcasthma.org under "Meetings.") Local partners shared their time, expertise, and materials; participated as speakers and exhibitors at the school trainings; contributed to the development of the DC Asthma Action Plan plus its translation into a Spanish-language format; and provided follow-up resources for the schools. National associations and other organizations from around the United States, including the Allergy and Asthma Network Mothers of Asthmatics; American Academy of Allergy, Asthma and Immunology; Attack on Asthma Nebraska; The Food Allergy & Anaphylaxis Network; Minnesota Department of Health; National Association of State Boards of Education; and U.S. Environmental Protection Agency, Region III, among others, generously provided additional policy guidance, educational materials, and other support. Attachment 1 includes a list of contributing partners.

This collaboration particularly was evident as key partners spoke with one voice in favor of the *Student Access to Treatment Emergency Act of 2007* and amendments recommended by DOH and our coalition. The final *Student Access to Treatment Act of 2007 (A17-0226),* enacted as permanent legislation on December 3, 2007 (effective February 2, 2008), reflected the consensus-building process and resulting draft policy coordinated over the previous two years by NCAC, DOH, and DCPS in collaboration with Children's School Services (DC school nurses), DC's four Medicaid managed care organizations, Children's National Medical Center, Georgetown University Hospital/MedStar Health, Howard University Hospital, National Association of School Nurses DC Chapter, Allergy and Asthma Network Mothers of Asthmatics (AANMA), and The Food Allergy & Anaphylaxis Network. In addition to DOH and NCAC, representatives from the DC Primary Care Association, District of Columbia Association of Health Maintenance Organizations, American Lung Association of DC, American Academy of Pediatrics DC Chapter, Georgetown University Hospital/MedStar Health, National Association of School Nurses DC Chapter, AANMA, and DCPS joined in providing testimony in favor of expanding student access to lifesaving medications at the June 7, 2007 hearing of the DC Council's Committee on Health.

As stated in its July 10, 2007 resolution (R17-0280), the Council of the District of Columbia enacted the *Student Access to Treatment Emergency Act of 2007* to adequately protect school children from the, "risk for serious complications that can result from delays in getting emergency treatment, which complications can, in turn, lead to missed school days for the child, missed work days for the caregiver, and additional strain on the emergency rooms of District hospitals" Thus, in our trainings, we worked to increase not only participants' about their knowledge of asthma and anaphylaxis, including underlying processes, signs and symptoms, types of medications, but also about how they should respond in an emergency to prevent the worsening of symptoms and to save lives.

III. ACCOMPLISHMENTS

A. Resource and Education Guide

With final approval from DOH, NCAC developed and published 500 copies of the 228-page *Managing Asthma and Allergies in DC Schools: A Comprehensive Resource and Educational Guide for Improving Asthma and Allergy Care in District of Columbia Schools ("Managing Asthma and Allergies in DC Schools Guide").* NCAC distributed the guides to 182 DC school administrators, staff, and other participants who completed the two *Managing Asthma and Allergies in DC Schools* trainings conducted on October 18 and October 19, 2007 and to 150 DC school nurses through Children's School Services. NCAC also provided several boxes of the guide to DOH's DC CAN program.

As directed by DOH in its request for proposals, we used the Minnesota Department of Health's (MN DOH) resource and training manual on asthma for school personnel as a starting point for the *Managing Asthma and Allergies in DC Schools Guide*. Based on early feedback from NCAC's partners, clinical advisors, third-year pediatric resident interns, and volunteer reviewers, we designed the guide to be relevant and user-friendly for a diverse audience of school administrators and lay personnel in addition to school

nurses. Moreover, we added sections on managing anaphylaxis in school settings with further advice on food and latex allergies. We also inserted throughout the guide helpful consumer education materials from consumer organizations from across the country.

Furthermore, we included clinical and policy guidance and practical strategies from key government agencies and professional associations. With the belated release on August 29, 2007 of the major revisions to the National Heart, Lung, and Blood Institute's guidelines for diagnosing and treatment asthma, we made additional changes to the guide. Finally, we created an expansive resources section with detailed descriptions to make it easy for readers to access relevant tools and information.

To achieve an attractive professional appearance for the guide that would enhance the likelihood of its use by the intended audience, NCAC subcontracted for the services of Kessler*Design*Group. Ltd. in Bethesda, Maryland. The firm's President and Creative Director, Ms. Ethel Kessler, has more than 25 years of experience in designing health and wellness publications, toolkits, and other projects for federal government agencies, academic institutions, and nonprofit organizations. Ms. Kessler, and her designer, Ms. Suzanne Kesler, provided valuable insight and guidance into the guide's format and style. They produced the guide as a binder with colorful, easy-to-access tabs that draw readers into each section with a picture and a quote from a peer, recognized expert, or other opinion leader. Individual pages or sections may be reproduced or downloaded from NCAC's two Web sites (www.dcschoolasthma.org and www.dcasthma.org) and used for in-school trainings, classroom posters, student and parent/guardian education, forms and procedures, and individual school asthma and anaphylaxis management planning.

B. Managing Asthma and Anaphylaxis in DC Schools Trainings:

1. Pilot Training for Schools, August 29, 2007

On Wednesday, August 29, 2007, NCAC conducted a 1.25-hour pilot asthma-friendly schools training for 20 administrators, staff, and school nurses from DC public charter schools as part of the Student Support Center's day-long *School Health 101* program held at Community Academy PCS, Amos I Campus, 1300 Allison St. NW. The pilot training, presented by Lisa A. Gilmore, NCAC, and Elgloria Harrison, RRT, Department of Nursing and Allied Health, Respiratory Therapy Program, University of the District of Columbia, discussed the basics of asthma and anaphylaxis management, strategies for addressing asthma and anaphylaxis within a coordinated school health program, the DC standard Asthma Action Plan form, and the *Student Access to Treatment Emergency Act of 2007*. In addition, the presenters demonstrated proper techniques for using metered dose inhalers, spacers, peak flow meters, and other devices. The Student Support Center reported that participants' provided a positive evaluation of the overall program, with three individuals singling out NCAC's asthma-friendly schools session as having "the most valuable/timely information" and being "extremely worthwhile."

2. Training for DCPS Athletic Trainers, October 9, 2007

NCAC partnered with the Asthma and Allergy Foundation of America (AAFA), a national asthma and allergy consumer organization headquartered in Washington, DC, to present its *Asthma Management and Education*© program to athletic trainers in the DC Public Schools. NCAC specifically selected this accredited program for the athletic trainers to match their advanced training and skills as allied health professionals. Nine of DCPS' ten athletic trainers attended the program, which we conducted on Tuesday October 9, 2007, from 9:30 a.m. to 11:30 a.m. at the Hamilton School Auditorium, 1401 Brentwood Parkway, NE, Washington, DC 20002. Additional participants included clinicians from DC hospitals and health centers and respiratory therapists and students from the University of the District of Columbia Nursing and Allied Health Program.

The program's keynote speaker was Maureen George, PhD, RN, AE-C, Assistant Professor of Nursing at the Johns Hopkins University School of Nursing in Baltimore and Past-President of the Association of Asthma Educators. Dr. George provided an overview of asthma, factors contributing to asthma severity, medications used to treat the condition, and the importance of the patient/clinician partnership. She also led participants through hands-on peak flow meter training and proper techniques for using various medication devices. Participants received a professionally produced kit with the program slides, consumer education materials, and training devices.

Immediately following the close of the AAFA portion of the program, NCAC and the DCPS athletic trainers met in a separate room to continue the education session. Eric Howard EdD, MS, ATC, Athletic Trainer, DC Public Schools, and Lisa A. Gilmore, Executive Director, NCAC presented information about the *Student Access to Treatment Emergency Act of 2007*; the management of exercise-induced asthma; and the online "Winning With Asthma" Program, an ongoing education program for athletic trainers and coaches developed by the Minnesota Department of Health Asthma Program and the Utah Department of Health Asthma Program. This session allowed for a more in-depth discussion of the challenges and opportunities for managing asthma and anaphylaxis in DCPS athletics programs.

AAFA conducted the training program evaluation and provided a summary of the results to NCAC. AAFA received a total of 31 completed evaluation forms from the 34 program participants. Rather than reporting separate frequencies for each response, AAFA averaged the responses provided on a scale of 1 to 5 (e.g., 1 = Poor, 2 = Fair, 3 = Neutral, 4 = Good, 5 = Excellent). Participant ratings of Dr. George's knowledge, presentation style, and responsiveness to audience questions and concerns; program content and teaching strategies; and how well the program met each objective were consistently high, ranging between 4.59 and 4.93. Ratings of location and room arrangement were lower and ranged between 2.80 for room comfort (lighting, seating, sound) and 4.07 for agenda (pace, duration, breaks). The low ratings for room comfort most likely reflected the lack of air conditioning on a warm day, the loud floor fan, and the wooden auditorium seats.

On average, participants agreed or strongly agreed that they would do a number of things with their patients as a result of the training, including providing more information on four listed topics (4.66-4.80), checking inhaler technique more frequently (4.64), and instructing

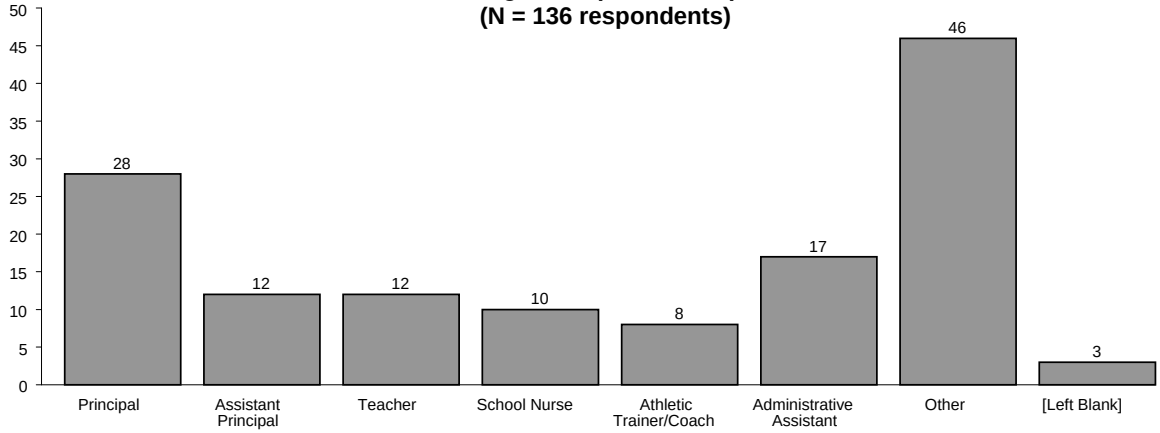
patients with moderate to severe asthma in home peak flow monitoring (4.7). To overcome barriers to providing more effective patient education, the average of participants' responses suggested they agreed or strongly agreed that they would share what they learned with other key staff (4.59) and provide more written information to patients (4.10).

3. Trainings for DC Schools, October 18 and 19, 2007

We conducted two trainings for DC school administrators and staff on October 18, 2007 and again on October 19, 2007. Held between 7:30 a.m. and 12:30 p.m. at The George Washington University's Cloyd Heck Marvin Center's Continental Ballroom, 800 21st Street, NW, Washington, DC 20052, each session included continental breakfast and box lunch. These trainings served both as the culmination of our coalition's collaborative efforts to secure a student self-administration of asthma and anaphylaxis medication policy and as the official launch of the *Managing Asthma and Allergies in DC Schools Program*.

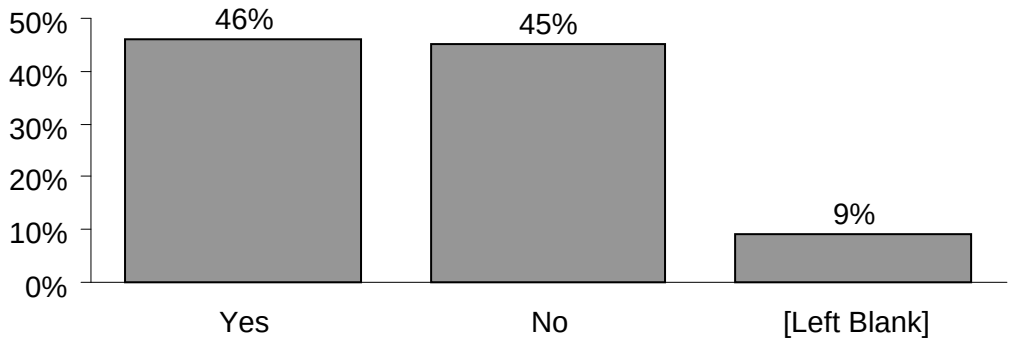
A total of 182 individuals participated in the two trainings, primarily DC public and public charter school principals, assistant principals, and staff members trained in medication administration (Figure 1). Additional attendees included at least ten DC school nurses, DOH and DCPS officials, and a small number of participants from DC private schools, DCPS Head Start, DC Department of Parks and Recreation, and Boys & Girls Clubs of Greater Washington.

Figure 1
Managing Asthma and Allergies in DC Schools
General Training Evaluation - October 18 and 19, 2007
Training Participant Descriptors
(N = 136 respondents)



As noted in Figure 1 above, of the 136 individuals who completed the General Training Evaluation form at the close of the two trainings, 40 (29%) identified themselves as a principal or assistant principal, 17 (13%) were administrative assistants, 12 (9%) were teachers, 10 (7%) were school nurses, and 8 (6%) were athletic trainers or coaches. A total of 46 (34%) individuals listed themselves in the "Other" category and 3 (2%) individuals left this answer blank. Titles under "Other" included, but were not limited to, Data Entry Clerk, Education Aide, Family Service Worker, Guidance Counselor, Library Aide, Paraprofessional, Recreational Specialist, School Counselor, Security Director, and Special Education Coordinator. Nearly half of the respondents (46%) also indicated that they had been trained and certified to administer medication to DC students (Figure 2).

Figure 2
Managing Asthma and Allergies in DC Schools
General Training Evaluation - October 17 and 18, 2007
Q. I have been trained and certified to administer medication to DC students.
(N = 136 respondents)



The agenda for the trainings reflected the same collaborative process as the development of the *Managing Asthma and Allergies in DC Schools Guide* (Attachment 2). Ms. Juanita Campbell began the program with the story of the tragic loss of her ten-year-old son, Kelton, a DCPS student who died after an asthma attack. Before NCAC's intervention, the Campbell family had received little to no asthma management support for Kelton or for his two brothers who, like Kelton, also had suffered from asthma symptoms, experienced repeat emergency department visits, and missed many days of school.

The program's principal advisor, Dr. Jerome A. Paulson of The George Washington University's Mid-Atlantic Center for Children's Health and the Environment, then presented the fundamentals of asthma and anaphylaxis management and guidance for responding in emergency situations. Program participants took advantage of the time allotted to ask Dr. Paulson questions and to share their experiences with asthma and anaphylaxis in schools. We also showed a School Staff In-Service Video on asthma and anaphylaxis produced by the Missouri Department of Health and Senior Services to reinforce the fact that asthma is a life-threatening condition and to illustrate the respective roles of school nurse, athletic trainer, and other school staff in preventing such tragedy.

In addition, we invited experts from DCPS to present the program content. For example, Reginald Ringgold, Industrial Hygienist, DCPS Office of Facilities Management, spoke about the actions participants could take to create healthier school environments. He also introduced U.S. EPA's *Indoor Air Quality Tools for Schools Walkthrough Video* which visually reinforced the points in his discussion. Further, Eric Howard EdD, MS, ATC, Athletic Trainer, Ballou Senior High School, DCPS, presented the National Athletic Trainers' Association's *Position Statement on the Management of Asthma in Athletes* and DCPS' *Athlete Data & Emergency Treatment Information Form*, both included in the *Managing Asthma and Allergies in DC Schools Guide*. He also provided case examples of emergency situations that have arisen during school athletic activities to illustrate the importance of being prepared to manage asthma and anaphylaxis in school settings.

In addition, we incorporated hands-on learning opportunities throughout the trainings. Before the formal presentations, Linda Coulombe of the National Children's Museum led participants in an exercise to simulate what it feels like to have asthma. She asked participants to stand and breathe through a straw, then asked them to jog in place and breathe through the straw again, noting how hard it was to draw in air through a narrow passageway as it is for individuals with asthma who are having an asthma attack.

After participants had received instruction on the management of asthma, we handed out donated peak flow meters with disposable cardboard mouthpieces, placebo metered dose inhalers, holding chambers, and tester EpiPen® or Twinject® auto-injectors to enable participants to see and to practice using some of the devices. At each table of six to eight individuals, physicians and respiratory therapists from Children's National Medical Center, George Washington University Medical Center, Howard University Hospital, and University of the District of Columbia Nursing and Allied Health Program guided participants in demonstrations of each device.

We requested additional audience participation for a role play of a student having an asthma attack. We asked for volunteers (usually a principal, school nurse, and teacher) from the audience to join us on stage with Dr. Paulson taking on the role of the student in respiratory distress. The role play allowed role-playing participants and audience members to put into practice the lessons they had learned thus far from the training.

We further engaged local expertise during the afternoon's panel discussion to assist school personnel to formulate their own school plan for addressing asthma and anaphylaxis. Over the two days of trainings, panelists included Ms. Edwina Davis-Robinson, Asthma Program Manager, DC Control Asthma Now Program, DC Department of Health; Ms. Jennifer Ragins, School Health Policy Officer, DC Public Schools; Darcy Jennings, Member Communications, The Food Allergy & Anaphylaxis Network; Sandra Fusco-Walker, Director of Government Affairs, Allergy & Asthma Network Mothers of Asthmatics; Dr. Elena Reece, Chief, Allergy & Clinical Immunology , Howard University Hospital; and Stacey Gonzalez, Center for Health, Environment and Justice. The panelists' perspectives on how to effectively manage asthma and anaphylaxis sparked more discussion among participants as they wrote their action plans.

Finally, existing and new partner organizations set up exhibition tables at the back and sides of the meeting room for participants to visit during the final portion of the trainings. Exhibitors included the Allergy and Asthma Network Mothers of Asthmatics; American Lung Association of DC; AMERIGROUP District of Columbia; Center for Health, Environment and Justice (CHEJ); DC Chartered Health Plan; District of Columbia Area Health Education Center (DC AHEC); Health Services for Children with Special Needs, Inc.; Improving Asthma Care in the District of Columbia (IMPACT DC); Health Right, Inc.; The Food Allergy & Anaphylaxis Network; and U.S. EPA Office of Pesticide Programs. They provided brochures, fact sheets, and booklets; school toolkits (e.g., CHEJ's Green Flag Schools Program and FAAN's School Food Allergy Program), invitations to additional trainings (e.g., CHEJ's Healthy Schools Summit); and resources for families (e.g., ALADC's Camp Happy Lungs).

4. DC Standard Asthma Action Plan

At the request of the DC Control Asthma Now Program, the Preventive Health and Health Services Block Grant Program expanded its agreement with NCAC to include developing and printing a new DC standard Asthma Action Plan (AAP) in English and in Spanish and producing an electronic version of the form that could be filled out by healthcare providers on their computers. Developed collaboratively by members of NCAC's Health Services & Quality Improvement Committee and piloted through the inpatient and outpatient networks at Children's National Medical Center, the final form received a formal endorsement from DOH. NCAC printed an initial run of 2,000 copies of the AAP in English and 1,000 copies in Spanish, with half of the shipment sent directly to DC CAN and the other half distributed by NCAC to local healthcare providers.

Printed as a carbon-copy form in triplicate, the AAP includes copies for the patient and for the healthcare provider and to share with schools, childcare providers, nursing homes, and/or other caregivers. Printed on the back of the second page titled "School Nurse/Child Care Copy" is the preexisting *District of Columbia Department of Health School Health Program Student Health Authorization Forms* that provide parent/guardian consent and the physician's medical authorization order for administration of medication to students by the school nurse, licensed practical nurse, or certified DCPS personnel.

The back of the final page includes a condensed summary for healthcare providers of the National Heart, Lung, and Blood Institute's clinical guidelines for diagnosing and treating asthma, common controller medications and dosages, and other useful practice strategies, such as the *Asthma Predictive Index for Young Children* and The Baylor Health System's *Rules of Two*®. Both the printed and computer-based versions of the AAP include space in the top left corner to be customized with provider logos and/or contact information.

The AAP also fulfills the requirements for a "valid medication action plan" under DC's *Student Access to Treatment Act of 2007*. In addition to providing instructions for how to manage asthma on a day-to-day basis and what to do in an emergency, the form includes check-off boxes for permission for students to self-administer, or to be administered, asthma medications in school settings to be followed by the signatures of the patient or parent/guardian and the healthcare provider.

NCAC is indebted to DOH and to a host of community providers for the translation of the DC Asthma Action Plan from English into Spanish (*Plan de Acción Contra el Asma*). Contributors included physicians, nurses, health educators, and public affairs and outreach specialists from the Association of Clinicians for the Underserved, La Clínica del Pueblo, Mary's Center for Maternal and Child Care, Spanish Catholic Center and DC Department of Health. These individuals speak different dialects of Spanish and provide services to Spanish-speaking populations from El Salvador, Mexico, and elsewhere.

NCAC used Adobe Acrobat 8 Professional software to develop the computer-based, fill-in-the-blank version of both the English- and Spanish-language AAPs. Healthcare providers may download the form to their computers, fill in the treatment instructions electronically, print copies, and save the completed form for each patient. Information typed on the front page automatically fills in the same information on the other pages. Healthcare providers, school nurses, consumers, and others may download all versions of the AAP at no charge from the *Managing Asthma and Allergies in DC Schools* Web site at www.dcschoolasthma.org or from NCAC's Web site at www.dcasthma.org.

IV. TRAINING EVALUATION

As part of the required evaluation component of the two all-school trainings conducted on October 18 and 19, 2007, NCAC employed several data collection instruments to measure current knowledge, self-efficacy, and perceptions about the training. In addition, NCAC asked participants to complete a worksheet to identify what specific steps they planned to take to improve asthma and anaphylaxis management at their respective schools. These instruments are described below and also attached to this report. Before developing the program evaluation, NCAC received guidance from Edwina Davis-Robinson, Asthma Program Manager, DC CAN, DOH; Gladys B. Baxley, Ph.D., President, Healthcare Services Development Corporation and DC CAN Evaluator; and Aurora Amoah, MPH, Research Scientist, The George Washington University Mid-Atlantic Center for Children's Health and the Environment. NCAC also reviewed the evaluation surveys employed by the Minnesota Department of Health's *Managing Asthma in Minnesota Schools Program*.

A. Pre (Before) and Post (After) Training Assessment Forms

As we registered participants before the start of the trainings, we asked them to fill out a twenty-question pre-training assessment form developed by NCAC to reflect DOH's objectives for the trainings (Attachment 3). Since perceived self-efficacy (confidence) is a known prerequisite for behavioral change, the form asks respondents first to rate their current knowledge about asthma and anaphylaxis, respectively, and then to rate how confident they are in helping students manage each condition. The remaining 16 questions focus on key points considered critical to the successful management of asthma and anaphylaxis.

At the completion of the training, we requested that participants answer the same twenty questions on a post-training assessment form (Attachment 3). We printed the pre- and post-training assessment forms as two sides of a single sheet of paper. We color-coded the forms, using a green title banner for the pre-training form and red title banner for the post-training form, both to aid participants in distinguishing the two forms and to preserve the option of conducting a more in-depth analysis of individual responses in the future.

A total of 132 participants completed both forms. The following pages include charts describing the key findings and a table summarizing the aggregate results of the pre- and post-training assessment forms. For the limited purpose of this report, we are presenting the raw data with no further analyses to determine the statistical significance of the results.

Between the start and the finish of the two trainings, the percentage of participants who rated as "good" their knowledge of asthma (Figure 3) and their confidence in about helping students manage their asthma (Figure 4) more than doubled, from a third of respondents to about three-quarters of respondents.

Figure 3
Managing Asthma and Allergies in DC Schools
Pre/Post Training Assessment - October 17 and 18, 2007
Q1. How would you rate your current knowledge about asthma?
(N = 132 respondents)

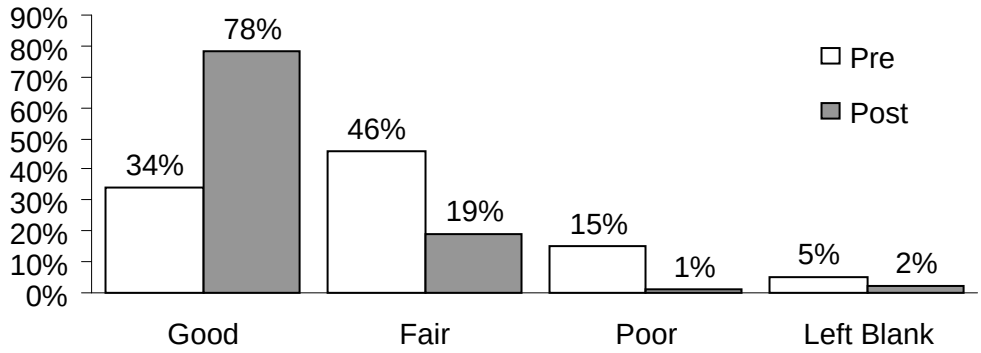
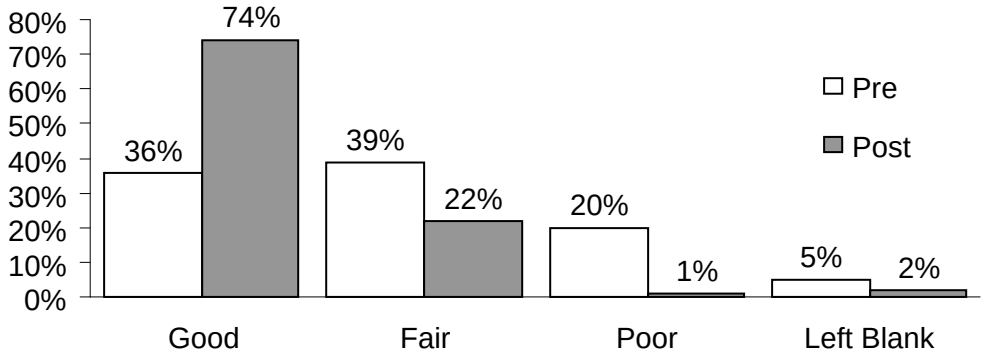


Figure 4
Managing Asthma and Allergies in DC Schools
Pre/Post Training Assessment - October 17 and 18, 2007
Q2. How confident do you feel about helping students manage their asthma?
(N = 132 respondents)



Similarly, participants who rated as "good" their current knowledge of anaphylaxis (Figure 5) and their confidence in helping students manage their anaphylaxis (Figure 6) also increased. Most of the gains in both categories appear to originate from a decrease in the percentage of respondents who ranked their knowledge or confidence as "poor."

Figure 5
Managing Asthma and Allergies in DC Schools
Pre/Post Training Assessment - October 17 and 18, 2007
Q3. How would you rate your current knowledge about anaphylaxis?
(N = 132 respondents)

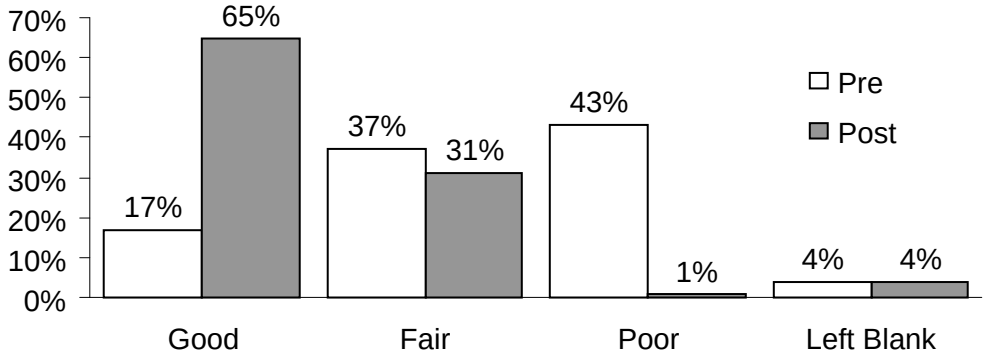


Figure 6
Managing Asthma and Allergies in DC Schools
Pre/Post Training Assessment - October 17 and 18, 2007
Q4. How confident do you feel about helping students manage their anaphylaxis?
(N = 132 respondents)

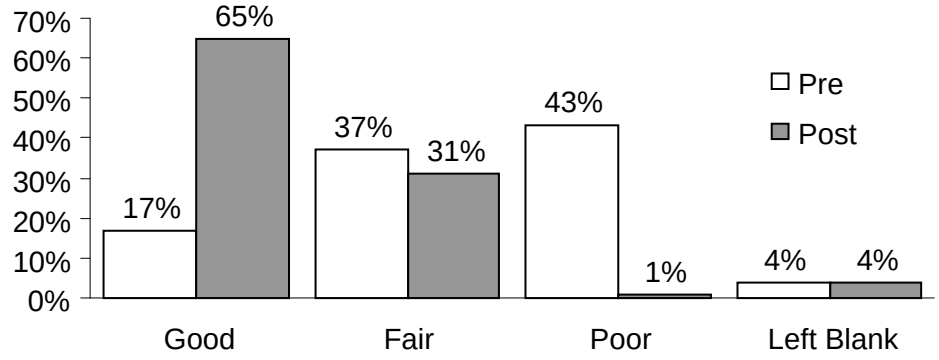


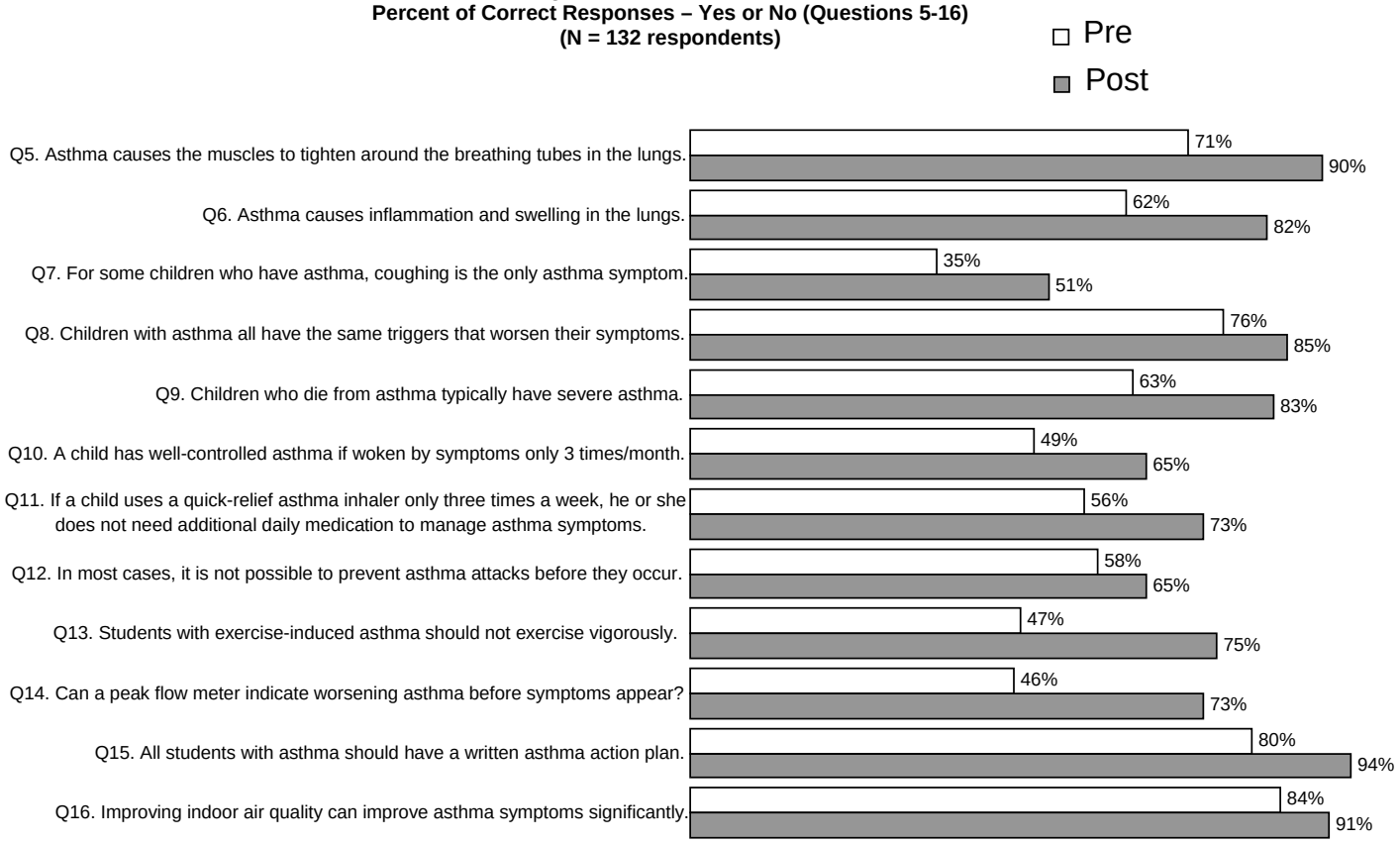
Table 1
Managing Asthma and Allergies in DC Schools
Pre/Post Training Assessment – October 18 and 19, 2007
(N = 132 respondents)

Pre/Post-Training Questions (Sum of all categories for each pre/post question = 100% of responses)		Key	% Good			% Fair		% Poor		% Don't Know		Left Blank	
			Pre	Post	Post-Pre	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	How would you rate your current knowledge about asthma?	N/A	34%	78%	44%	46%	19%	15%	1%	N/A	N/A	5%	2%
2	How confident do you feel about helping students manage their asthma?	N/A	36%	74%	38%	39%	22%	20%	1%	N/A	N/A	5%	2%
3	How would you rate your current knowledge about anaphylaxis?	N/A	17%	65%	48%	37%	31%	43%	1%	N/A	N/A	4%	4%
4	How confident do you feel about helping students manage their anaphylaxis?	N/A	19%	60%	41%	37%	35%	40%	1%	N/A	N/A	5%	4%
			% Correct			% Incorrect				% Don't Know		Left Blank	
			Pre	Post	Post-Pre	Pre	Post	Post-Pre		Pre	Post	Pre	Post
5	Asthma causes the muscles to tighten around the breathing tubes in the lungs.	Yes	71%	90%	19%	6%	2%	-4%		16%	1%	7%	7%
6	Asthma causes inflammation and swelling in the lungs.	Yes	62%	82%	20%	12%	8%	-4%		18%	3%	9%	7%
7	For some children who have asthma, coughing is the only asthma symptom.	Yes	35%	51%	16%	48%	41%	-7%		11%	1%	6%	6%
8	Children with asthma all have the same triggers that worsen their symptoms.	No	76%	85%	9%	6%	7%	1%		11%	2%	8%	6%
9	Children who die from asthma typically have severe asthma.	No	63%	83%	19%	13%	11%	-2%		17%	3%	7%	4%
10	A child has well-controlled asthma if woken by symptoms only 3 times/month.	No	49%	65%	16%	6%	15%	9%		40%	8%	5%	12%
11	If a child uses a quick-relief asthma inhaler only three times a week, he or she does not need additional daily medication to manage asthma symptoms.	No	56%	73%	17%	8%	7%	-1%		30%	8%	6%	12%
12	In most cases, it is not possible to prevent asthma attacks before they occur.	No	58%	65%	7%	17%	25%	9%		19%	1%	6%	9%
13	Students with exercise-induced asthma should not exercise vigorously.	No	47%	75%	27%	30%	17%	-13%		16%	1%	6%	7%
14	Can a peak flow meter indicate worsening asthma **before** symptoms appear?	Yes	46%	73%	27%	6%	13%	7%		43%	4%	5%	9%
15	All students with asthma should have a written asthma action plan.	Yes	80%	94%	14%	1%	1%	1%		14%	0%	5%	4%
16	Improving indoor air quality can improve asthma symptoms significantly.	Yes	84%	91%	6%	1%	1%	-1%		8%	2%	6%	6%
17	You should **call 911** if a student has the following indications:												
	a. Rescue medication is not relieving breathing difficulties or is not available	Yes	88%	93%	4%	1%	1%	0%		3%	0%	7%	6%
	b. Lips or nail beds are bluish or dusky gray	Yes	80%	90%	10%	2%	6%	4%		12%	0%	6%	4%
	c. Peak flow reading moving from red zone to yellow zone	No	19%	45%	26%	40%	40%	1%		31%	2%	11%	13%
	d. Just received emergency anaphylaxis medication and is feeling much better.	Yes	41%	61%	20%	27%	28%	1%		22%	1%	9%	9%
	e. Rapidly deteriorating condition	Yes	85%	91%	6%	1%	3%	2%		5%	0%	9%	7%
18	A spacer or holding chamber is used with an inhaler (choose one):												
	to keep inhaler clean												
	to prevent inhaler from getting lost												
	to make using inhaler easier and more efficient	✓	76%	90%	14%	9%	5%	-4%		0%	0%	14%	5%
19	Which medication always should be given **first** to someone having an anaphylaxis reaction, i.e., a life-threatening allergic reaction?												
	Benadryl® or other antihistamine												
	Epinephrine	✓	65%	85%	20%	16%	6%	-9%		1%	0%	19%	9%
20	According to DC law, whose written permission/authorization is needed on file to allow a student to possess and self-administer emergency asthma or anaphylaxis medications at school?												
	a. Parent/guardian and licensed healthcare provider	Yes	83%	90%	6%	5%	1%	-4%		5%	0%	6%	9%
	b. School nurse and school principal	No	38%	45%	6%	33%	32%	-1%		14%	1%	14%	22%
	c. None as long as the student knows how to properly use the medication	No	64%	66%	2%	10%	14%	4%		12%	0%	14%	19%
	d. Depends on student's grade level/age	No	48%	53%	4%	21%	27%	6%		16%	1%	15%	19%

Respondents appeared to improve their overall knowledge of asthma and anaphylaxis and the management of these conditions (Figure 7). For example, by the end of the trainings, more than 90% of respondents correctly agreed with the statements that asthma causes the muscles to tighten around the breathing tubes in the lungs, that all students with asthma should have a written asthma action plan, and that improving air quality can improve asthma symptoms significantly. Further, the majority of respondents correctly disagreed with the statements that all children have the same asthma triggers (85%), that children with exercise-induced asthma should not exercise vigorously (75%), and that if a child uses a quick-relief asthma inhaler only three times a week, he or she does not need additional daily medication to manage asthma symptoms (73%).

Nevertheless, only 51% of respondents at the close of the trainings correctly answered that for some children who have asthma, coughing is the only asthma symptom. Moreover, while the portion of respondents who correctly disagreed that, in most cases, it is not possible to prevent asthma attacks before they occur increased from 58% to 65%, the percentage who answered incorrectly also rose from 17% to 25% (Table 1).

Figure 7
Managing Asthma and Allergies in DC Schools
Pre/Post Training Assessment - October 17 and 18, 2007
Percent of Correct Responses – Yes or No (Questions 5-16)
(N = 132 respondents)

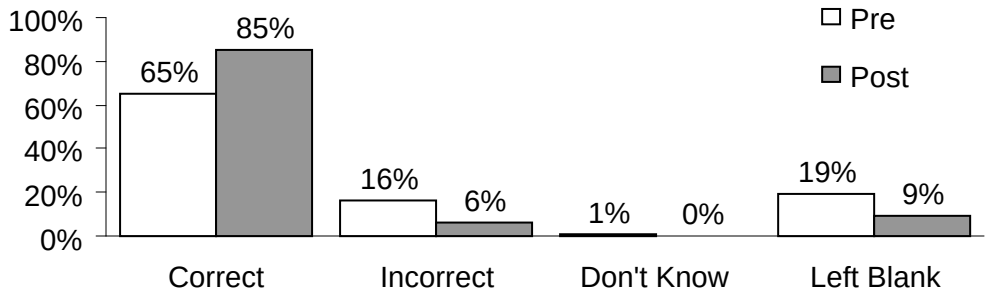


In addition, participants seemed to gain knowledge about what to do in case of an asthma or anaphylaxis emergency. For example, by the end of the trainings, more than 90% of respondents correctly chose the statement that "you should call 911" if indications are that the student's rescue medication is not relieving breathing difficulties or is not available, a

student's lips or nails are bluish or dusty gray, or the student has a rapidly deteriorating condition (Table 1, Q. 17a, b, e). Furthermore, the percentage of respondents who answered correctly that a "peak flow reading moving from red zone to yellow zone" also was not an indication warranting a 911 call more than doubled by the end of the trainings (from 19% to 45%), and the number of "don't know" and "left blank" responses dropped (from 42% to 15%). In both the pre- and post-training assessment forms, however, a disappointing 40% of respondents answered this question incorrectly (Table 1, Q. 17c).

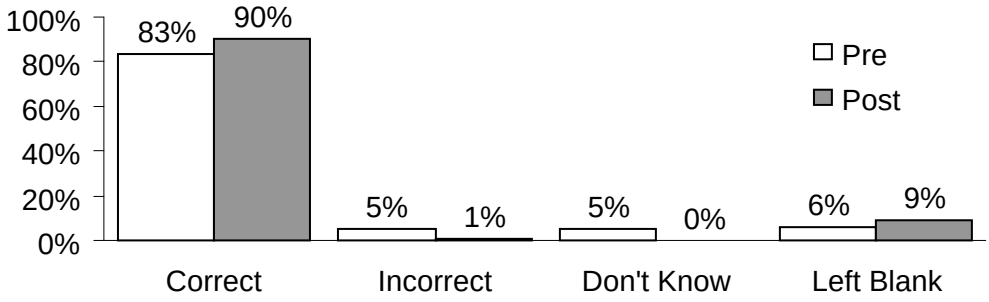
On the other hand, in the case of someone having an anaphylaxis reaction, that is, a life-threatening allergic reaction, the percentage of respondents who correctly selected epinephrine as the medication that always should be given first rose from 65% to 85% from the start and to the end of the trainings, while the portion who answered incorrectly by selecting "Benedryl® or other antihistamine" fell from 16% to 6% (Figure 8).

Figure 8
Managing Asthma and Allergies in DC Schools
Pre/Post Training Assessment - October 17 and 18, 2007
Q19. Which medication always should be given first to someone having an anaphylaxis reaction i.e., a life-threatening allergic reaction? Benadryl® or other antihistamine [incorrect] [or] Epinephrine [correct]
(N = 132 respondents)



Finally, regarding the *Student Access to Treatment Emergency Act of 2007*, the portion of respondents who correctly answered that written permission from both parent/guardian and licensed healthcare provider is needed to allow a student to possess and self-administer emergency asthma or anaphylaxis medications increased from 83% to 90% (Figure 9).

Figure 9
Managing Asthma and Allergies in DC Schools
Pre/Post Training Assessment - October 17 and 18, 2007
Q20. According to DC law, whose written permission/authorization is needed on file to allow a student to possess and self-administer emergency asthma or anaphylaxis medications at school?
(N = 132 respondents)

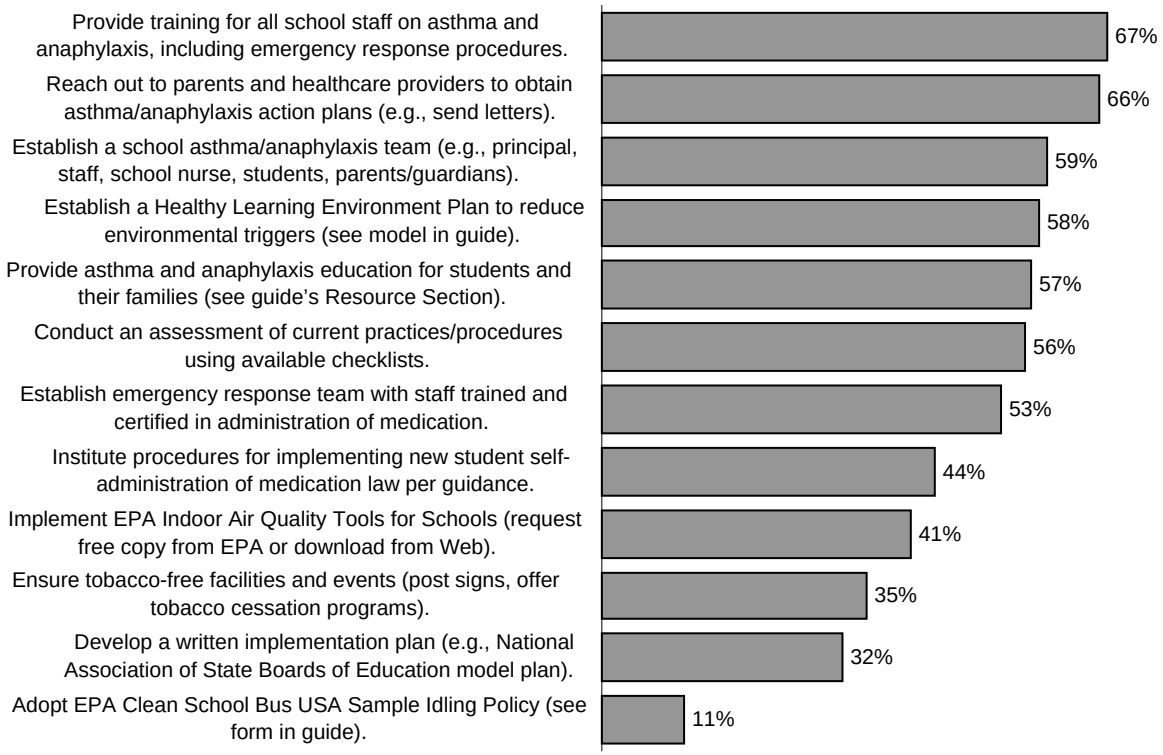


B. School Asthma and Anaphylaxis Management Plan Worksheet

We asked the participants to complete a School Asthma and Anaphylaxis Management Plan Worksheet to develop their own written plan for enhancing asthma and anaphylaxis management in their school or program (Attachment 4). We used an open-ended question to ask participants to list three goals that they would like to achieve or pursue over the next few months (Table 2). The majority of respondents wrote at least two goals in the blank lines provided. We then asked participants what steps they plan to take to succeed in their goals. Participants could check off one or more options provided under each of three categories, "Administration," "Training and Education," and "Healthy Environments" and fill in the blank line provided under each category to add their own ideas.

Fully two-thirds of respondents indicated that they would provide training for all school staff on asthma and anaphylaxis, including emergency response procedures (67%), and would reach out to parents and healthcare providers to obtain asthma and/or anaphylaxis action plans, using such methods as sending a letter (66%) (Figure 10). More than half of respondents reported that they planned to conduct an assessment of their school's current practices and procedures (56%) and to establish a Healthy Learning Environment Plan to reduce environmental triggers (58%) using checklists and models available in the *Managing Asthma and Allergies in DC Schools Guide*.

Figure 10
Managing Asthma and Allergies in DC Schools
School Asthma Management Plan Worksheets - October 17 and 18, 2007
Please list what steps you plan to take to succeed in [your] goals [over the next few months]
(Fill-in-the-blank responses under "Other" omitted)
(N = 123 respondents)



More than half of respondents also reported that they planned to establish a school asthma/anaphylaxis team (59%). Moreover, closely aligned with Section 4 of the *Student Access to Treatment Emergency Act of 2007*, which states that, "[a] trained school employee may administer medication to the student in accordance with rules established by the Mayor," just over half (53%) of respondents asserted that they would establish an emergency response team over the next few months with staff trained and certified in administration of medication.

Only 44% of respondents, however, indicated that they would institute procedures for implementing the new student self- administration of medication law per guidance. The reasons for this less-than-desirable response rate are unknown but possibly could reflect the newness of the law to most participants or a preference to wait for permanent legislation to be enacted. In the General Training Evaluation Form completed by participants at the end of the trainings, 95% of the 136 respondents reported on a scale from "1" to "5" that they learned at least some new information ("3" or "4") or considerable new information ("5") about the DC law on administration and self-administration of emergency medications.

Another possible explanation is that participants received insufficient guidance at the trainings on how to implement the law. DOH did not have approved interim guidelines available until the date of the first training, when Ms. Edwina Davis-Robinson distributed a five-page document dated October 16, 2007 and titled, *Interim Guidelines for Implementation of the "Student Access to Treatment Emergency Act" and the "Student Access to Treatment Temporary Act of 2007."* In addition, DOH did not supply enough copies for all of the attendees. Nevertheless, officials from both DOH and DCPS, including Ms. Davis-Robinson and Ms. Jennifer Ragins, DCPS, made themselves available as panelists and as visible participants to answer questions on the current law.

After we highlighted U.S. Environmental Protection Agency's (EPA) *Indoor Air Quality Tools for Schools (IAQ TfS) Program* earlier in the training, including showing portions of an EPA *IAQ TfS* video, a total of 50 individuals, or 41% of the total respondents, indicated that they would implement the program at their school. We had informed participants that they could receive a free program kit by ordering it from the EPA or by downloading it from EPA's *IAQ TfS* Web page. In addition, 35% of respondents said that they would ensure tobacco-free facilities and events by taking such actions as posting signs and offering tobacco cessation programs. Just 11% of respondents stated that they would adopt EPA's Clean School Bus USA Sample Idling Policy.

Finally, more than half of respondents (57%) indicated that they planned to provide asthma and anaphylaxis education for students and their families. As we highlighted during the trainings, the *Managing Asthma and Allergies in DC Schools Guide* includes a section on training and education and an extensive summary of resources available to schools for educating students, parents/guardians, and staff members.

Table 2
Managing Asthma and Allergies in DC Schools
School Asthma Management Plan Worksheets - October 17 and 18, 2007
(N = 123 respondents)

Please list one or more goals that you would like to achieve or pursue over the next few months:

Goal 1:

1. Reduce clutter in classroom
2. Conduct training for staff and parents urgency response plan
3. Express need for clean air in our school
4. Help improve the air quality in the building
5. Improve staff education about asthma and anaphylaxis
6. To identify all students who have asthma
7. Increase nurse's work hours from 1/2 to fulltime
8. Have all children w/ asthma have an asthma plan
9. Work with school nurse in training of students and parents and staff in correct practices and procedures in recognizing students who are suffering from an asthma episode or anaphylaxis
10. Change some of my enrollment forms
11. Improve air quality
12. Suggest development of school-wide asthma and anaphylaxis plan to Administration with principal, school nurse, certified medical administration staff (create awareness)
13. Better facilities management
14. I would like to work with the kids that have asthma and or anaphylaxis to help them manage it
15. I would like to have class for all of the staff
16. Get a plan in place
17. I would like for the school to be kept cleaner
18. To assist my parents to set a goal to work on getting an asthma and/or anaphylaxis action plan
19. Prepare a list of students that have asthma/anaphylaxis to distribute to staff
20. More information to parents and staff
21. Fulltime nurse
22. Involve staff in developing a school asthma/anaphylaxis management program
23. Provide professional development for staff and parents
24. Form a list of participants of my program w/ asthma & anaphylaxis
25. Learn more about asthma
26. ID (from Health Records) those students with know asthma and anaphylaxis
27. Eliminate clutter
28. Update medical alerts on all students
29. In-service training for all teachers on school asthma
30. Educate parents and children with asthma
31. Obtain and complete the “Tools for Schools” kit
32. Implement asthma action plans and anaphylaxis action plans for affected students
33. The formation of a committee to examine and/or improve indoor air quality
34. Train my staff
35. Educate staff and school community about asthma and anaphylaxis
36. Educate staff and school community
37. Do awareness training for all staff
38. Inform teachers of those students that have allergies and asthma
39. Establish a list of all students with asthma for the staff
40. Training for total school staff
41. Developing a plan between parent and school if attack occurs
42. Provide support to school to help improve the education on asthma
43. Provide literature to staff, students and teachers
44. Full-time school nurse
45. Initiate and complete the construction of the new Woodson
46. Medication dispensing class

Table 2 (continued)

Please list one or more goals that you would like to achieve or pursue over the next few months:

47. Talk to our leadership about how we from DPR standpoint can be more effective in assisting the community in question
48. Communicating asthma action plans in place to all staff who work w/ identified needs
49. Training staff on the importance
50. Collect data Re: Asthma/allergy issues in my school
51. Identify all students (students come to us from home schools)
52. Develop plans for all students with asthma/anaphylaxis
53. Educate my parents
54. Establish a School Health Team
55. Get a written plan for asthma and anaphylaxis management
56. Ensure that staff is trained on emergency response
57. Asthma support group for students
58. Train staff/parents on managing asthma and anaphylaxis management plan
59. Identifying asthmatic and allergy students and educating them and parents on management
60. Compile an accurate list of students with asthma and get plans in place. Do the same for anaphylaxis
61. Identify students who are asthmatic and ensure each student has an asthma action plan
62. Identify team
63. Implement an IAQ Team
64. Identify students with asthma and anaphylaxis
65. Have a peak flow meter in the nurse's office
66. Identify make all staff member aware of the students with asthma and anaphylaxis
67. Have workshop with students with asthma and their parents
68. More staff member for the training of medication
69. Monitor the use of toxic smelling cleaning fluids by the custodial staff
70. All students should have asthma medication on them
71. Have all parents to have the students' doctor to complete an asthma plan
72. All asthmatic students have asthma action plan
73. Have an emergency response team
74. Develop an emergency asthma plan for all students w/ asthma
75. School nurse and athletic trainers receive students
76. Develop a relationship w/ my school nurse - team work on asthma and anaphylaxis
77. Improve environmental conditions in locker rooms/gyms
78. Have a list disbursed so all staff would know which children have asthma
79. Identify and address the short term needs of the medically-fragile students
80. To learn more about asthma
81. Have the classrooms inspected for the triggers that cause asthma
82. To positively use what I learn here today to enhance student learning
83. Gain a better understanding of my work environment
84. I will forward this information to the principal
85. Develop an emergency action plan for all my students with asthma
86. Establish a team and develop action plan
87. School Asthma/Anaphylaxis Team to be formed
88. To teach the teachers how to use the epi pen
89. Asthma action plan implemented
90. Identify all students with asthma and/or anaphylaxis and obtain asthma and action plans as well as obtain information from doctors regarding triggers for allergies
91. Compose (or obtain) list of students that are asthmatic and identify Action Plan
92. Encourage staff and parents to receive proper training
93. Increase staff's awareness abut Asthma & Anaphylaxis
94. Teach students how to use the medication properly
95. Educate school staff by January 2008
96. Develop asthma plans for all applicable students
97. Incorporation the action plans into require registration

Table 2 (continued)

Please list one or more goals that you would like to achieve or pursue over the next few months:

98. I would like all air vents cleaned and filters change on a daily basis
99. I would like to put action plan in effect
100. Establish an emergency response team
101. Develop a plan for early childhood asthma students
102. To provide the school with carbon monoxide detectors
103. Inform and educate entire school staff and community
104. A cleaner school for student w/asthma (Students/Staff)
105. Send home health form identifying students' medical conditions
106. Workshop for parent on the importance of asthma
107. Identify children who have asthma and anaphylaxis issues
108. Do a Tools for Schools walk through
109. All asthmatic athletes will prepare safety kits for sporting events
110. Complete environmental repair situations for improved air quality
111. Identify the number of students with asthma
112. Not sure
113. Identify any/all asthma students
114. To have all staff trained in anaphylaxis and asthma
115. Review and update asthma and anaphylaxis procedures
116. List/Roster of students with asthma
117. Parent asthma information session
118. Identify school team members

[Left Blank] = 5 respondents

Total = 123

Goal 2:

1. Change the times in which custodial staff uses certain chemicals to aid air quality
2. Create plan and school process disseminate to staff/parents
3. ID students with asthma
4. Educate students that they can help with their asthma control
5. to communicate and discuss with parents info concerning action plans for asthma and anaphylaxis
6. Complete nurse's suite
7. Change language in DCPS so that all children enrolled receive services
8. Educate other staff members and training
9. Staff Development - Asthma/Anaphylaxis Awareness
10. Share information learned
11. PT nurse
12. More education for myself and spread what I know
13. I would like to see a day where all person come to the class since everyone is dealing with the students
14. Set up training after preparing a list then form a response team
15. Staff development workshops for parents, teachers and all staff with trained presenters, Awareness for all
16. Develop action plan
17. Certification to administers medicines
18. Put in place a plan for these students
19. Establish a school health team
20. Asthma Action Plan on all asthma diagnosed student
21. School nurse included on all in-service training and parents
22. Encourage the use Asthma Action Plan
23. Institute the proper Asthma or Anaphylaxis forms/plans
24. Conduct training for all staff
25. Establish a school asthma/anaphylaxis team

Table 2 (continued)

Please list one or more goals that you would like to achieve or pursue over the next few months:

26. Train school Admin Team
27. Conduct building walkthrough to determine air quality
28. Building walkthrough
29. Reschedule the extermination time
30. Educate them (teachers) when to call 911 in the case of a life threatening situation
31. Training for total school staff and parents
32. Training for workshop for parents
33. Ensuring environmental triggers are reduced
34. Find a connection how our program can help schools with health issues that may involve a student who is HIV positive and has asthma
35. Attend professional development workshops asthma/anaphylaxis
36. Every student w/ asthma will have an action plan on file at school
37. Complete medication dispensing class
38. Community anaphylaxis action plans in place to all staff who work with identified students
39. Make it shared data (faculty, front office, new nurse, food services)
40. Conduct staff training
41. Encourage parents to have epinephrine and inhalers on file
42. Develop a workshop for them with hands-on activities
43. Provide for all staff on asthma and anaphylaxis including emergency response procedures
44. Educate the rest of the staff
45. Develop policy and procedure for student self-administration
46. Identify students with asthma and anaphylaxis
47. Educating school staff on management of asthma and anaphylaxis
48. Develop plan and protocols for our staff to use
49. Provide asthma and anaphylaxis training to all staff and parents using community organizations
50. Conduct survey of school building
51. Educate all students about asthma and anaphylaxis
52. Identify all asthma diagnosed student
53. Provide an awareness session to all staff members about " What asthma is" and understanding DC law/asthma medication
54. have a workshop with staff member
55. Parent involvement in the correct information to administer the child's medication
56. Advocate for better air quality and flow i.e. ventilation
57. To share with educators and teachers the new inform in dealing with asthma and anaphylaxis management
58. Develop and use anaphylaxis action plan
59. Educate other staff members about asthma and anaphylaxis
60. Hold classes to teach students how to manage their asthma
61. Asthma action plans
62. Identify an action plan for each asthmatic/epi pen using athlete
63. Incorporate asthma action plans in w/ emergency information for athletes
64. Develop an emergency response team for PLC
65. Provide school-wide training or address health concerns in the classroom
66. To learn my role as administrator for children with asthma
67. Diligently pursue removal of carpets that haven't been properly maintained
68. To better education my fellow colleagues about these conditions and how to prevent or assist in working toward healthier students
69. Hold classes to teacher students how to manage their asthma
70. Generate a list of all students with asthma or anaphylaxis by grade and classroom and check to see if they have an asthma action plan on file
71. Make school staff aware of Asthma Action Plan for students with asthma
72. To make sure that classrooms have air exchange
73. IAQ
74. Offer training and assistance to parents/guardians and students

Table 2 (continued)

Please list one or more goals that you would like to achieve or pursue over the next few months:

75. Establish a school asthma/anaphylaxis team and do a school/building walkthrough
76. Establish a school team/plan
77. Talk to the parents to make sure that student should have the medication
78. Educate students and their families
79. Develop and implement better guidelines and procedures for food allergies
80. Certify members of senior staff to administer medication
81. All room environments are free of unnecessary clutter.
82. Have the parents come and let them be more involved
83. Conduct an assessment of current practices
84. Develop certain rules for those students allowed to carry their medication
85. Improve air quality
86. Adequately train and certify appropriate school staff
87. Put in place asthma and anaphylaxis plan
88. Educate parent on how to use medications
89. Post procedures on administration of medication
90. Educate staff, students, parents about asthma
91. Have all asthmatic student properly trained to control their asthma
92. Provide information for staff, parents, students
93. Train staff about asthma and the application of medication
94. Contact a staff/student development activity
95. To know all the students that are asthmatic
96. Review and address air quality issues in school buildings
97. Brief training/explanation to teachers of how to administer relief med
98. Identify existing and new asthmatic students
99. Conduct survey of local school

[Left Blank] = 24 respondents

Total = 123

Goal 3:

1. Develop a written implementation plan
2. Provide teachers with names and plan for children with asthma
3. Building inspection for IAQ
4. Provide asthma and anaphylaxis education for students and their families
5. Improve dissemination of medical conditions to teachers and counselors who need to know
6. Review the physical environments of my facilities
7. Establish an emergency response team with more staff trained and certification in administration of medication
8. To schedule meetings w/ parents of students who are asthmatic
9. Implement individual plans for students
10. Implement individual asthma plans for students
11. Involved the parents on getting a plan for their child with asthma
12. Ensure proper use of medications
13. and how to prevent or assist in working toward healthier students
14. Provide training for all stuff
15. Establish emergency response team to develop asthma and anaphylaxis management plan as well as to execute/monitor plan
16. Pigeon Project - Pigeon/Birds roost in vents and open spaces of the roof at Duke Ellington
17. Teacher other staff members how to administer the medication
18. Create a school asthma/anaphylaxis team
19. Create and maintain a wealthy school environment
20. Staff training
21. Develop and implement team
22. Implement plan

Table 2 (continued)

Please list one or more goals that you would like to achieve or pursue over the next few months:

23. Thoroughly disinfect (and maintain) locker rooms and eliminate leaks
24. Offer parent education services
25. Educate parents
26. Do a site visit to identify problem areas
27. Monitor effectiveness and make appropriate adjustments
28. Implement EPA Indoor Air Quality Tools for schools
29. Have an information mini-workshop with school nurse to present critical information from this training
30. Implement school plan
31. Implement school plan
32. To identify all students in my school with asthma
33. To determine the accurate number of asthmatic in each classroom
34. Medication and peak flow meters for affected students; Discussion/Training about new law concerning self-medication
35. Bring in other/outside resource for support/sharing
36. School wide training and awareness
37. Educate community about triggers that can be controlled in community
38. Teachers keep a cleaner room and teacher their students to be cleaner. Work on having a healthier environment
39. Establish a response team with school staff/students/parents Help parents become aware of asthma/anaphylaxis in school settings
40. Identify poor IAQ areas
41. Provide training for teachers and paraprofessionals
42. Train staff on asthma and anaphylaxis management
43. Collect student action plans
44. Develop and implement school asthma and anaphylaxis plan
45. Identify all asthmatic and anaphylactic students and establish a control plan for each student
46. Provide training on asthma and anaphylaxis for families and staff
47. Have staff development training on managing asthma and anaphylaxis for our entire staff and faculty
48. Provide parental workshops on common medical issues affecting learning
49. Parents and person work with their child it should be a closer relationship for the sake of the students
50. Staff - Walkthrough
51. Secure asthma action plans
52. Make sure every child with asthma has an action plan on file
53. To make sure the cleaning chemicals are not to strong
54. Get administration involved
55. for each asthmatic/epi pen using athlete
56. Get ingredients provided with lunch
57. Do assessment of the air quality in our school

[Left Blank] = 66 respondents

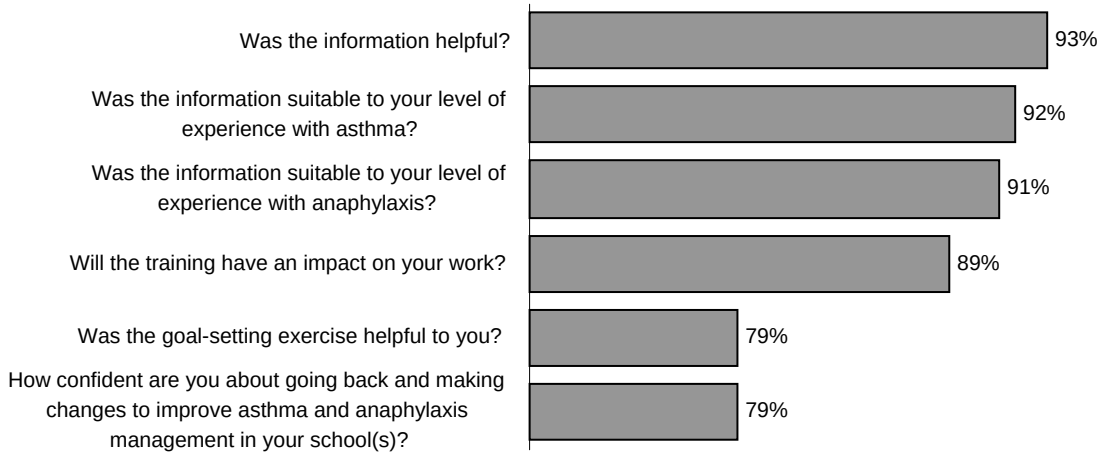
Total = 123

C. General Training Evaluation Form

We administered a General Training Evaluation Form closely modeled after the evaluation form used by the Minnesota Department of Health for its *Managing Asthma in Minnesota Schools Program*. In the written instructions to the one-page questionnaire, we told participants that we would use their comments to evaluate the session and to revise and improve future asthma and anaphylaxis trainings for school and related personnel. A total of 136 attendees submitted completed General Training Evaluation forms.

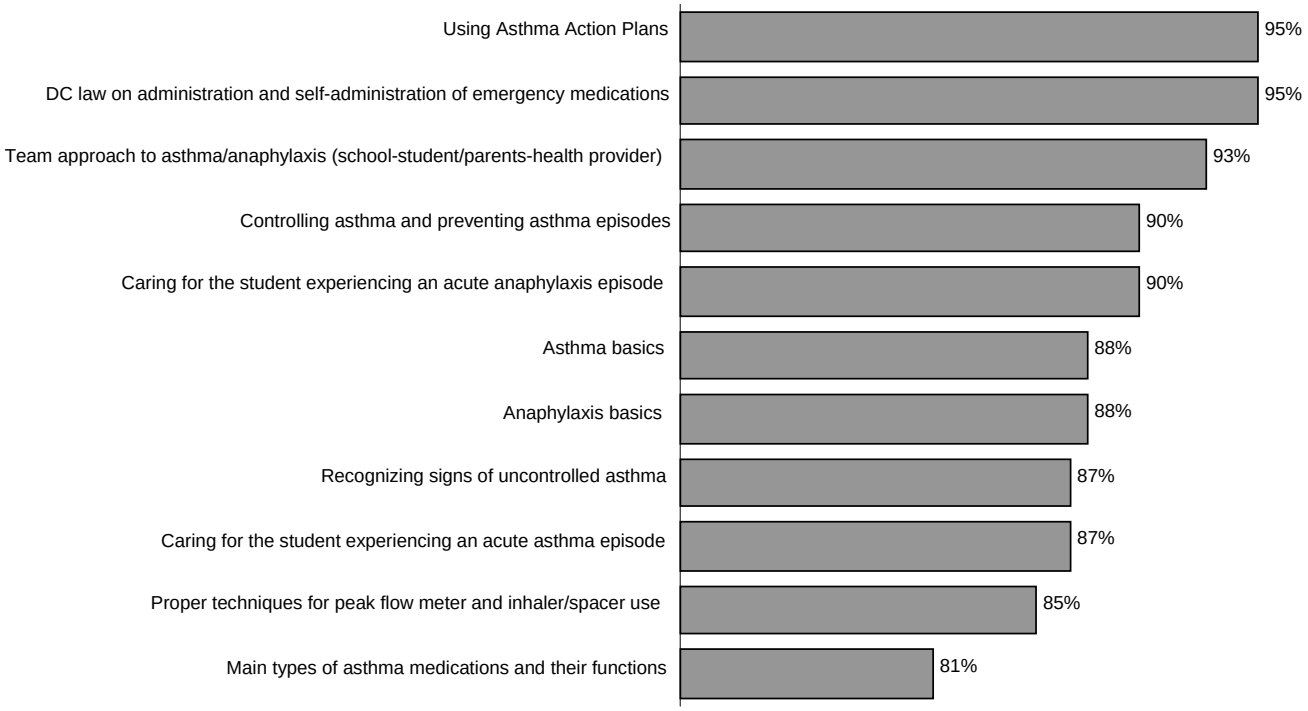
As Figure 11 illustrates, on a scale ranging from "1" (Not at all) to "5" (To a great extent), the vast majority of respondents circled a "4" or a "5," suggesting that they found the information presented at the trainings to be helpful (93%) and suitable to their level of expertise with asthma (92%) and with anaphylaxis (92%). Similarly, 89% of respondents ranked high the statement that the training would have an impact on their work. More than three-fourths of respondents also circled a "4" or "5" to indicate that that the goal-setting exercise was helpful to them (79%) and that they were confident about making changes to improve asthma and anaphylaxis management in their school (79%).

Figure 11
Managing Asthma and Allergies in DC Schools
General Training Evaluation - October 17 and 18, 2007
Q. How did we measure up [in] meeting your needs and expectations?
Scale of 1 (Not at all) to 5 (To a great extent)
Percent circling "4" or "5"
(N = 136 respondents)



We also asked respondents to rate their amount of learning from the topics presented on a continuous scale from "1" to "5", specifically, "1" = Nothing new, "3" = Some new, and "5" = Considerable new info. The percent circling "3", "4", or "5" was high in all categories, ranging from 95% for knowledge gained in using Asthma Action Plans and in the DC law on administration and self-administration of emergency medications down to 81% for the main types of asthma medications and their functions (Figure 12). For the same categories, the percentage of respondents who indicated a high self-rating (circling a "4" or "5") for the amount of learning gained ranged between 59% and 79%.

Figure 12
Managing Asthma and Allergies in DC Schools
General Training Evaluation - October 17 and 18, 2007
Q. Amount of learning from the topics presented
Scale of 1 (Nothing new) to 5 (Considerable new info)
Percent circling "3" (Some new), "4", or "5" (Considerable new info)
(N = 136 respondents)



V. CHALLENGES

Several key challenges emerged during implementation of this program but did not impact the quality of the final deliverables. The first challenge was the fact that the law that DOH had dictated would form the basis for the school guide and trainings had yet to be enacted at the time that NCAC had scheduled the trainings per its DOH-approved work plan. The initial *Student Access to Treatment Emergency Act of 2007* (A17-0082) enacted by the Council of the District of Columbia ("DC Council") took effect on July 26, 2007 and expired on October 24, 2007. The DC Council replaced it with another temporary bill, the *Student Access to Treatment Temporary Act of 2007* (A17-0125), effective November 24, 2007 and scheduled to expire on July 6, 2008. In recognition of the additional time required to achieve passage of the *Student Access to Treatment Emergency Act of 2007*, DOH directed NCAC to reschedule the final school trainings from the spring to the fall of 2007.

The second challenge was the substantial delay in the release of the National Heart, Lung, and Blood Institute's (NHLBI) revised evidence-based guidelines for the diagnosis and management of asthma. NCAC revised and added substantial portions of the *Managing Asthma and Allergies in Schools Guide* to incorporate the updated standards of care, including the addition of a 5-11 age group; new recommendations for assessing, monitoring, and treating asthma; and the expanded recommendation to encourage physicians to provide all individuals with asthma with a written asthma action plan. Originally scheduled for release near the start of 2007, NHLBI issued its first summary report of the guidelines on August 29, 2007. At the request of NHLBI, NCAC assisted in the promotion of the new guidelines, including setting up interviews with families living with asthma for reports aired in various states by NBC affiliates and locally by WAMU radio (88.5 FM).

The third challenge arose from the recruitment of DC school administrators, teachers, staff trained in medical administration and other personnel. NCAC developed a flyer and registration form approved by DOH which DCPS twice faxed to its schools after first sending the school principals a letter from DCPS Chancellor Michelle Rhee informing them of the passage of the *Student Access to Treatment Emergency Act of 2007* and the upcoming trainings. Despite the multiple contacts by DCPS, however, fewer than 30 individuals registered with NCAC for the October 18 and 19, 2007 trainings. Moreover, we discovered that DCPS had failed to contact its 55 charter public schools to invite them to the trainings.

In response, NCAC contracted with Ms. Deeonna Farr, MPH to develop a list of public and public charter school contacts to invite to the trainings. Since DCPS school contact information was sometimes incorrect, she used multiple Web sites and other sources to complete the list. We resent the approved flyer and registration form to these contacts and followed up with telephone calls and e-mails as needed. In addition, we invited DC private and parochial schools, DC Department of Parks and Recreation, Boys & Girls Clubs of Greater Washington, Washington Tennis & Education Foundation, YMCA of Metropolitan Washington, United Planning Organization's Head Start Program, and DCPS Head Start Program to send representatives to the trainings. Most of the latter organizations were able to send one or two representatives to the trainings. Nevertheless, DCPS public and public charter school principals, assistant principals, and staff members constituted the vast majority of the 182 trainees.

VI. ADDITIONAL ACCOMPLISHMENTS

A. Physician Asthma Care Education (PACE) Seminar

During this same grant period, NCAC also completed a related DOH contract to train physicians and other clinicians in asthma best practices through NCAC's *Physician Asthma Care Education (PACE) Seminar*. Dr. Carlos Cano, Senior Deputy Director, Maternal and Primary Care Administration, DOH, attended a portion of the training conducted on May 22, 2007 at DC Chartered Health Plan, 1025 15th Street, NW Washington, DC 20005. DOH's Tobacco Control Program provided financial support for the seminar, enabling NCAC to add a guidelines-based section on tobacco dependence and cessation in the training. In addition, Health Services for Children with Special Needs, Inc. accredited this educational activity in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education.

Altogether, 22 physicians, physician assistants, nurse practitioners, registered nurses, medical assistants, and asthma counselors/research assistants from DC managed care organizations, hospitals, and community health centers, and a DC school nurse completed the PACE program. Of the respondents to the program evaluation, 100% indicated that the program met stated objectives; 85% of the participants indicated that the overall program was "excellent" or "very good;" and 80% reported the program "is relevant to my practice work," "will improve my ability to provide excellent patient/client care," and "was free of commercial bias." The participants also gave high marks for the handouts (including *PACE Kit* and syllabus binder assembled by Lisa A. Gilmore) and for the program presenters, Elena R. Reece, M.D., FAAP, FACAI, Chief, Allergy & Clinical Immunology, Howard University Hospital, and Ms. Eleanor Thornton, MS, CHES, AE-C, a board-certified Health Education Specialist, Asthma Educator and Registered Respiratory Care Practitioner.

B. Asthma Home Visiting Program

Separately, on May 4, 2007, the DOH DC CAN Program awarded NCAC a new contract for the period May 4, 2007 through August 31, 2007 to conduct and evaluate an asthma and environmental home visiting program at the Potomac Gardens Apartments public housing complex in southeast DC in Ward 6. NCAC jump-started the program by organizing a health fair at Potomac Gardens attended by 200+ residents on May 5 accompanied by a U.S. Environmental Protection Agency (EPA) media brief announcing our DOH-funded partnership with the EPA-funded Integrated Pest Management project to be conducted by the University of the District of Columbia (UDC) Cooperative Extension Service. NCAC also recruited a respiratory therapist from UDC's faculty to conduct the in-home environmental assessments, asthma education, and surveys.

Ms. Gilmore coordinated with program partners, created the study design and multiple survey instruments, completed a *Human Participants Protection Education for Research Teams* online course sponsored by the National Institutes of Health, and submitted an 88-page application to the UDC Institutional Review Board (IRB) on June 18, 2007 which received IRB approval on July 16, 2007. Data collection instruments included the EPA *Asthma Home Environment Checklist*; a detailed Home Visit Tracking Form; validated quality-of-life surveys for adults, caregivers, and children; and GlaxoSmithKline's Asthma Control Test™.

As summarized in NCAC's October 31, 2007 grant report to DOH's DC CAN Program, we conducted the initial intervention between August 16, 2007 and September 25, 2007. During this period, we identified 16 target households for intervention and gained access to six households, each of which received two to four home visits. At the initial session, the Asthma Consultant, Ms. Elgloria Harrison, RRT, conducted an in-home environmental assessment and provided immediate education and assistance to program participants to empower them to take the next steps needed to improve their asthma management. Ms. Harrison then determined additional next steps based on the requests and needs of the individuals and families. For example, she provided vacuums donated by ProTeam to four households and referred three households to the UDC/Cooperative Extension Service Integrated Pest Management Project to help reduce pests observed in the home.

Based on data collected during the initial and subsequent home visits, it appears that the program holds promise at least for increasing the availability of written asthma action plans as recommended by the 2007 revised NHLBI asthma management guidelines (the number of participants with a written asthma action plan rose from one to four), and for encouraging participants to take additional steps to manage common asthma triggers. The extent to which the participants followed the written asthma action plans and employed the vacuums, dust-mite impermeable pillow and mattress encasings, or other strategies to reduce exposure to environmental asthma triggers remains unknown. Nevertheless, during this reporting period, five of six households did take steps to put food away and one household also cleaned up the previously visible clutter. Three households utilized the pillow and mattress encasings that they had received from the program.

For the participating households, smoking in the home was allowed at least sometimes in the majority of the households and at least two of the mothers smoked in the home. Only one participant specifically banned smoking from the household. Program participants received encouragement to quit smoking and/or to not smoke in the home, a resource list of smoking cessation programs, a smoking cessation booklet, and recommendations, as indicated, to call DC's 1-800-QUIT-NOW toll-free quit line.

Finally, the baseline data suggest that there is significant room for improvement in quality of life. The majority of program participants experienced at least moderate impairments in asthma-related quality of life. Moreover, past-year emergency room visits and hospitalizations were not uncommon. It remains to be seen, however, whether the program interventions over time can generate improvements in these quality of life measures.

C. Asthma Environmental Training in Spanish

Finally, on June 6, 2007, NCAC organized and sponsored the presentation of a free 1.5 hour workshop in Spanish on addressing indoor asthma triggers to 32 health promoters, family support workers, and home childcare providers. NCAC teamed up with the Association for Clinicians for the Underserved (ACU), Mary's Center for Maternal and Child Care, and La Clínica del Pueblo to offer ACU's program, entitled "Realistic Measures for Reduction of Indoor Asthma Triggers" and supported through a cooperative agreement with EPA. NCAC recruited the partners, created flyers, provided the food, and distributed 14 separate booklets, binders, and video programs offering asthma and tobacco cessation information in Spanish.

VII. ADDENDUM

Since the close of the *Managing Asthma and Allergies in DC Schools* grant period, Ms. Lisa A. Gilmore has continued to promote the goals and deliverables of the program. She meets monthly with the Asthma Team at Children's National Medical Center to update the DC Asthma Action Plan with the NHLBI asthma guideline revisions released in 2007 and to promote other asthma activities. She also communicates with practitioners from other DC hospitals, community health centers, and Medicaid managed care organizations. In addition, she continues to maintain the www.dcschoolasthma.org and www.dcasthma.org Web sites, which make available for download the DC Asthma Action Plan (in English, Spanish, and electronic formats) and the *Managing Asthma and Allergies in DC Schools Guide*.

Furthermore, Ms. Gilmore continues to promote the implementation of the *Student Access to Treatment Act of 2007*. To fulfill specific provisions of the law scheduled to take effect on July 1, 2008, she is working to secure funding for the printing of the updated DC Asthma Action Plan and the *Asthma & Anaphylaxis First Aid Poster* for distribution to DC schools. In addition, on May 14 and 28, 2008, she met with representatives from the DC Department of Parks and Recreation (DPR) to encourage the adoption of a protocol for managing asthma and anaphylaxis in DPR centers, camps, and other programs and to discuss the provision of trainings for DPR personnel. DPR also has requested copies of the *Managing Asthma and Allergies in DC Schools Guide* for its larger recreation centers.

Since the passage of the *Student Access to Treatment Act of 2007* and the launch of the *Managing Asthma and Allergies in DC Schools Program* last October, there remains strong interest among partner organizations to work together to improve the system of asthma care. We look forward to further collaboration with the DC Department of Health, Community Health Administration, Preventive Health and Health Services Block Grant Program and District of Columbia Control Asthma Now (DC CAN) Program to achieve significant gains in asthma outcomes for children and adults in the District of Columbia.

###

ATTACHMENT 1

Managing Asthma and Allergies in DC Schools Program

Acknowledgements and Contributing Partners

1. Acknowledgements

This program is funded wholly, or in part, by the Government of the District of Columbia, Department of Health, Community Health Administration, Preventive Health and Health Services block Grant, and District of Columbia Control Asthma now (DC CAN) program

We also gratefully acknowledge the additional funding support provided by:

AMERIGROUP District of Columbia

DC Chartered Health Plan

Health Right, Inc.

The HSC Foundation

National Capital Asthma Coalition

Developed by:

National Capital Asthma Coalition
Lisa A. Gilmore, MBA, MSW, Executive Director
www.dcasthma.org
www.dcschoolasthma.org

In partnership with:

The George Washington University,
Mid-Atlantic Center for Children's Health and the Environment
www.health-e-kids.org

Jerome A. Paulson, MD, FAAP
Associate Professor of Medicine and Pediatrics
Co-Director, Mid-Atlantic Center for Children's Health and the Environment

Aurora Amoah, MPH
Research Scientist
Mid-Atlantic Center for Children's Health and the Environment

2. Contributing Partner Organizations

Allergy & Asthma Network Mothers of Asthmatics

American Lung Association of the District of Columbia

AMERIGROUP District of Columbia

Children's National Medical Center,

Children's Health Project of DC

Children's National Medical Center, Children's School Services

Children's National Medical Center, Goldberg Center for Community Pediatric Health

Children's National Medical Center, Improving Asthma Care in the District of Columbia

Children's National Medical Center, Respiratory Care Services

Coalition for Environmentally Safe Communities

DC Assembly on School Health Care

DC Chartered Health Plan

DC Primary Care Association

District Department of the Environment

The George Washington University

The George Washington University Physician Assistant Program

Georgetown University Hospital/MedStar Health, Community Pediatrics Program

Health Right, Inc.

Health Services for Children with Special Needs, Inc.

Howard University College of Medicine, Community Outreach for Asthma Care at Howard (C.O.A.C.H.)

The HSC Pediatric Center (formerly the Hospital for Sick Children)

Mary's Center for Maternal and Child Care

Mid-Atlantic Center for Children's Health and the Environment

Minnesota Department of Health Asthma Program

National Children's Museum

Student Support Center (resources for DC Public Charter Schools)

U.S. Department of Education

U.S. Environmental Protection Agency, Region III

U.S. Department of Health and Human Services

University of the District of Columbia, Cooperative Extension Service

University of the District of Columbia, Department of Nursing and Allied Health

3. Manual Development and Production

Managing Asthma and Allergies in DC Schools: A Comprehensive Resource and Educational Guide for Improving Asthma and Allergy Care in District of Columbia Schools
www.dcasthma.org
www.dcschoolasthma.org

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District of Columbia Department of Health and District of Columbia Public Schools Agencies

Designer:

KesslerDesignGroup. Ltd.
Ethel Kessler, President & Creative Director
Suzanne Kesler, Designer
www.kesslerdesigngroup.com

Organizations Providing Additional Materials, Tools, and Guidance:

Allergy & Asthma Network Mothers of Asthmatics

American Academy of Allergy, Asthma and Immunology

American Academy of Family Physicians

American Academy of Pediatrics

American Association of School Administrators

American College of Allergy, Asthma & Immunology

American Latex Allergy Association

Association of State and Territorial Health Officials

Asthma and Allergy Foundation of America

Asthma Foundation of Western Australia

Asthma Initiative of Michigan

Attack on Asthma Nebraska

Baylor Health Care System

California Healthy Schools Campaign

Centers for Disease Control and Prevention

Dallas Asthma Consortium

The Food Allergy & Anaphylaxis Network

Illinois Department of Human Services

Illinois Emergency Medical Services for Children

Massachusetts Department of Education

Metropolitan Washington Council of Governments

Missouri Department of Health and Senior Services

National Association of School Nurses

National Association of Elementary School Principals

National Association of State Boards of Education

National Athletic Trainers' Association

National Heart, Lung and Blood Institute

Managing Asthma and Allergies in DC Schools

National Safety Council

National School Boards Association

New England Asthma Regional Council

San Joaquin Valley Health Consortium

The Pediatric/Adult Asthma Coalition of New Jersey

U.S. Environmental Protection Agency

Virginia Department of Health

ATTACHMENT 2

Training Agenda – Managing Asthma and Allergies in DC Schools
October 18 & 19, 2007, Marvin Center, 800 21st Street, NW, Washington, DC

7:30 a.m.–8:00 a.m.	**Registration, Continental Breakfast, and Networking**
8:00 a.m.–8:15 a.m.	**Welcome, Overview, and Pre-Training Assessment** - **Lisa A. Gilmore**, National Capital Asthma Coalition
8:15 a.m.–8:20 a.m.	**Hands-On Activity** - **Linda Coulombe**, National Children's Museum
8:20 a.m.–8:30 a.m.	**Real-Life Perspective** - **Ms. Juanita Campbell**, parent
8:30 a.m.–9:00 a.m.	**Asthma and Anaphylaxis** - **Jerome A. Paulson, M.D.,** Mid-Atlantic Center for Children's Health & the Environment
9:00 a.m.–9:20 a.m.	**School Staff In-Service Video,** Missouri Department of Health and Senior Services
9:20 a.m.–9:40 a.m.	**Resource Guide, New Legislation, DC Asthma Action Plan** - **Lisa A. Gilmore**, National Capital Asthma Coalition
9:40 a.m.–9:55 a.m.	**Asthma Action Plan in Action** - **Audience participation**
9:55 a.m.–10:10 a.m.	**Hands-On Demonstration of Medications and Devices** - **Craig Engler, RRT and colleagues,** Children's National Medical Center - **Elgloria Harrison, RRT and colleagues,** University of the District of Columbia - **Dr. Jerome A. Paulson,** Mid-Atlantic Center for Children's Health and the Environment - **Dr. Elena Reece,** Howard University Hospital and College of Medicine
10:10 a.m.–10:30 a.m.	**Break**
10:30 a.m.–10:45 a.m.	**Managing Asthma/Anaphylaxis and Physical Activity** - **Eric Howard EdD, MS, ATC,** Athletic Trainer, DC Public Schools (DCPS)
10:45 a.m.–11:15 a.m.	**Creating Healthy School Environments** - **Reginald Ringgold,** Industrial Hygienist, DCPS Office of Facilities Management - **U.S. EPA Indoor Air Quality Tools For Schools Walkthrough Video**
11:15 a.m.–11:55 a.m.	**Formulate Your School's Allergy/Anaphylaxis Goals and Plan** - **Panelists:** Edwina Davis-Robinson, DC Department of Health; Jennifer Ragins, DC Public Schools; Darcy Jennings, The Food Allergy & Anaphylaxis Network; Sandra Fusco-Walker, Allergy & Asthma Network Mothers of Asthmatics; Dr. Elena Reece, Howard University; Stacey Gonzalez, Center for Health, Environment and Justice - **Participants develop written school plans and share ideas**
11:55 a.m.–12:00 p.m.	**Complete School Plans, Post-Training Assessment, Evaluation Form**
12:00 p.m.–12:30 p.m.	**Visit Exhibitors & Pick Up Lunch (Please turn in all forms. Thanks!)**

ATTACHMENT 3

PRE (BEFORE)-TRAINING ASSESSMENT FORM

Managing Asthma and Allergies in DC Schools (October 18 and 19, 2007)

1. How would you rate your current knowledge about asthma?	☐ Good	☐ Fair	☐ Poor
2. How confident do you feel about helping students manage their asthma?	☐ Good	☐ Fair	☐ Poor
3. How would you rate your current knowledge about anaphylaxis?	☐ Good	☐ Fair	☐ Poor
4. How confident do you feel about helping students manage their anaphylaxis?	☐ Good	☐ Fair	☐ Poor
5. Asthma causes the muscles to tighten around the breathing tubes in the lungs.	☐ True	☐ False	☐ Don't Know
6. Asthma causes inflammation and swelling in the lungs.	☐ True	☐ False	☐ Don't Know
7. For some children who have asthma, coughing is the only asthma symptom.	☐ True	☐ False	☐ Don't Know
8. Children with asthma all have the same triggers that worsen their symptoms.	☐ True	☐ False	☐ Don't Know
9. Children who die from asthma typically have severe asthma.	☐ True	☐ False	☐ Don't Know
10. A child has well-controlled asthma if woken by symptoms only 3 times/month.	☐ True	☐ False	☐ Don't Know
11. If a child uses a quick-relief asthma inhaler only three times a week, he/she does not need a daily controller medication to manage asthma symptoms.	☐ True	☐ False	☐ Don't Know
12. In most cases, it is not possible to prevent asthma attacks before they occur.	☐ True	☐ False	☐ Don't Know
13. Students with exercise-induced asthma should not exercise vigorously.	☐ True	☐ False	☐ Don't Know
14. Can a peak flow meter indicate worsening asthma **before** symptoms appear?	☐ True	☐ False	☐ Don't Know
15. All students with asthma should have a written asthma action plan.	☐ True	☐ False	☐ Don't Know
16. Improving indoor air quality can improve asthma symptoms significantly.	☐ True	☐ False	☐ Don't Know
17. You should **call 911** if a student has the following indications:			
a. Rescue medication is not relieving breathing difficulties or is not available	☐ True	☐ False	☐ Don't Know
b. Lips or nail beds are bluish or dusky gray	☐ True	☐ False	☐ Don't Know
c. Peak flow reading moving from red zone to yellow zone	☐ True	☐ False	☐ Don't Know
d. Just received emergency anaphylaxis medication and is feeling much better	☐ True	☐ False	☐ Don't Know
e. Rapidly deteriorating condition	☐ True	☐ False	☐ Don't Know
18. A spacer or holding chamber is used with an inhaler (choose one):	☐ to keep inhaler clean	☐ to prevent inhaler from getting lost	☐ to make using inhaler easier and more efficient
19. Which medication always should be given **first** to someone having an anaphylaxis reaction, i.e., a life-threatening allergic reaction?	☐ Benadryl® or other antihistamine		☐ Epinephrine
20. According to DC law, whose written permission/authorization is needed on file to allow a student to possess and self-administer emergency asthma or anaphylaxis medications at school?			
a. Parent/guardian and licensed healthcare provider	☐ True	☐ False	☐ Don't Know
b. School nurse and school principal	☐ True	☐ False	☐ Don't Know
c. None as long as the student knows how to properly use the medication	☐ True	☐ False	☐ Don't Know
d. Depends on student's grade level/age	☐ True	☐ False	☐ Don't Know

POST (AFTER)-TRAINING ASSESSMENT FORM

Managing Asthma and Allergies in DC Schools (October 18 and 19, 2007)

1. How would you rate your current knowledge about asthma?	☐ Good	☐ Fair	☐ Poor
2. How confident do you feel about helping students manage their asthma?	☐ Good	☐ Fair	☐ Poor
3. How would you rate your current knowledge about anaphylaxis?	☐ Good	☐ Fair	☐ Poor
4. How confident do you feel about helping students manage their anaphylaxis?	☐ Good	☐ Fair	☐ Poor
5. Asthma causes the muscles to tighten around the breathing tubes in the lungs.	☐ True	☐ False	☐ Don't Know
6. Asthma causes inflammation and swelling in the lungs.	☐ True	☐ False	☐ Don't Know
7. For some children who have asthma, coughing is the only asthma symptom.	☐ True	☐ False	☐ Don't Know
8. Children with asthma all have the same triggers that worsen their symptoms.	☐ True	☐ False	☐ Don't Know
9. Children who die from asthma typically have severe asthma.	☐ True	☐ False	☐ Don't Know
10. A child has well-controlled asthma if woken by symptoms only 3 times/month.	☐ True	☐ False	☐ Don't Know
11. If a child uses a quick-relief asthma inhaler only three times a week, he/she does not need a daily controller medication to manage asthma symptoms.	☐ True	☐ False	☐ Don't Know
12. In most cases, it is not possible to prevent asthma attacks before they occur.	☐ True	☐ False	☐ Don't Know
13. Students with exercise-induced asthma should not exercise vigorously.	☐ True	☐ False	☐ Don't Know
14. Can a peak flow meter indicate worsening asthma **before** symptoms appear?	☐ True	☐ False	☐ Don't Know
15. All students with asthma should have a written asthma action plan.	☐ True	☐ False	☐ Don't Know
16. Improving indoor air quality can improve asthma symptoms significantly.	☐ True	☐ False	☐ Don't Know
17. You should **call 911** if a student has the following indications:			
a. Rescue medication is not relieving breathing difficulties or is not available	☐ True	☐ False	☐ Don't Know
b. Lips or nail beds are bluish or dusky gray	☐ True	☐ False	☐ Don't Know
c. Peak flow reading moving from red zone to yellow zone	☐ True	☐ False	☐ Don't Know
d. Just received emergency anaphylaxis medication and is feeling much better	☐ True	☐ False	☐ Don't Know
e. Rapidly deteriorating condition	☐ True	☐ False	☐ Don't Know
18. A spacer or holding chamber is used with an inhaler (choose one):	☐ to keep inhaler clean	☐ to prevent inhaler from getting lost	☐ to make using inhaler easier and more efficient
19. Which medication always should be given **first** to someone having an anaphylaxis reaction, i.e., a life-threatening allergic reaction?	☐ Benadryl® or other antihistamine		☐ Epinephrine
20. According to DC law, whose written permission/authorization is needed on file to allow a student to possess and self-administer emergency asthma or anaphylaxis medications at school?			
a. Parent/guardian and licensed healthcare provider	☐ True	☐ False	☐ Don't Know
b. School nurse and school principal	☐ True	☐ False	☐ Don't Know
c. None as long as the student knows how to properly use the medication	☐ True	☐ False	☐ Don't Know
d. Depends on student's grade level/age	☐ True	☐ False	☐ Don't Know

ATTACHMENT 4

School Asthma and Anaphylaxis Management Plan

We would like to encourage you to develop your own goals and written plan for enhancing asthma and anaphylaxis management in your school or program. We plan to recognize publicly those schools that make significant progress in the short term in using today's training and the Managing Asthma and Anaphylaxis in DC Schools guide to become more asthma- and anaphylaxis-friendly.

Please complete this form and turn it in today with your pre/post assessment and evaluation forms. Take a copy of your plan back to your school or program. We will follow up with you in the next month or two to see how things are going. More suggestions will be posted on the www.dcschoolasthma.org Web site.

Your Name: Title:

School/Program: Phone:

E-Mail: Fax:

Please list one or more goals that you would like to achieve or pursue over the next few months:

1.

2.

3.

Please list what steps you plan to take to succeed in these goals. Please add to the ideas provided below.

Administration

- ❒ Establish a school asthma/anaphylaxis team (e.g., principal, staff, school nurse, students, parents/guardians).
- ❒ Conduct an assessment of current practices/procedures using available checklists.
- ❒ Develop a written implementation plan (e.g., National Association of State Boards of Education model plan).
- ❒ Institute procedures for implementing new student self-administration of medication law per guidance.
- ❒ Establish emergency response team with staff trained and certified in administration of medication.
- ❒ Reach out to parents and healthcare providers to obtain asthma/anaphylaxis action plans (e.g., send letters).
- ❒ Other:

Training and Education

- ❒ Provide training for all school staff on asthma and anaphylaxis, including emergency response procedures.
- ❒ Provide asthma and anaphylaxis education for students and their families (see guide's Resource Section).
- ❒ Other:

Healthy Environments

- ❒ Establish a Healthy Learning Environment Plan to reduce environmental triggers (see model in guide).
- ❒ Implement EPA *Indoor Air Quality Tools for Schools* (request free copy from EPA or download from Web).
- ❒ Adopt EPA Clean School Bus USA Sample Idling Policy (see form in guide).
- ❒ Ensure tobacco-free facilities and events (post signs, offer tobacco cessation programs).
- ❒ Other:

ATTACHMENT 5
Managing Asthma and Allergies in DC Schools
General Training Evaluation – October 18 and 19, 2007

Please take a few minutes to complete this evaluation form. We will use your comments to evaluate the session and revise and improve future asthma and anaphylaxis trainings for school and related personnel. Thank you!

How Did We Measure Up? Circle the number that represents your rating.

A. *Meeting your <u>needs and expectations</u>:*	*Not at all*				*To a great extent*
Was the information helpful?	1	2	3	4	5
Was the information suitable to your level of experience with asthma?	1	2	3	4	5
Was the information suitable to your level of experience with anaphylaxis?	1	2	3	4	5
Will the training have an impact on your work?	1	2	3	4	5
Was the goal-setting exercise helpful to you?	1	2	3	4	5
How confident are you about going back and making changes to improve asthma and anaphylaxis management in your school(s)?	1	2	3	4	5

B. *Amount of* learning from the topics presented*:*	*Nothing new*		*Some new*		*Considerable new info*
Asthma basics	1	2	3	4	5
Main types of asthma medications and their functions	1	2	3	4	5
Proper techniques for peak flow meter and inhaler/spacer use	1	2	3	4	5
Recognizing signs of uncontrolled asthma	1	2	3	4	5
Controlling asthma and preventing asthma episodes	1	2	3	4	5
Using Asthma Action Plans	1	2	3	4	5
Caring for the student experiencing an acute asthma episode	1	2	3	4	5
Anaphylaxis basics	1	2	3	4	5
Caring for the student experiencing an acute anaphylaxis episode	1	2	3	4	5
Team approach to asthma/anaphylaxis (school-student/parents-health provider)	1	2	3	4	5
DC law on administration and self-administration of emergency medications	1	2	3	4	5

C. Comments please:

What information or techniques did you acquire that you plan to use on the job: _____

_____

The best feature of the program was: _____

_____

The worst feature of the program was: _____

_____

What topics or trainings would you request for future program planning: _____

_____

D. Participant Descriptors:

I'm a: ☐ Principal ☐ Assistant Principal ☐ Teacher ☐ School Nurse ☐ Athletic Trainer/Coach
☐ Administrative Assistant ☐ Other: _____

I have been trained and certified to administer medication to DC students: ☐ Yes ☐ No

About how many students do you serve in your school/program? Total enrollment:_____ No. with asthma:_____

ATTACHMENT 6

Managing Asthma and Allergies in DC Schools Program

Summary of Grant Activities

For the period August 9, 2006 through the conclusion of the two school trainings on October 19, 2007, NCAC's Executive Director, Lisa A. Gilmore, devoted more than 1,100 hours or the full-time equivalent of nearly seven months to policy coordination and to the services and activities required for developing the resource and education guide, trainings, Asthma Action Plan (English, Spanish, and electronic versions), and www.dcschoolasthma.org Web site. Completing the final trainings required an additional 179 hours provided by a consultant to recruit training participants and to enter data into an Excel file, specifically, the training registration list, attendance list, and completed evaluation instruments (i.e., pre- and post-training assessments forms, general training evaluation surveys, and school asthma/anaphylaxis planning worksheets). It also required another 200^{+} hours provided by NCAC's Executive Director, Lisa A. Gilmore, for data analyses, report writing, and other follow-up activities (e.g., distribution of 150 school guides to DC school nurses via Children's School Services, Web site updates).

Managing Asthma and Allergies in DC Schools Program Summary of Grant Activities
I. The number and type of services/activities provided.
A. Completed online research, literature search, and review of articles and best practices on managing asthma and anaphylaxis in schools (e.g., Journal of School Health's special August 2006 issue on *Managing Asthma in Schools-What Have We Learned*; National Association of State Boards of Education's *Fit, Healthy, and Ready to Learn: A School Health Policy Guide, Chapter H: Policies on Asthma, School Health Services, and Healthy Environments* 2005).
B. Conducted extensive consultation with representatives from health departments, hospitals, and coalitions in other states on asthma-friendly schools models and policies, including asthma and anaphylaxis programs in Massachusetts, Minnesota, Nebraska, New Jersey, and New York, as well as guidance provided by national organizations such as the Asthma and Allergy Foundation of America and the Allergy and Asthma Network Mothers of Asthmatics.
C. Requested and reviewed best-practice materials from the aforementioned states as well as from program partners (e.g., Food Allergy and Anaphylaxis Network's *School Food Allergy Program*, Allergy and Asthma Foundation of America's *Meeting in a Box: Asthma Management in Schools*, American Lung Association's *Asthma-Friendly Schools Tool Kit*). Met with Ms. Eleanor Thornton, MS, CHES, AE-C, Visionary Health Education Consulting Services, LLC on 4/20/07 at the Merck Childhood Asthma Network regarding asthma-friendly schools' best practices and requested and received from Ms. Thornton the Starbright Foundation's *Asthma Tool Kit for Schools*.
D. Maintained ongoing consultation with partners on asthma-friendly schools policies, procedures, and forms.
1. Recruited participants; prepared agendas and handouts; and wrote and disseminated minutes for asthma-friendly schools planning meetings with NCAC full membership and committees:

Managing Asthma and Allergies in DC Schools Program Summary of Grant Activities	
a.	Spearheaded *Asthma-Friendly Schools Program* Full Coalition meetings on 11/15/06 (at George Washington University, Ross Hall, Room 229, 28 participants) and 11/27/06 (at George Washington University, Ross Hall, Room 229, 11 participants) to involve collaborative partners and coalition members in all aspects of program planning. Initially 14 institutional partners, including DC hospitals, community health centers, universities, and patient advocacy organizations, as well as federal and state agencies, provided letters of support and commitments to share their expertise with this program. Meeting outcomes included an outline of the training manual, suggestions for adding a section for child care providers and more guidance on environmental management, the creation of a subcommittee to review the manual, and agreement on the format for the trainings.
b.	Conducted Health Services and Quality Improvement (HSQI) Committee meetings on 9/22/06 under separate funding (at DC Chartered Health Plan, 16 participants) and on 10/20/06 (at AMERIGROUP District of Columbia, 15 participants), 11/17/06 (at AMERIGROUP District of Columbia, 17 participants), 3/16/07 (at DOH, Room 2125, 15 participants) and HSQI Subcommittee meetings on 3/23/07 (at Children's National Medical Center, 8 participants) and 4/20/07 (at DOH, Room 3119, 5 participants) to create and coordinate asthma-friendly school policies, procedures, forms, and evaluation (e.g., student self-medication policy, standard Asthma Action Plan for DC) with DOH, DCPS, Children's School Services (DC school nurses), and DC hospitals, Medicaid managed care organizations, and community providers. These meetings also included NCAC Policy Committee members.
c.	Conducted 6/1/07 joint meeting of NCAC's Health Services and Quality Improvement Committee and Policy Committee at AMERIGROUP on Asthma-Friendly Schools, school asthma/anaphylaxis policies, and asthma action plan and responded to follow-up requests from meeting participants and others unavailable to attend the meeting. Fulfilled requests for background information prior to the 6/1/07 meeting for Dr. Ben Gitterman, President, American Academy of Pediatrics DC Chapter and Christopher Weiss, Food Allergy and Anaphylaxis Network.
d.	Met for 1.75 hour meeting on 11/30/06 at NCAC's office with Theresa Shivers, Chief, Health Maintenance and Special Needs Branch, Head Start Health Coordinator, United Planning Organization, Washington, DC regarding asthma-related issues in DC for young children and their families.
2.	Presented *Asthma-Friendly Schools Program* and regulatory, education, and implementation issues pertaining to the *Student Access to Treatment Emergency Act of 2007* in two School Health Policy meetings on 5/30/07 and 7/24/07 at the DC Primary Care Association also attended by DOH (Dr. Carlos Cano, Senior Deputy Director, Maternal and Child Care; Eartha Isaac), DC school nurses (Dr. Pier Broadnax, Administrator), DC Public Schools (Jennifer Ragins, School Health Administrator), and school health advocates.
3.	Initiated new partnerships for manual and trainings with the Food Allergy and Anaphylaxis Network, the DC Assembly on School Health Care, and the Community Action Group.

Managing Asthma and Allergies in DC Schools Program Summary of Grant Activities
4. Conducted meeting of NCAC's full coalition on 7/26/07 (54 attendees) and distributed minutes to 300+ partners on listserv on 7/31/07. The meeting included a briefing by Edwina Davis-Robinson, Asthma Program Manager, DC CAN, DOH on DC CAN activities and the *Student Access to Treatment Emergency Act of 2007* and discussion led by Lisa A. Gilmore, Executive Director, NCAC on activities and deliverables for the *Asthma-Friendly Schools Program.* Handouts included Asthma-Friendly Schools Fact Sheet, *Student Access to Treatment Emergency Act of 2007*, pending DC Asthma Action Plan, and announcements of asthma and environmental management training programs.
E. Supervised three third-year pediatric resident interns from Children's National Medical Center (Dr. Amber Burnette) and Georgetown University Medical Center (Dr. Karanbir Gill, Dr. Eleanor A. Martin) who contributed clinical expertise to the development of the training manual. In addition, recruited second-year pediatric resident, Dr. Irene Jacoub, Georgetown University Medical Center, to assist NCAC with the anaphylaxis program deliverables and held introductory meeting with Dr. Jacoub on 5/1/07 at NCAC office.
F. Provided briefings and reports to, and consulted with, Preventive Health and Health Services Block Grant Administrator ("Grant Administrator") Carolyn Bothuel and met other grant requirements.
1. Completed initial meeting at DOH on 7/28/06 with Carolyn Bothuel, Grant Administrator, and Edwina Davis-Robinson, DC Control Asthma Now (DC CAN) Asthma Program Manager, for input and guidance.
2. Prepared and submitted a revised program budget and work plan on 11/26/06 to Carolyn Young Bothuel.
3. Prepared and submitted a revised program budget and work plan on 4/25/07 to Carolyn Young Bothuel.
4. Met with DC Department of Health Grant Administrator and DC CAN Asthma Program Manager as requested on 4/30/07 to discuss revisions to budget and work plan.
5. Prepared and submitted a Narrative Program Report on 5/16/07 for the project period 8/9/06 through 4/30/07 as requested by Carolyn Young Bothuel on 4/30/07.
6. Prepared and submitted a revised program budget and work plan on 5/16/07 to Carolyn Young Bothuel.
7. Completed first monitoring site visit on 6/4/07 with Patricia Greenaway, DOH.
8. Prepared and submitted a Narrative Program Report on 7/1/07 to Carolyn Young Bothuel for the project period 5/1/07 through 6/30/07
9. Completed second monitoring site visit on 7/16/07 with Patricia Greenaway, DOH.
10. Conducted correspondence on program budget by e-mail with Carolyn Bothuel, Program Coordinator, DOH, on 7/18/07.
11. Sent e-mail to Carolyn Bothuel on 7/22/07 with update on Asthma-Friendly Schools training scheduled with charter schools and also potentially with the DC school nurses.
12. Submitted no-cost extension request to Carolyn Bothuel on 7/30/07.
G. Provided briefings to, and consulted with, other officials and representatives from the DC Department of Health on *Asthma-Friendly Schools Program* and policies:

Managing Asthma and Allergies in DC Schools Program **Summary of Grant Activities**
1. Completed individual face-to-face briefings on 10/30/06 with Dr. David C. Rose, Senior Deputy Director, Primary Care and Prevention Administration; Eartha Isaac and Pauline Lovelace, Maternal and Family Health Administration (MFHA); and other DOH personnel.
2. Solicit ideas, recommendations, and feedback on *Asthma-Friendly Schools Program* from DC CAN Asthma Manager and DC CAN Steering Committee members at 11/9/06 DC CAN Steering Committee meeting and provided updates on *Asthma-Friendly Schools Program* and related policies and forms at subsequent meetings.
3. Initiated one-hour teleconference on 11/27/06 with Eartha Isaac, MFHA, DOH on *Asthma-Friendly Schools* policies and continued collaborative work on policies through committee meetings and periodic telephone calls.
4. Met at DOH on 2/1/07 with Dr. Carlos Cano and other DOH representatives, including Dr. David Rose, Dr. Emmanuel Nwokolo, Colleen Whitmore, Eartha Isaac, Edwina Davis-Robinson, and Mary Frances Kornak and provided status report on *Asthma-Friendly Schools Program* and development of asthma-friendly school policies and forms.
5. Provided technical assistance and consultation in May 2007 to DC Department of Health personnel regarding school asthma/anaphylaxis policies. For example: a. Consulted by telephone with, and received referrals, articles, and fact sheets from, Jim Bogden, Project Director, Safe and Healthy Schools Project, National Association of State Boards of Education; Lani Wheeler, Medical Officer – IPA, Centers for Disease Control and Prevention; and Desirée Diez, Allergy and Asthma Network Mothers of Asthmatics. b. Consulted by both telephone and e-mail with Carolyn Rachel Price, Senior Pharmacist, DC Medicaid on question arising from 4/20/07 NCAC Health Services and Quality Assurance Committee meeting regarding how DOH could facilitate extra medication per proposed school asthma/anaphylaxis bill. c. Followed up with DCPS General Counsel at request of Eartha Isaac, Maternal and Primary Care Administration, DOH for revised Title V DCMR language on school asthma/anaphylaxis policies.
6. Provided technical assistance, articles, and other background information as requested on 6/5/07-6/6/07 regarding proposed policy to allow DC students to carry and use asthma/anaphylaxis medication (e.g., professional association guidelines on emergency medications in schools) to the following individuals: - Dr. Carlos Cano, Senior Deputy Director, Maternal and Primary Care Administration (MPCA), DOH - Eartha Isaac, Child, Adolescent and School Health Bureau, MPCA, DOH - Dr. Matthew Levy, American Academy of Pediatric DC Chapter - Andrea Bagwell, DC HMO Association - Marian Smithey, National Association of School Nurses DC Chapter - Dr. Eric Howard, Athletic Trainer, DC Public Schools - Sandra Fusco-Walker, Allergy and Asthma Network Mothers of Asthmatics - Dave Chandra, DC Primary Care Association - Jennifer Leonard, DC Assembly on School Health - Dr. Mark Minier, Pediatrician, Unity Health Care, Inc., Upper Cardoza Health Center

Managing Asthma and Allergies in DC Schools Program Summary of Grant Activities
H. Joined DOH in testifying before the DC Council's Committee on Health on June 7, 2007 on the need to allow student access to emergency asthma and anaphylaxis medications and other improvements in the management of asthma and anaphylaxis in schools.
I. Developed DC training and resource manual.
1. Received detailed written edits and additional verbal recommendations for revising Minnesota's training manual from Dr. Jerome Paulson, The George Washington University, in August 2006.
2. Obtained existing asthma-related DC Public Schools (DCPS) forms and procedures from Reginald Ringgold, Industrial Hygienist, DCPS (e.g., DCPS Environmental Health Quality Program Manual)
3. Obtained existing asthma-related DC Public Schools (DCPS) forms and procedures from Eric Howard EdD, MS, ATC, DCPS Athletic Trainer (e.g., DCPS Athletic Data and Emergency Treatment Information Form).
4. Completed initial 70-page draft training manual.
5. Sent initial draft training manual and draft training agenda to volunteer reviewers for comment via e-mail on 11/16/06 and again with updates on 1/31/07 and 2/7/07.
6. Completed initial draft "brown bag" peer-to-peer school staff PowerPoint presentation on 2/2/07 to be included in manual.
7. Conducted 45-minute teleconference on 7/27/07 with Aurora Amoah, GWU, including submission by e-mail of school resource manual revisions for review and comment and made significant revisions to the text and graphics of the introduction and basic asthma overview portions of the school resource manual.
8. Completed revisions to 200 pages of the draft manual in August 2007. Redesigned forms, graphics, and text from original PDF formats to Word format in preparation for designer. Submitted draft manual to George Washington University for review and received comments.
9. Submitted emergency instructions from manual (e.g., "What to Do During an Asthma or Anaphylaxis Attack") in August 2007 to additional medical experts for review (Dr. Elena Reece, Chief, Allergy and Clinical Immunology, Howard University Hospital and Dr. Rhonique Shields-Harris, Children's National Medical Center) and got comments.
10. Submitted draft manual to DOH for approval and made revisions as directed.
11. Worked with designer on layout of manual, reviews of draft layouts, acquisition of additional photographs (e.g., pictures of spacers and other devices), and approval of final proof for printing.
J. Developed new standard Asthma Action Plan
1. Conducted consultation by telephone on 6/28/07 with Dr. Kelly D. Stone, Allergist, Children's National Medical Center regarding completion and preparation of standard Asthma Action Plan for printing. Dr. Stone advised against printing the Asthma Action Plan before the new national asthma guidelines are available to revise the form. Sent Dr. Stone by e-mail on 6/28/07 a copy of the Massachusetts clinician survey on Asthma Action Plans for use in evaluating the pilot Asthma Action Plan in DC.

2. Fulfilled request by Edwina Davis-Robinson on 7/27/07 to submit final standard Asthma Action Plan form to DOH for approval and addition of DC government "bars and stars" logo:
   a. Obtained consent from Dr. Kelly Stone (per telephone consultation) and Dr. Rhonique Shields-Harris (per e-mail) at Children's National Medical Center (CNMC) on 7/27/07 to move forward with printing the AAP before the release of the pending updated guidelines from the National Institutes of Health.
   b. Left message with the forms printer on 7/27/07 regarding order to print 3,000 copies of AAP.
   c. Revised front page of AAP on 7/27/07 with changes recommended by Dr. Kelly Stone and his colleagues at CNMC including new line at bottom of form, "Follow-Up Asthma Visit:_____"
   d. Converted pages of AAP from multiple formats (Publisher, Word, JPEG) to merge into one PDF document and submitted six-page AAP to Edwina Davis-Robinson on 7/27/07 by e-mail for review and DOH approval.
   e. Left voicemail messages on 7/27/07 for Dr. Pier Broadnax, Children's School Services; Rosalyn Stephens and Carol Lawler, AMERIGROUP District of Columbia; and Patricia Austin, Chartered Health Plan regarding printing and distribution of final AAP.
   f. Consulted on 7/27/07 with K. Edward Shanbacker, Executive Vice President, Medical Society of the District of Columbia (MSDC), who agreed to promote the Asthma Action Plan to MSDC members.
   g. Spoke with Wanda Burns, Chartered Health Plan, on 7/31/07 and forwarded AAP form.
   h. Spoke with Rosalyn Stephens, AMERIGROUP District of Columbia, on 7/31/07and forwarded AAP form.
   i. Converted draft Spanish-language Asthma Action Plan to PDF format and e-mailed it on 7/31/07 with request for review to Mary's Center for Maternal and Child Care, La Clínica del Pueblo, Spanish Catholic Center, Association of Clinicians for the Underserved, Mayor's Office on Latino Affairs, and Self Reliance Foundation.

3. Solicited and compiled comments and additional translation of Spanish-language Asthma Action Plan in August 2007 from Mary's Center for Maternal and Child Care, Spanish Catholic Center, Mobile Medical, and Community Services Network.

4. Made final revisions in August 2007 from comments provided by DC Department of Health to English- and Spanish-language Asthma Action Plans and arranged for printing services by Toucan Business Forms.

5. Purchased Adobe Acrobat Professional 8 software for $231.28 (not charged to grant) to enable conversion of Asthma Action Plan to editable computer-based PDF format.

II. The number and type of services/activities provided to produce and print resource materials, i.e., manuals and curricula.

A. Requested and obtained preliminary cost estimate from Kessler*Design*Group. Ltd. of Bethesda, MD on 2/5/07 for design and printing of manual and additional deliverables.

B. Received cost estimate and secured Web site development agreement on 10/27/06 with Elevative Networks, Inc., Reston, VA for the design and production of the *Asthma-Friendly Schools* Web site.

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C. Met with David Cross, Elevative Networks, on 8/23/07 on development of Asthma-Friendly Schools Web site, which will include an electronic version of the school resource manual for downloading.
D. Requested and obtained preliminary cost estimate from Toucan Business Forms, Annapolis, MD on 4/24/07 for printing of Asthma Action Plans in English.
E. Requested and obtained preliminary cost estimate on 10/28/06 from Elevative Networks, Inc., Reston, VA on the conversion of the Asthma Action Plan to editable forms in Microsoft Word and PDF formats.
F. Borrowed *Missouri School Asthma Manual* from DC CAN Asthma Program Manager on 4/30/07 as template for formatting and printing training manual.
III. The number, type, date, and location of services/activities provided to prepare for and conduct training.
A. Conducted *Asthma-Friendly Schools* Training:
1. Developed draft training agenda with partners at *Asthma-Friendly Schools Program* Full Coalition meetings on 11/15/06 and requested comments from volunteer reviewers via e-mail on 11/16/06 and again on 1/31/07 and 2/7/07.
2. Corresponded with DOH, DCPS, and GWU to set up trainings for school administrators and staff first scheduled for March 8-9, 2007 at GWU's Marvin Center Continental Ballroom then postponed at the request of Dr. David Rose, Senior Deputy Director, Primary Care and Prevention Administration, DOH, until October 18-19, 2007.
3. Invited and secured commitments from partners (e.g., American Lung Association of DC, Asthma and Allergy Foundation of America MD-DC Chapter, and Allergy and Asthma Network Mothers of Asthmatics, DC Tobacco Coalition) to highlight programs and resources for DC schools and families at training.
4. Composed and e-mailed letter to Edwina Davis-Robinson, DC Control Asthma Now, DOH on 6/11/07 as requested to confirm 10/18/07 and 10/19/07 project training dates with DCPS.
5. Conducted 1.25-hour pilot *Asthma-Friendly Schools* training on 8/9/07 with 20 administrators/staff from DC charter schools in collaboration with the Student Support Center. It included asthma/anaphylaxis management, strategies for addressing asthma (and anaphylaxis) within a coordinated school health program, DC Asthma Action Plan form, and *Student Access to Treatment Emergency Act of 2007* presented by Lisa A. Gilmore, NCAC. Elgloria Harrison, RRT, University of the District of Columbia, demonstrated MDI, spacer/inhaler, and peak flow techniques. In participants' overall positive evaluation of the day-long program, 3 individuals stated that the *Asthma-Friendly Schools* session had "the most valuable/timely information" and was "extremely worthwhile."
6. Conducted teleconference on 7/12/07 with Aurora Amoah, George Washington University (GWU), and sent e-mail requesting invoice for estimated space and audiovisual costs to be incurred per October 18-19 trainings.
7. Sent follow-up e-mails on 7/18/07 with Edwina Davis-Robinson, Asthma Program Manager, DOH on confirmation of October training dates with DC Public Schools and scheduling of follow-up coaches workshop. In addition, replied by e-mail on 7/23/07 to Edwina Davis-Robinson's request for information to provide to DC Public Schools on accommodations for October 18-19 trainings.

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8. Conducted correspondence by e-mail on 7/19/07 with GWU's Dr. Jerry Paulson and Aurora Amoah on the for the October 18-19, 2007 trainings, including the logistics of the Marvin Center and the inclusion of Indoor Air Quality Tools for Schools Walkthrough Video.
9. Met on 9/14/07 with Monaghan Medical Corporation representatives and secured donations of peak flow meters and spacers for demonstration of devices during school trainings.
10. Refined agenda for October 18 and 19, 2007 trainings, including teleconferences with Dr. Jerome A. Paulson and Aurora Amoah, George Washington University.
11. Contacted invited presenters/panelists for October 18 and 19, 2007 trainings: Reginald Ringgold on behalf of Cornell Brown, Executive Director, Office of Facilities Management, DC Public Schools (environmental management); Dr. Eric Howard, Athletic Trainer, DC Public Schools (managing asthma/anaphylaxis and physical activity); Dr. Elena Reece, Chief, Allergy and Clinical Immunology, Howard University Hospital; Craig Engler, RRT, Children's National Medical Center; Elgloria Harrison, RRT, University of the District of Columbia; Juanita Campbell, parent; Linda Coulombe, National Children's Museum.
12. Developed environmental asthma portion of school training and agreement for follow-up with schools by DCPS Office of Facilities Management: a. Conducted one-on-one planning meetings with Reginald Ringgold, Industrial Hygienist, DCPS on 9/8/06, 11/3/06, 11/8/06, and 12/8/07 plus related e-mails and calls. b. Coordinated with Mr. Ringgold to enroll five DCPS facilities staff members in EPA's *7th Annual Indoor Air Quality Tools for Schools National Symposium*, December 7-9, 2006, Washington, DC. c. Received training for Lisa A. Gilmore, NCAC, and Aurora Amoah, GWU, in EPA *7th Annual Indoor Air Quality Tools for Schools National Symposium* on December 7-9, 2006. d. Secured commitments from GWU's Mid-Atlantic Center for Children's Health and the Environment and the District Department of the Environment to assist with the presentations and materials.
13. Conducted two asthma-friendly schools trainings titled *Managing Asthma and Allergies in DC Schools* from 7:30 a.m. to 12:30 p.m. on 10/18/07 and on 10/19/07 at George Washington University's Cloyd Heck Marvin Center in DC with a total of 182 participants.
B. Conducted Athletic Coaches Asthma Training:
1. Worked with Eric Howard EdD, MS, ATC, DCPS Athletic Trainer, Ballou Senior High School, at one-on-one meeting on 11/2/06 at Ballou Senior High School to identify intended primary audiences for training (i.e., DCPA physical education teachers and athletic trainers, and coaches at Washington Tennis and Education Foundation's after-school program at DC public schools and DC Parks and Recreation) and to select curriculum (to include Minnesota's "Winning with Asthma" program for school athletic coaches).
2. Involved Dr. Howard in meetings with NCAC's Health Services and Quality Improvement Committee to develop policies for managing asthma and anaphylaxis in after-school settings.
3. Received commitments from DC Department of Parks and Recreation and Washington Tennis and Education Foundation to also send their coaches and staff to the training.

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4. Conducted telephone meeting with Susan K. Ross RN, AE-C, Senior Clinical Advisor, Minnesota Department of Health, Health Promotion and Chronic Disease Division, Asthma Program, on 5/23/07 regarding use of Winning with Asthma Coaches Program (restricted to online use only) and made request for eps-format file (received) for printing coaches clipboards.
5. Submitted e-mail report on 5/23/07 as requested by Carolyn Young Bothuel with detailed "Update on Athletic Coaches & Environmental Asthma Trainings."
6. Sent proposed coaches training slides for review to Dr. Eric Howard, Athletic Trainer, DCPS on 6/4/07.
7. Consulted with Barbara Rockwood, DCPS, on 7/16/07 and 7/18/07 to ascertain the number of DC Public Schools coaches, athletic trainers, and physical education teachers (total = 425 individuals).
8. Conducted the athletic coaches training for DCPS athletic trainers on 10/9/07 at the Hamilton School Auditorium in partnership with the Asthma and Allergy Foundation of America..
IV. The number, type, date, and location of services/activities provided to collect data, evaluate participants, and report results.
A. Consulted with Minnesota Department of Health Asthma Program Senior Advisor, Susan K. Ross and Asthma Program Director, Janet Keysser by telephone at start of grant period and periodically thereafter.
B. Prepared and signed subrecipient agreement with The George Washington University's Mid-Atlantic Center for the services of Jerome Paulson, MD and Aurora O. Amoah, MPH to assist in the development of the manual, training materials, and evaluation.
C. Conducted program development meetings on 10/16/06 and 11/2/06 with The George Washington University (contracted Technical Expert) plus related e-mails and calls.
D. Corresponded with DOH Institutional Review Board and downloaded application forms and schedule.
E. Consulted by telephone with The George Washington University (contracted Technical Expert) on 4/18/07 and 4/20/07 regarding program status, evaluation, Institutional Review Board application, and next steps.
F. Participated in a two-hour Asthma-Friendly Schools Evaluation Planning Meeting at DOH on 11/28/06 with Dr. Gladys B. Baxley, Ph.D., *Asthma-Friendly Schools* Evaluator; Edwina Davis-Robinson, Asthma Program Manager, DOH; Aurora Amoah, The George Washington University.
G. Developed multiple evaluation instruments, including pre- and post-training assessments forms , general training evaluation surveys, and school asthma/anaphylaxis planning worksheets.
H. Hired Deeonna Farr, MPH, Consultant, to code the evaluation instruments and to input the training registration list, attendance list, and data from completed evaluations (i.e., pre- and post-training assessments forms, general training evaluation surveys, and school asthma/anaphylaxis planning worksheets) into an Excel spreadsheet. Time billed: 179 hours from 10/23/07 through 11/30/07.
I. Conducted non-statistical summary and analysis of the training evaluation data and generated summary tables and charts.
J. Wrote 47-page final report to DOH on grant deliverables, including evaluation results.