

Breath of Fresh Air

Volume 7, No. 4

Spring 2003

Asthma Trends in the United States

In 1996, when asked “During the past 12 months, have you had asthma?”, 14.6 million Americans responded “yes” on behalf of themselves or their child. That is, 5.5% of the American population indicated that they or their child had asthma. Compared to responses to the same questions in 1980, there had been a 74% increase in asthma prevalence in the U.S. Over this same time period, the rate of hospitalizations for asthma decreased slightly (by 6%), while the frequency of deaths due to asthma increased by 51%, with an increase in absolute numbers from 2891 to 5667 deaths per year.

Responding to these troubling asthma was becoming both severe in this country, federal several initiatives to reverse for the health of the nation, the U.S. Department of



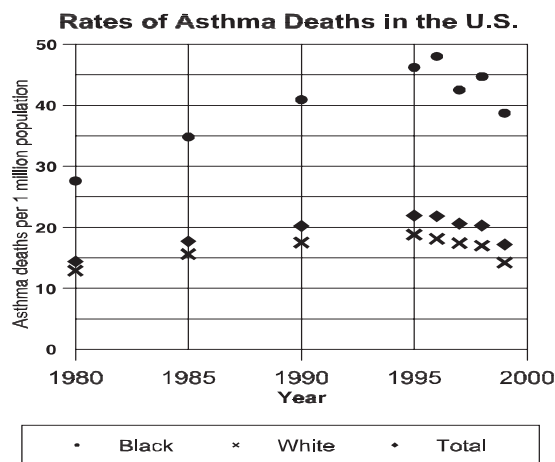
numbers indicating that more common and more health institutions launched the trend. As part of its goals stated in *Healthy People 2010*, Health and Human Services

targeted reductions in deaths, hospitalizations, emergency department visits, and days lost from school or work due to asthma. The National Asthma Education and Prevention Program of the National Institutes of Health set about creating guidelines for the optimal care of patients with asthma and raising public awareness about the importance of this common problem. And the Centers for Disease Control and Prevention (CDC) was charged with collecting detailed information about trends in how common asthma is (its prevalence) and how often it results in serious attacks (asthma morbidity and mortality).

Most current statistics

In March 2002, the CDC released its most recent information about asthma in the United States in a report called “Surveillance for Asthma – United States, 1980-1999” (<http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5101a1.htm>). Here’s what they found.

- The proportion of children and adults reporting activity limitation due to asthma: **stable**.
- Outpatient visits and emergency department visits for asthma: **increased**.
- Hospitalizations and deaths due to asthma: **decreased**.
- Racial disparity, with blacks having a higher rate of emergency visits, hospitalizations, and deaths due to asthma compared to whites: **continued**.



It is too early to conclude from these data whether the trends in asthma in the U.S. are beginning to reverse. The reductions in hospitalizations and asthma deaths are at least encouraging. Asthma remains one of the most common *preventable* causes of urgent utilization of medical care. We now have available safe, convenient, and effective medications to control asthma in the vast majority of patients and to decrease dramatically

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the frequency of exacerbations of asthma. The challenge facing the nation is to make these medications available to all who need them and to spread the understanding that taking preventive medications on a regular basis is the key to controlling asthma.

The CDC will continue to monitor closely asthma prevalence and severity in the years ahead. It will also pursue *new* initiatives in this area, including efforts to determine the frequency of new cases of asthma (asthma incidence) and a rapid-reporting system for deaths due to asthma in persons age 2-34 years, with the objective of discovering the circumstances surrounding these deaths and how they could have been prevented. It seems reasonable to believe that the first step toward conquering asthma in America is carefully defining the magnitude of the problem and tracking it over time.

Asthma Support Group

The Partners Asthma Center Support Group meets on the **last Tuesday of every month, through June.**

Date	Time	Location	Topic
April 29	6:30 – 8:00 p.m.	Faulkner Hospital Rm 4930	<i>New Asthma Therapies</i>
May 27	6:30 – 8:00 p.m.	Brigham & Women's Hospital Tower 4A	<i>Steroids and Bone Health</i>
June 24	6:30 – 8:00 p.m.	Faulkner Hospital Rm 4930	<i>Latex Allergy</i>



Letters to the Editor

3/6/03

Dear Editor:

I have been reading *Breath of Fresh Air* for a few years now, and kept wondering why all the stories seemed to be about inhalers of all sorts, and never seemed to mention Singulair (montelukast). I had very bad asthma 3 years ago. It was so bad that I could never go anywhere without my inhalers, and I was waking up a few times every night having to use one. I used various sorts, the preventive ones and the rescue ones, etc.

Then my doctor, who is also asthmatic, suggested I try Singulair. I started taking this tiny pill once a day, at bedtime. I had no side effects from the drug, and soon I did not need any inhalers at all. I have not used an inhaler in at least two years. To me, this is a miracle

drug. I continue to take it, and I have absolutely no symptoms of asthma. I feel like a normal, healthy human being again. I do think your publication should consider and report on the use of this drug as well as all the inhalant drugs you write about.

Dr. Barbara P. Nash
Concord, MA

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.

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News About Asthma

Testing the safety of salmeterol

In February, the pharmaceutical company that manufactures salmeterol (Serevent®), GlaxoSmithKline, notified the Food and Drug Administration that it was terminating a large-scale experiment that it had been conducting on the safety of salmeterol. Salmeterol, a long-acting inhaled bronchodilator, is widely used as a controller medication for asthma. It is recommended for use twice-daily, together with an anti-inflammatory medication, in the treatment of moderate and severe persistent asthma.

At the time that the experiment was stopped, researchers had enrolled nearly 26,000 persons with asthma into an observational study in which one group was assigned at random to receive salmeterol and the other group a placebo inhaler, in addition to whatever other medications they were taking for their asthma. The results were inconclusive at the time that the study was stopped, but there was a trend emerging that indicated the occurrence of more severe asthma episodes and more deaths from asthmatic attacks in the group that had been assigned to receive salmeterol. In particular, they found that African-Americans and persons who used salmeterol as their only controller medication were at increased risk of life-threatening exacerbations.

What can one make of this news? We know from our experiences with patients with asthma and from many carefully designed research studies about salmeterol (and the other long-acting inhaled bronchodilator, formoterol [Foradil®]) that these drugs are enormously helpful in controlling asthma symptoms. They bring about improvement in lung function, fewer symptoms, and especially fewer nighttime awakenings due to asthma. Why would salmeterol lead to more life-threatening asthmatic attacks compared to placebo?

Potential explanations

One simple explanation has to do with its use as a sole controller medication in asthma, without any accompanying anti-inflammatory medication. We too would discourage this approach. Asthma represents an allergic-type inflammation of the bronchial tubes. In anyone with more than very mild asthma, that inflammation should be treated with anti-inflammatory medication: an inhaled steroid, a leukotriene modifier (such as Singulair® or Accolate®), or a mast cell stabilizer (Intal®). Taking only a powerful bronchodilator like salmeterol might lead to the following scenario. You feel well, so well that you spend the day playing with the new kitten or mowing and raking the tall grass. Although salmeterol keeps the bronchial muscles relaxed, it does not address the swelling of the bronchial tubes and excess mucus formation resulting from your allergies. You might be falsely lulled into a sense of well-being, while your asthma rapidly deteriorates into a full-blown attack of difficulty breathing. Salmeterol might do its job (bronchodilation) while masking the effects of inflammatory swelling and plugging of the breathing tubes.

Other possibilities exist to explain the bad outcomes in a few people taking salmeterol. Perhaps there are individual differences in how we react to this (and other) medicines, differences based on our genetic variations from one another. Perhaps in some people constant stimulation of the bronchial muscles to relax results in impaired ability of these muscles to relax, or interferes with the effects of the quick-relief bronchodilators, such as albuterol. In the months and years ahead, these and other possible explanations will be carefully explored and analyzed, until we understand the exact mechanism that accounts for these findings.

Recommendations now

From what we know now, our conclusions are: don't stop your long-acting inhaled bronchodilator (salmeterol or formoterol) based on this preliminary report; don't take regular

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salmeterol in the absence an anti-inflammatory medicine, such as an inhaled steroid; and with your doctor, keep track of your breathing and lung function. The bad outcomes described in this salmeterol safety study were difficulty breathing – asthma attacks. As long as you maintain good breathing, you can rest assured that your long-acting inhaled bronchodilator is helping, not hurting.

Drugs taken off the market

A number of medications previously available for the treatment of asthma have been taken off the market, not because of any safety concerns but because of lack of profitability. Presumably, other choices proved more popular, leading to falling sales.

Off the market	Type of medicine	Same medication /different manufacturer	Alternatives
Vanceril®, Vanceril DS®, Beclovent®	Inhaled steroid (beclomethasone)	Qvar®	Azmacort®, Aerobid®, Pulmicort®, Flovent®
Tilade®	Mast cell stabilizer (nedocromil)	None	Intal®
Theodur®, Slophylline®, Slo-BID®	Long-acting bronchodilator (theophylline)	Uniphyl®, Unidur®, Theo-24®	Serevent®, Foradil®, Volmax®, VoSpire ER®
Ventolin Rotacaps®	Quick-acting inhaled bronchodilator (albuterol)	Ventolin®, Proventil®, generic albuterol	Maxair®, Alupent®

Claritin® goes “over-the-counter”

The popular non-sedating antihistamine, loratadine (Claritin®) was approved for sale without a prescription this past winter. It is available as a syrup (5 milligrams per teaspoonful), tablet (10 milligrams), and as a rapidly dissolving Reditab® (10 milligrams) to be placed under the tongue for rapid absorption and quick onset of action. Another manufacturer markets over-the-counter loratadine as Alavert®.

Alternative non-sedating antihistamines, available by prescription only, include fexofenadine (Allegra®), cetirizine (Zyrtec®), and desloratadine (Clarinex®). Other anti-histamines available over-the-counter, but causing more drowsiness than loratadine, include diphenhydramine (Benadryl®), chlorpheniramine (Clor-Trimeton® and other brand names), clemastine (Tavist®), and others.



Q & A About Asthma

Q. Is there a way that my three-year old child can receive inhaled steroids for his asthma?

A. You may have had the experience that your young child has had several severe asthmatic attacks and has been prescribed oral steroids in liquid form, such as prednisolone (Prelone® or Pediapred®), for these episodes. Or he may have difficult asthma that has not been under control despite treatment with other, non-steroid controller medicines, such as cromolyn (Intal®) or montelukast (Singulair®). You would like to avoid the side effects of the steroids swallowed and transported in the bloodstream throughout the body, and you would like to see your child breathing comfortably again, without regular cough and chest congestion. Even with help, your child is too young to coordinate his breathing with the usual steroid-containing sprays, either metered-dose inhalers or dry-powder inhalers. Are there other options for you and him?

Yes, in fact there are ways to deliver inhaled steroids to young children, including infants and toddlers. Two approaches are available to you and to your physician. One utilizes the metered-dose inhaler with spacer chamber and attached face mask.

With your child seated comfortably in your lap, deliver a spray of medication into the spacer chamber. Hold the face mask to your child's face, and have him breathe in and out 5-6 times to empty completely the chamber and inhale all of the medicine. If your doctor has prescribed two sprays of medicine, you will need to repeat this process a second time. When done, take a damp cloth and wipe the residue of steroid medicine from your child's face and mouth, including gently wiping the surface of his tongue, inside of his cheeks, and roof of his mouth.



From www.monaghanmedical.com

Face masks attachable to spacer chambers are sold in small, medium, and large sizes. It is likely that you will be able to find a mask just right for your child's face.

The alternative approach, newly available in the last few years, is to deliver the steroid medication via nebulizer. One inhaled steroid preparation, budesonide, is available in liquid form for administration by nebulizer. A face mask adaptor can be attached at the end of the nebulizer, including devices that swivel conveniently to match the angle at which your child is holding his head.

Nebulization continues until all of the medicine has been delivered, usually taking about 10 minutes. Again, carefully clean the steroid residue from your child's face and mouth after completion of the treatment.



From www.pari.com



Spring Asthma Symposium

Tuesday, May 6, 2003
(World Asthma Day)

"Asthma in Men and Women: Similarities and Differences"

6:00 – 8:00 p.m.

Brigham and Women's Hospital
Thorn Conference Room
(near 45 Francis Street entrance)

Come join us for presentations by Partners Asthma Center staff
and informal discussion with questions and answers.



Breath of Fresh Air

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