

Strategies to Reduce Particle Pollution in Muscatine and Scott Counties

By Mindy Kralicek, DNR Air Quality Information Specialist

The Iowa Department of Natural Resources reports that air pollution monitors in Iowa have shown portions of two counties failing to meet the EPA air quality 24-hour standard for fine particles for the years 2005-2007.

PM2.5 is the term for particles suspended in the air that include dust, dirt, soot, smoke and liquid droplets. They are 2.5 microns or smaller (a human hair is typically 50-70 microns in diameter). The particles come primarily from industrial and residential combustion, vehicle exhaust and wood burning. More fine particles are added to the air when precursor vapors react chemically in heat and light or at near freezing temperatures, depending on the chemical composition of the air.

The Environmental Protection Agency's (EPA) 24-hour attainment standard for PM2.5 is 35 micrograms per cubic meter (ug/m3) for a three-year average of the 98th

percentile of 24-hour concentrations of each population-oriented monitor. The monitor at Black Hawk Foundry in Davenport, Scott County, has averaged 37 micrograms per cubic meter (ug/m3); the monitor at Garfield Elementary in



Muscatine, Muscatine County, has averaged 36 ug/m3.

The EPA annual attainment standard for PM2.5 is set at 15.0 ug/m3. This standard is the arithmetic mean of data collected. Iowa's monitored areas were all well within attainment of that standard.

POLLUTION HASN'T WORSENERD, BUT IT NEEDS TO GET BETTER

Although fine particulate matter pollution has

experienced variations up and down from the 35 ug/m3 at the monitored sites since 2000, the area is now considered out of attainment because on December 17, 2006 the EPA lowered its health standard from 65 to 35 ug/m3. The standard was

lowered due to scientific studies that indicated people's health is impacted at lower levels than previously believed. Many groups continue to speak of their frustration that the standard was not set even lower.

When particulate levels rise, people with lung or heart disease may experience chest pain, palpitations, shortness of breath and fatigue when exposed to elevated levels of PM2.5. It can also aggravate asthma, and cause decreased lung function and premature death. People with respiratory problems, children and the elderly are most vulnerable, but even healthy people that are active outdoors can be affected when PM 2.5 levels are high.

(Continued on page 2)

Spring Issue

May 2008

Inside this issue:

EPA's New Ozone Standard	3
Iowa Passes Smoke-free Air Law	3
Teens Think They Have Asthma Under Control	4
Hospitalizations due to Asthma Continue to Decline	5
Asthma Management Saves Iowans \$9.2 Million	5
Open Airways for Schools	6
Asthma and Athletes- The Role of the Coach	6

NATIONAL AIR POLLUTION STANDARDS AND THE AMERICAN LUNG ASSOCIATION'S GRADING SYSTEM

The American Lung Association's newly released State of the Air 2008 report graded Iowa counties on high ozone days and on particle pollution days for the years 2004 - 2006. Grades were assigned based on weighted values to the number of days a county had air quality that exceeded the "moderate" rating on the Air Quality Index. If the pollution was very serious, the grade was weighted as having more days of the higher category.

Iowa's counties did well on high ozone days, but were not rated so well on particle pollution days. The DNR agrees that every day with poor air quality should be avoided, but asks Iowans to recognize that the thresholds set by EPA are the critical levels that are used nationally to determine whether action is required. EPA standards take into consideration anomalies that occur when considering factors beyond human control such as weather patterns, shifts in prevailing winds, and regional factors. The American Lung Association's grading system assigns a poor grade even when the standards are being met. For example, the greatest exceedance in Iowa was well below the air quality index rating of "unhealthy."

Sources of pollution are generally required to obtain permits from the DNR to emit that pollutant before they are constructed. The DNR and the Polk and Linn County local programs are responsible for carrying out a permit process that limits how much pollution can be emitted into the ambient air and still remain below EPA's health standard. Using the best available knowledge about area emissions; current emission controls and existing sources of air pollution, the agencies establish permit limits to maintain air pollution levels below the standards. However, when new more stringent standards are established, some of these permits need to be revisited.

Fortunately, many of these permitted industries are concerned with the condition of Iowa's air and are voluntarily adjusting their operations to reduce emissions of particulate matter at no small expense.

The DNR is required to have the plan for reducing particulate pollution in the area deemed above the pollution standard in place by 2012 and to be in attainment by early 2014.

The Iowa Fine Particulate Monitoring Network Design Values 2005-2007 report is to be certified by the EPA by July 2008. This and all other DNR technical reports for Iowa's air monitoring program are available at <http://www.iowadnr.gov/air/prof/monitor/monitor.html>.

(Continued from page 1)

WHAT THE DNR IS DOING

"We are greatly concerned about Iowa's sensitive groups," said Air Quality Bureau Chief Catharine Fitzsimmons. "We are working with regulated industries and the public to keep Iowa's air healthy. Elevated fine particulate levels are a complicated problem and to reduce the pollution, we will need to employ both local and regional pollution reduction strategies."

The DNR is working with input from stakeholders and the public to develop a recommendation to the EPA on defining the exact areas that should be classified as failing to meet the standard or contributing to violation. The first step in this

process has been an analysis of nine design factors: area emissions; current emission controls; population and urbanization, traffic and commuting, population growth, political and other boundaries, topography, meteorology, and local exceedance events compared to regional exceedances. The DNR held meetings in Davenport and Muscatine on April 29 and 30 to provide this information to the communities and seek input from stakeholders and the general public.

The next steps will include seeking local and regional reductions in air pollution emissions to help reduce the air pollution impacting Iowans.

WHAT CITIZENS CAN DO

Citizens can do their part to clean the ambient air across Iowa by reducing energy consumption, minimizing unnecessary car trips, using energy efficient lawnmowers and gardening equipment, and not burning wood or trash. This will reduce the impact of pollution punches delivered by weather, terrain, prevailing winds and other sources.

CHECK THE AIR QUALITY INDEX

Citizens can evaluate the effect of air quality on their activity choices for the day by checking the air quality index for the day.



Those in the health industry responsible for the treatment and care of sensitive groups can also reference

the daily air quality index. That information is displayed using Iowa's air monitors at <http://www.uhl.uiowa.edu/services/ambient/todayaqi.xml>; and the Polk County air monitors at <http://www.airquality.co.polk.ia.us/CurrentAQI.aspx>. Linn County current air quality conditions for PM2.5 and Ozone are posted on the EPA/NOAA AIRNOW website: www.airnow.gov. Historic data is available at <http://www.air.linn.ia.us/> or by contacting the Linn County air quality unit at (319) 892-6000.

EPA Releases New Ozone Standard

By Mindy Kralicek, DNR Air Quality Information Specialist

The Iowa Department of Natural Resources (DNR) Air Quality Bureau received notification of the U.S. Environmental Protection Agency's (EPA) new National Ambient Air Quality Standard (NAAQS) for Ozone: an 8-hour average of 75 parts per billion (ppb) for both primary and secondary NAAQS. Previously the 8-hour average ozone standard was 80 ppb.

Stephan L. Johnson, Administrator of the EPA, stated that the reason for the more stringent primary standard is to provide an adequate margin of public safety to protect human health that recent scientific evidence has revealed is necessary. The secondary standard is for protection of the public welfare, which includes protection of vegetation and the ecosystem.

Monitored areas will not be determined to be out of attainment with the 75 ppb ozone standard until 2010, said Johnson. At that time areas out of attainment will have as many as 20 years to comply with the new standard.

Iowa has been in attainment for the 80 ppb ozone standard

since its inception in 1997 and continues to be in attainment for the new 75 ppb standard. However, ozone averages for the three year period through 2007 are close to the 75 ppb threshold in some areas of the state. The Iowa Ozone Design Values for 2005 through 2007 and previous three-year periods, are posted at <http://www.iowadnr.gov/air/prof/monitor/monitor.html>. For national information on the EPA's new ozone standard go to www.epa.gov/air/ozonepollution/actions.html#stand.

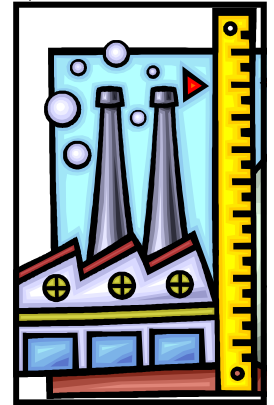
The 8-hour standard is actually an 8-hour average based on the 3-year average of the fourth highest daily maximum 8-hour average. Because of the "rounding" procedure that was in effect, the 3-year average could be as great as 84 ppb and still be in attainment as 80 ppb. The new standard will use a more restrictive rounding procedure: a design value over 75 ppb will be considered out of attainment.

Ozone (O₃) is a secondary pollutant that forms as a component of photochemical smog. Pollution forms when nitrogen oxides and volatile organic compounds (VOCs) react in the presence of heat

and sunlight. Nitrogen oxides are formed by fossil fuel combustion, and VOCs are composed primarily of carbon and hydrogen that evaporate into the air. Ninety percent of VOCs are created by vehicles and industrial activities. Ozone levels are affected by climate, sunlight, geographic features, and atmospheric conditions and weather.

Ozone exposure correlates to increased respiratory disease and higher mortality rates. Ozone can inflame and damage the lining of the lungs. Within a few days, the damaged cells are shed and replaced, much like the skin peels after sunburn. Over a long time period, lung tissue may become permanently scarred, resulting in permanent loss of lung function and a lower quality of life. When ozone levels are high, more people with asthma have attacks that require a doctor's attention or use of medication. Ozone also makes people more sensitive to allergens such as pets, pollen and dust mites which trigger asthma attacks.

High levels of ozone also damage plants and reduce agricultural yields by destroying chlorophyll.



Iowa Passes Smokefree Air Law

On April 15, Gov. Chet Culver signed into law legislation that will prohibit smoking in almost all public places and workplaces, including restaurants and bars. The law passed the legislature earlier in April, by a 56-44 margin in the House and 29-21 vote in the Senate. Unfortunately, casino floors were exempted, leaving casino workers unprotected from secondhand smoke. Enforcement will initially be on

a complaint basis and punishable by a \$100 fine. Twenty-three states and the District of Columbia have now met the American Lung Association's Smokefree 2010 Challenge, which calls on all states to pass comprehensive smokefree laws no later than 2010. The new law follows a \$1.00 cigarette tax increase in March 2007, which in the past year raised \$128 million in revenue and caused a 36

percent drop in cigarette sales in the state. (Information obtained from: Jennifer Jacobs, Sales Fall by 36% after \$1 bump in cigarette tax, Des Moines Register, April 1, 2008; Mike Glover, Legislature narrowly approves smoking ban, exempt casinos, Associated Press, April 8, 2008; and Jennifer Jacobs, Update: Culver signs smoking ban into law, Des Moines Register, April 15, 2008.)



Teens Think They Have Asthma Under Control, but Benefit from New Approach to Treatment

Two studies that offer new insights to help adolescents and younger children improve their asthma control will be presented by researchers from Cincinnati Children's Hospital Medical Center at this year's annual meeting of the Pediatric Academic Society (PAS) in Honolulu, Hawaii.

One study, to be presented May 4, found that teens with asthma dramatically overestimate their ability to control the condition, according to Maria Britto, M.D., MPH, a physician in the Division of Adolescent Medicine at Cincinnati Children's and study co-author.

"We've known that adolescent asthma patients tend to have poorer outcomes than younger children with the condition, and this study shows that teens tend to think they're in control when they may be having difficulty," Dr. Britto said.

The researchers reported that 74 percent of adolescents dramatically overestimated their ability to control asthma, especially compared to the teens' own reports of symptoms, use of rescue medications and limitations they placed on their activities. The study included 201 adolescents with an average age of 16.2 years who were

observed during clinical visits. The findings suggest that adolescents' perception of being in control may

impact whether or not they follow treatment regimens and avoid situations that trigger their condition.

"For those of us who treat teens with asthma, these findings will help us address with patients their perceived control versus what is actually going on," Dr. Britto said. "As we have this dialogue with them, our hope is that it will improve their ability to manage their asthma and improve their health."

Improved care for asthma patients was also the subject of a second study at Cincinnati Children's to be presented at PAS on May 6. This study found that a creative approach referred to as "unplanned planned asthma visits" resulted in young patients having fewer emergency room and hospital visits. The approach involves physicians discussing asthma with patients every time they come for an office visit, even if those visits are scheduled for totally unrelated reasons.

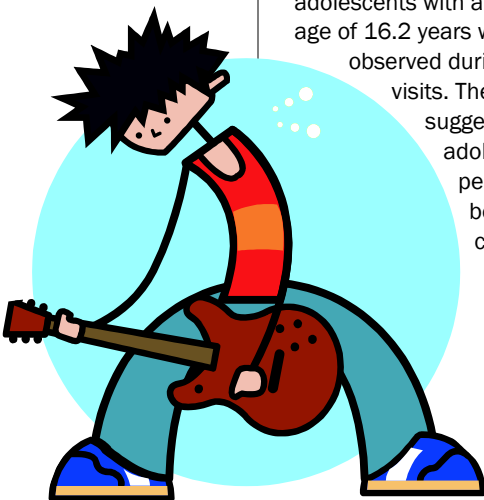
"Having regular, planned physician appointments to manage a child's asthma is an integral part of the chronic care model," said Greg Szumlas, M.D., a physician in the Division of General Pediatrics at Cincinnati Children's and study co-author. "Unfortunately, many patients don't always keep these appointments, so the planned opportunity for education of patient and parent is lost. We also know patients see their physicians for other acute problems, so we

developed a system to capture these opportunities and turn them into what we call the 'unplanned planned' asthma visits."

During these visit, patients undergo asthma control screening, condition assessment and receive education on asthma self-management. The visit is turned into an opportunity to assess and manage the patient's asthma. Correct medications and effective self management result in an overall improvement in asthma quality measures and patient outcomes. In a study group of 230 asthma patients followed during the program, the researchers noted a 30 percent increase in patients with established asthma treatment action plans. The program also led to a 50 percent reduction in asthma hospitalizations and a 47 percent decrease in asthma related emergency room visits over a one-year period.

Adapted from materials provided by Cincinnati Children's Hospital Medical Center, via EurekAlert!, a service of AAAS.

Cincinnati Children's Hospital Medical Center (2008, May 6). Teens Think They Have Asthma Under Control, But Benefit From New Approach To Treatment. ScienceDaily. Retrieved May 13, 2008, from <http://www.sciencedaily.com/releases/2008/05/080506074445.htm>



Inpatient Hospitalization Rates from Asthma Continue to Decline for Most and Especially for Young Children

By Joann Muldoon, Iowa Department of Health

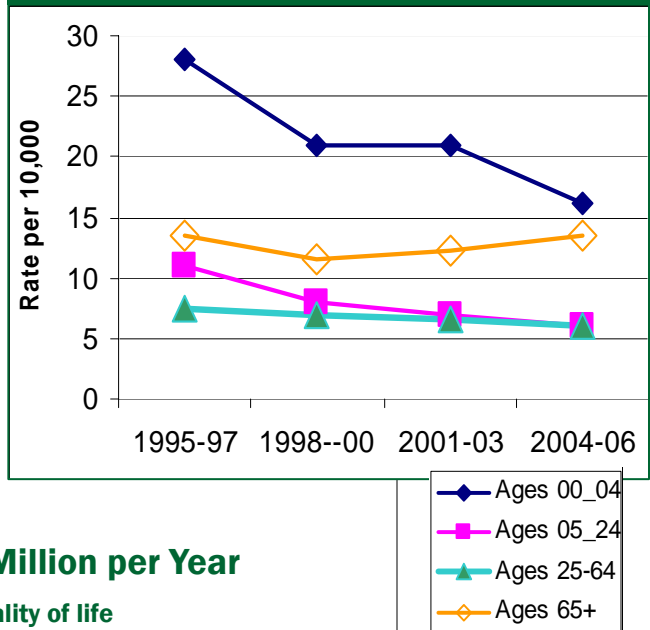
Inpatient hospitalization rates for asthma declined between 1995 and 2006 for all age groups of Iowans, except adults age 65 and older who showed a slight increase in their rates.

The rate of decrease was most dramatic for very young children ages 0 to 4 years who saw their hospitalization rates from asthma drop 42% from 28.1/10,000 in 1995-1997 to 16.2/10,000 population in 2004-2006. National hospitalization rates between 1997 and 2005 show similar

trends, with rates decreasing for all age groups except that of the very old—those 85 and older.

In 1995-1997 in Iowa, there was an average of 3,275 hospitalizations per year, in 2004-06, there was an average of 2,947 hospitalizations per year, reflecting a 10% decline overall. The decrease in hospitalizations occurred despite the fact that asthma prevalence rates have remained steady over this time.

Asthma Hospitalization Rates from Asthma, Iowa, 1995-2006, State Inpatient Database



Asthma Management Saves Iowans \$9.2 Million per Year

Reduced hospitalizations show strategies help improve quality of life

By Andrea Hoffman, Iowa Department of Public Health

According to data collected by the Iowa Department of Public Health (IDPH), hospitalization rates for asthma complications have fallen significantly among nearly all age groups in recent years. While the number of Iowans with asthma has remained stable since 1999, IDPH estimates that better management of the condition has contributed to an annual savings of \$9.2 million in hospitalization costs in Iowa.

The reduction in hospitalizations indicates that asthma management strategies are having an impact in Iowa, especially for children 0-4 years of age. In 1995, the hospitalization rate for this age group was 30.7 per 10,000 children. In 2006, that rate dropped almost

60 percent to 13.5. For all age groups, there were 3,100 asthma-related hospitalizations in Iowa in 1995 at a cost of \$27.8 million, adjusted for inflation. In 2006 there were 1,000 fewer hospitalizations, costing \$18.6 million, or \$9.2 million less than in 1995.

Since 2003, an important component of the IDPH Asthma Control Program has been the *Young and the Breathless* trainings. Held across the state with Visiting Nurse Services, the *Young and the Breathless* trainings have been provided to more than 1,000 child care providers, about 200 licensed child care centers, and four major school districts. Additionally, train-the-trainer sessions have been provided to nearly 175 nurses and nursing students in 88 counties.

The *Young and the Breathless* training is available to child care providers, schools, and health care professionals across the state. The free training is available across the state and is full of useful information on managing asthma.

With the training participants receive: a free resource manual; free asthma action plans (carbon copy format); and free environmental and asthma resources.

If you are interested in bringing the *Young and the Breathless* training to your community, please contact: Andrea Hoffman at 515.281.4779 or ahoffman@idph.state.ia.us



Open Airways for Schools

By Christy Leibundguth, IAC
Coordinator

The American Lung Association of Iowa "Open Airways for School" (OAS) asthma education program is wrapping up for the year. The program was back by popular demand. Our National office provided us with a mini-grant to reach new and existing schools in the program for the 2007-2008 school year. OAS was offered free of charge as well as providing an unrestricted stipend to schools. In addition, students participating in the program received FREE scholarships to attend our Asthma Camp this summer.

Open Airways for School is a

vital program for elementary schools. The program was designed to empower 8 to 11 year olds to manage their asthma through an innovative, interactive curriculum that brings together children, their families and community volunteers. Students learn self-management skills to better handle their asthma, resulting in fewer absences and improved academic performance. For children, having control over their asthma means having more control over their lives. This innovative program develops skills to prevent attacks and to respond appropriately, should an attack occur.

Over the past few months, we have trained six new asthma

educators to assist us in implementing the program in the schools. This means we now have a total of 13 facilitators trained in the program. The school's responsibility is to sign their school up, recruit children who have been diagnosed with asthma in grades 3, 4 and/or 5 and secure an on-site location for the program. The program is offered over 3 weeks, 2 sessions a week (40 minutes each). A total of 122 new children will be educated on better managing their asthma this year. We are here to help prepare the students to safely manage their asthma – it has helped many of them to be involved, be aware and take control.



Athletes & Asthma – The Role Of The Coach

The American Lung Association of Iowa in partnership with the Iowa High School Athletic Association hosted Athletes and Asthma - The Role of the Coach, on Wednesday, May 7th, at Legacy Golf Club in Norwalk.

The focus of the program is on asthma and the physically active high school student. The keynote address featured Drake University track and field standout Natasha Kaiser-

Brown, with the program conducted by Mary Tyrell, RT. The program content is appropriate for coaches, physical education teachers, and athletic trainers. Coaches were able to use the program as one renewal activity toward renewing their coaching authorization.

Upon completion of the

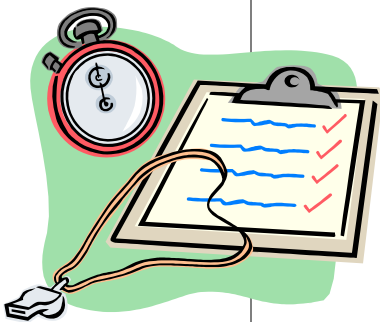
program presentation, educators/coaches:

- Realize that asthma is a serious health condition that may require special care and attention in children who have it;
- Are able to identify warning signs and symptoms of an asthma episode;
- Realize the importance of good communication with parents about asthma management for children under their supervision;
- Take precautions to ensure maximum participation among children with exercise-induced asthma (EIA);
- Are able to access and reference a child's asthma emergency plan, and take quick and proper steps when reacting to an asthma emergency;

- Recognize why pre-medicating is necessary before exercising; Be able to ensure that a child has rescue medication with them in case of an emergency.

Comments made by several of the participants were, "WOW – what an eye opener!"

Participants were able to do an exercise that helps them understand what it is like to NOT be able to breathe also known as, an Asthma Attack. The exercise consisted of jogging in place for 5 minutes. They then were instructed to breathe through a straw while plugging their nose. All found this difficult at best. It was very effective. We had a turnout of over 20 participants who will now know how to better help their athletes manage their asthma.



Birdies for Charity

The American Lung Association of Iowa will be participating in the 2008 Birdies For Charity fundraiser. Part of The Principal Charity Classic, May 28 - June 1st, at Glen Oaks Country Club in West Des Moines, the Birdies For Charity fundraiser generates support for programs that benefit children.

The Birdies For Charity fundraiser allows participating organizations to collect pledges based on the number of "birdies" made during the 2008 Principal Charity Classic. This is the 8th

consecutive year that the PGA Champions Tour has visited Des Moines.

"We are delighted to participate with The Principal Charity Classic and the PGA Champions Tour on this very beneficial fundraising partnership," said Harold Wimmer, President & CEO, American Lung Association of the Upper Midwest. "The Birdies For Charity fundraiser will help support our childhood asthma programs and research here in Iowa."

Close to 25 million Americans have asthma, and 12.4 of them have had an asthma attack in the past year. Asthma is the leading serious chronic illness in children.

If you have questions regarding lung health, please contact the American Lung Association Helpline at 1-800-548-8252 or visit the Lung HelpLine. Our registered nurses, respiratory therapist, and smoking cessation specialists are standing by to take your call 7 am to 9 pm

Register now for 9th Annual Abbey Wion Memorial Golf Outing

The 9th Annual Abbey Wion Memorial Golf Outing will be held Friday, June 6, 2008, rain or shine, at the Toad Valley Golf Course in Pleasant Hill.

It will be four-man best shot. Sign-in is 7:15 a.m. with a shotgun start at 8:00 a.m. Cost is \$85/person and includes: golf/cart, continental breakfast, Famous Dave's, music

by Rob Lombard, prizes, and donation to the Asthma Adventure Camp.

The golf outing celebrates the Wion's daughter Abbey's birthday. Abbey suffered from asthma and died from related causes in November of 1999. The money raised will benefit the American Lung Association's Asthma

Adventure Camp which is held for children suffering from asthma. For one week in July these kids can enjoy a fun and healthy camping experience while also learning to manage their disease.

Please join us to celebrate Abbey's birthday and support the American Lung Association's Asthma Adventure Camp.

Asthma Adventure Camp is July 27-August 3

For many kids with asthma, participating in sports or summer camp simply isn't an option because of their health condition. But the Asthma Adventure Camp is not just a regular camp and that's what makes it so special for kids with asthma.

The Asthma Adventure Camp is a week-long camp scheduled for July 27-August 3, 2008 at the

YMCA Camp near Boone, Iowa.

Designed especially for children diagnosed with asthma, trained counselors assisted by medical staff supervise the children and encourage participation in a variety of activities, such as swimming, canoeing, nature hikes, field games and arts and crafts.

In addition to traditional camping

activities, children attend educational sessions, during which they learn asthma management techniques and get to bond with other kids who also have asthma.

For more information about the Asthma Adventure Camp and registration materials, visit www.lungia.org and click on Asthma.

New Name, New Location, New Date

The American Lung Association of Iowa will be holding its annual fall fund raising walk on Saturday morning, September 20 from 8-11 a.m. Formerly known as the "Blow the Whistle on Asthma" Walk, the Walk will now be called the **LUNG WALK** to include all forms of lung disease.

For the first year, the **LUNG WALK** will be held around the pond on West Des Moines' Civic Campus

behind the WDM City Hall on Mills Civic Parkway. Not only will there be different walking path options for teams and individuals, Mercy Medical Center will be providing information and education about asthma and COPD at interactive booths. Health care professionals will be speaking on the City Hall patio and children can participate in activities at the Children's Corner throughout the morning.

For more information about this fun event that supports the American Lung Association, including the Asthma Adventure Camp, please contact Donna Miller, Event Coordinator, at dmiller@lungia.org or call her at 515.309.9507 x236. To register online, go to www.lungia.org and click on LUNG WALK under Special Events.

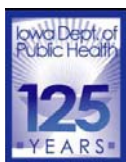


LUNG WALK

For more facts about asthma:

Iowa Department of Public Health
www.idph.state.ia.us/hpcdp/
asthma.asp

American Lung Association of Iowa
www.lungia.org



World Asthma Day Celebrated

May 6th was World Asthma Day, organized to raise awareness and improve asthma care throughout the world. This year's theme was You Can Control Your Asthma.

In celebration, the American Lung Association of Iowa hosted an event at The Legacy Golf Club entitled "Athletes and Asthma - The Role Of The Coach on Wednesday May 7th. Additionally, the Iowa Asthma Coalition distributed asthma educational brochures to public libraries, community centers, and other popular places. Asthma Action Plans are also being disbursed to school nurses and students.

Close to 22.9 million Americans have asthma, and 12.4 million of them have had an asthma attack in the past year. Asthma is the leading serious chronic illness in children. The enormous impact on the health and well-being of those who are afflicted and the great cost of health care related to asthma are increasingly serious concerns, as is the fact that asthma kills approximately 4,000 Americans each year.

Research on asthma offers a real chance for success, as it is to a great extent a reversible disease. The American Lung Association supports extensive research in asthma in a number of critical areas. Cellular and molecular mechanisms of the allergic and inflammatory responses involved in asthma are being studied. Furthermore, new asthma treatments are being examined, and promising new methods for managing the disease especially in emergency rooms and inner city populations are being sought.



American Lung Association of Iowa
2530 73rd Street
Des Moines, IA 50322
Phone: 515-309-9507
Fax: 515-334-9564
Web: www.lungia.org

Mailing Address Line 1
Mailing Address Line 2
Mailing Address Line 3
Mailing Address Line 4
Mailing Address Line 5