

# Breath of Fresh Air

Volume 9, No. 3

Information, news and advice for improving asthma well-being

Winter 2006-07

## Latest Asthma Statistics Bring Good News

Recently, annual statistics on deaths due to asthma have been released by the federal government through the National Center for Health Statistics, and they give cause for optimism.

Death due to asthma is an uncomfortable subject. When well-controlled, asthma is meant to fade into the background. We expect people with asthma to lead productive and active lives, uninterrupted by chest symptoms due to their asthma. We strive to prevent asthmatic attacks, and when they occur, ensure that they remain relatively mild and brief.

And yet, asthmatic attacks continue to occur frequently, and sometimes they are severe. It is possible for an asthma attack to progress to the point of incapacitating breathlessness, to widespread blockage of the bronchial tubes, and to interference with oxygen delivery from the lungs into the blood. Unchecked, untreated, or inadequately treated, the most severe of these overwhelming asthmatic attacks can lead to asphyxiation and death. No question: each asthmatic death is a tragedy. A disease that causes preventable and reversible narrowing of the breathing tubes should not cause death. But the cold statistics tell otherwise. In 2003, the year for which we have the most recent data, there occurred 4,099 deaths due to asthma, including 154 deaths among children under age 15 years.

Now for the good news: as shown in the accompanying figure, the number of deaths

due to asthma has steadily declined since 1999. Overall, the reduction in asthmatic deaths since 1999 is 12%. We are doing better in preventing and/or managing very severe asthmatic attacks, for which asthmatic deaths are

just one indicator. Another marker is the number of hospital discharges for asthmatic exacerbations. Here the trend is the same: the number of hospitalizations for asthma is also on the decline (497,000 hospitalizations in

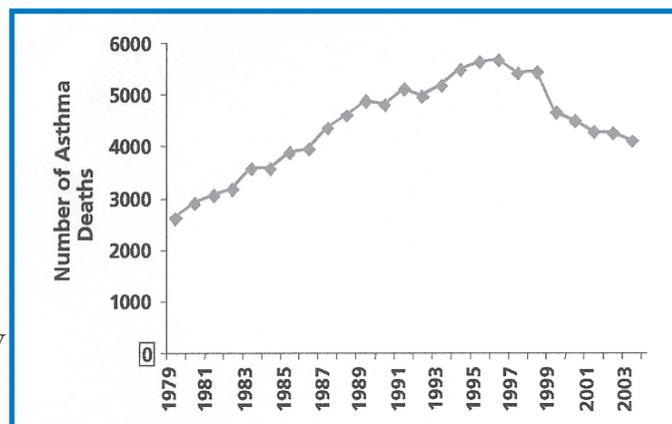
2004). Since 1995 the hospital discharge rate for asthma has decreased by 14%.

### There is need for more improvement

As encouraging as these statistics are, striking health care disparities persist. The asthma death rate for blacks remains more than double the rate for whites, and the hospital discharge rate three times greater among blacks than whites.

To quote directly from a report on *Trends in Asthma Morbidity and Mortality* prepared by the American Lung Association, "Asthma remains a major public health concern. In 2004, approximately 20.5 million Americans had asthma and the condition accounted for an estimated 14 million lost school days in children and 14.5 million lost work days in adults. Asthma ranks within the top ten prevalent conditions causing limitation of activity and costs our nation \$16.1 billion in health care costs annually."

There is much work still to be done!



## News About Asthma

### New Medications

*Smoking cessation aid.* A new medication has been released as an aid to help cigarette smokers quit smoking. The medication is called varenicline (Chantix). It acts by a novel biochemical mechanism, blocking access of nicotine to one of its sites of action in the brain. Varenicline acts by binding to and stimulating a nicotinic acetylcholine receptor that would otherwise be available to nicotine. In effect, it works somewhat like methadone does for heroin addiction, replacing the addictive substance with a safe medical substitute.

Varenicline (Chantix) is a tablet. It is recommended that the starting dose be 1/4 the final dose and that you wait to quit smoking until the medication has built up in your system. One is to take a 0.5 mg tablet once a day for the first three days, then one twice a day for the next 4 days. After one week, begin a 1 mg tablet twice daily, and stop smoking! The total recommended course of treatment is 12 weeks. The major side effect has been nausea. This new medication is approved for use in persons over 18 years of age; its safety in pregnancy is not proven.

Is a medication designed to help smokers quit relevant to asthma? You bet! Teenagers with asthma are just as vulnerable to the false allure of cigarette smoking as their non-asthmatic friends. As many as 23% of all adults in America still smoke cigarettes. We found that in the inner city 30% of asthmatics smoke cigarettes. And the asthmatic children of cigarette smokers are made worse by second-hand smoke exposure from their parents' cigarettes. Many of these cigarette smokers wish to quit smoking but find that they are unable to do so. Varenicline (Chantix) represents another option – besides nicotine replacement therapy, bupropion (Zyban), and counseling – to overcome this troublesome addiction.

*Long-acting bronchodilator.* The inhaled bronchodilator medications used to treat asthma, called

beta-adrenergic agonists (or beta agonists, for short), can be divided into two types, the short-acting bronchodilators, like albuterol, and the long-acting bronchodilators, like salmeterol (Serevent) and formoterol (Foradil). The former are designed to cause the muscles surrounding the bronchial tubes to relax for approximately 4 hours. They all begin to work within 3-5 minutes, making them well suited for rapid relief of symptoms (“rescue” medication). On the other hand, the bronchodilator effect of the long-acting bronchodilators lasts for approximately 12 hours. The long-acting bronchodilators are generally meant to be taken on an everyday basis as a preventive medication (“controller” medication).

Recently, the Food and Drug Administration (FDA) gave approval for production of a new long-acting inhaled bronchodilator. It is a derivative of formoterol (Foradil), called arformoterol (Brovana). It is a novel drug in two ways. First, it will be formulated as a liquid for administration by nebulizer, the first long-acting bronchodilator to be made available for this form of administration. Second, it is a single, purified isomer of the usual combination of two isomers contained in formoterol. As such, like the single isomer formulation, lev-albuterol (Xopenex), derived from albuterol, it has the *potential* for fewer stimulatory side effects.

The currently available long-acting bronchodilators are formulated as dry-powder inhalers, the Serevent Diskus and the Foradil Aerolizer. Salmeterol is also contained within the combination medication, Advair (salmeterol plus the inhaled steroid, fluticasone). *Continued on page 3*

## Breath of Fresh Air

Editor-in-chief

Christopher H. Fanta, M. D.

**Breath of Fresh Air** is published quarterly by the Partners Asthma Center, 75 Francis Street, Boston, MA 02115. We gratefully acknowledge Glaxo Smith Kline for their generous contribution toward publication of this newsletter.

© 2006 Partners Asthma Center.

Requests for permission to reprint should be addressed to the above.

Telephone: (617) 732-4353 Fax: (617) 732-7421

Internet: <http://www.asthma.partners.org>

E-mail: [asthma@partners.org](mailto:asthma@partners.org)

*News about Asthma, continued*

Advair is now provided both as a dry-powder inhaler (Advair Diskus) and as a pressurized metered-dose inhaler (Advair-HFA).

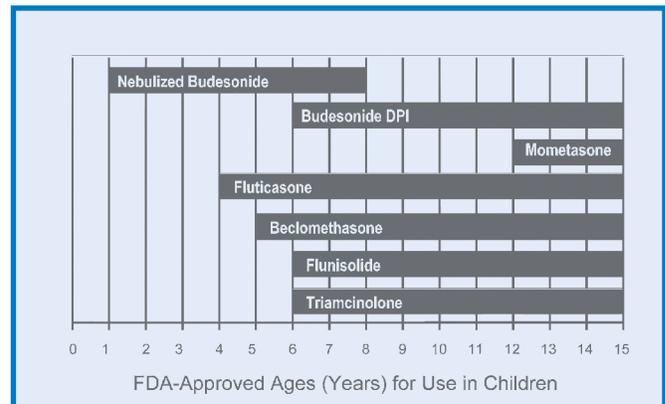
### New Indication

The inhaled steroid, fluticasone (Flovent) has recently been given FDA approval for use in children as young as 4 years old. It had previously been approved for use only in children (and adults) over age 12 years, although many physicians had felt comfortable about prescribing fluticasone (Flovent) to younger children. As you may know, fluticasone (Flovent) is available in three different strengths—44 micrograms of medication per puff, 110 micrograms per puff, and 220 micrograms per puff. For all three strengths, the reddish-brown inhalers look the same, distinguished only by the label which indicates the medica-

tion strength at the top of the metal canister (shown here).



The ages for approved use of inhaled steroids in children are given in this chart.



## New Treatment Guidelines from the Global Initiative for Asthma

The treatment of your asthma is determined by you and your healthcare provider, individualized to your particular needs and preferences. At the same time, the recommendations made by your medical provider are informed by the suggestions for care made by committees of experts in asthma, published as national or international guidelines for asthma management.

A recently updated set of asthma guidelines have been published by an international committee of experts. The collaborative group of allergists, pulmonologists, and others from around the world, work as part of the Global Initiative for Asthma, referred to as GINA. The new GINA guidelines are accessible to you on-line at the following internet address: [www.ginasthma.com](http://www.ginasthma.com).

One of the most striking changes in this new set of guidelines is its focus on the concept of asthma control. Well-controlled asthma has the following features: fewer than two episodes per week of asthmatic symptoms requiring use of a quick-acting (“rescue”) bronchodilator; no

nighttime awakenings due to asthma; no exercise limitations due to asthma; and maintenance of normal or near-normal lung function. Asthma treatment, the guidelines recommend, should be escalated with a goal of achieving this level of control, if possible.

Here is a very simplified version of the treatment recommendations from these new GINA guidelines. The four steps of asthma therapy are defined according to the number of controller medications needed to achieve good asthma control. **Step one** calls for the use of a quick-acting bronchodilator as needed; **step two** calls for addition of a controller medication (preferred: an inhaled steroid); **step three** calls for use of two controller medications (preferred: an inhaled steroid and a long-acting inhaled beta-agonist bronchodilator); and **step four** suggests use of two or more controller medications (for example, an inhaled steroid, a long-acting inhaled beta-agonist bronchodilator, and a leukotriene modifier). Additional treatment to achieve good control (**step five**) might be use of the monoclonal anti-IgE antibody,

*Continued on page 4*

*Global Guidelines, continued from page 3*

omalizumab (Xolair). Those people who have achieved good control can consider reducing their asthma medications (step down care) to minimize side-effects and cost.

In the United States, a panel of asthma experts has been working to update the guidelines that

are offered by National Asthma Education and Prevention Program. The last update was released in 2002 ([www.nhlbi.nih.gov/guidelines](http://www.nhlbi.nih.gov/guidelines)). The new set of US guidelines are expected to be released this spring.



## **We Had a Ball!**

**P**artners Asthma Center held its second annual Dinner-Dance and Silent Auction on October 12 at the Hyatt Regency Hotel in Cambridge. It was a wonderful evening of celebration and renewed dedication to our mission—to tame the “asthma beast” and to minimize its impact on people’s lives.

Our 2006 Partners Asthma Center honoree was John Auerbach, Executive Director of the Boston Public Health Commission. With this award, we gave recognition to the asthma care initiatives developed by the Public Health Commission, including the “Healthy Homes” project and the “Kids with Asthma Can ...” program.

In addition, we gave three Asthma Awards to patients at the Asthma Center who have accomplished remarkable achievements despite their asthma. Here are the Partners Asthma Center 2006 Awardees:

***Jacqueline James***, who overcame very severe childhood asthma to be a successful high school student, volley ball player, and violinist. ▶



▶ ***Heidi McMorrow, DVM***, who together with her husband runs a busy veterinary practice (Cape Cod Veterinary Hospital) and animal shelter, despite her history of asthma with animal allergies.

*We Had a Ball, Continued from page 4*

**David Bucciero**, a computer systems expert at Dartmouth College who completed his first triathlon last year despite his exercise-induced asthma. ▶



The following members of the Dinner-Dance and Silent Auction Planning Committee deserve recognition for making this event such an overwhelming success:

Mark Anderson, Judith Botting, Elaine Carter, Emilia Fusco, Jose Portuondo-Wilson, Jacqueline Rodriguez-Louis, and Ann Wanyoike.

The Dinner-Dance and Silent Auction comprise a fundraising event to support to various activities of Partners Asthma Center, including part of the cost of publication and distribution of this newsletter. We would like to acknowledge generous contributions to the Silent Auction from

The Artistry of Thomas Fallon, Best Buy of Watertown, Bose Corporation, Boston Bruins, Boston Celtics, Boston Marriott Newton Hotel, Casa Di Bellez, Citizens Bank of Watertown, Creations by Marissa, Patricia Farren, Fiorella's, Fisichelli's Bakery, Emilia Fusco, Gordon's Liquor Store of Waltham, Hyatt Regency Hotel of Cambridge, Susan Klasky, Marion Kumins, Longwood Symphony Orchestra, MIMDEEARTWEAR.COM, Silvia Nersessian, New Balance Athletic Shoe, New England Revolution, Jose Portuondo, Cora Roth, Russo's Fruit Stand of Watertown, Silver Lake Liquor Store, and White Swan Bed and Breakfast.

We also give thanks for financial support from

Anonymous, Dr. and Mrs. Harry Azadian, Dr. and Mrs. Jeffrey Drazen, Freedom Therapy Center of Newton, Maria Fusco, Dr. Joseph Jacobson, Kathryn Kalan, Dr. Carol Lippia-Tenny, Judith Stoller Lourie, Frieda MacFarlane, Fay Mittleman, Pat's Place at Brigham and Women's Hospital, Elizabeth Schildkraut, Mr. and Mrs. Ronald Skates, and Mr. and Mrs. Alan Steinert, Jr.

With your help, our Asthma Center will continue to grow and to serve.



## Share Your Asthma Story

**D**o you have an asthma story to share with others? Perhaps it's a lesson that you learned about living with asthma, an anecdote that would help others deal with their asthma, or a special way that you have learned to manage your asthma.

We'd like to hear from you and to have the opportunity to share your experiences with other readers of *Breath of Fresh Air*. Please send us your asthma story by mail (Partners Asthma Center, 15 Francis Street, Boston, MA 02115), by e-mail ([asthma@partners.org](mailto:asthma@partners.org)), or by fax (617-732-7421, att'n: Christopher Fanta, M.D.).

Thank you in advance for sharing your story.

All of us at Partners Asthma Center wish you a Happy and Healthy New Year!



### *Breath of Fresh Air*

Brigham and Women's Hospital  
Massachusetts General Hospital  
Faulkner Hospital  
Newton-Wellesley Hospital  
North Shore Medical Center  
75 Francis Street  
Boston, MA 02115  
1-800-9PARTNERS

---

Non-Profit  
Organization  
U. S. Postage  
**PAID**  
Permit #187  
Burlington, MA

---

### *INSIDE*

- ◆ Latest Asthma Statistics  
Bring Good News
- ◆ News About Asthma:
  - New Medications
  - New Indication
- ◆ New Treatment Guidelines  
from the Global Initiative on  
Asthma
- ◆ We Had a Ball!
- ◆ Share Your Story