Asthma Management at the Source

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The statistics presented recently by the Global Initiative on Asthma were startling but not surprising. Asthma is on the increase as a disease that affects 300 million people, predominantly those in developing urban areas and highly industrialized communities. The authors of the "Global Burden of Asthma" report see a direct correlation not only to urbanization but also to the "adoption of more Western lifestyles by communities around the globe," and they opine that, as these trends continue, the prevalence of asthma will increase.

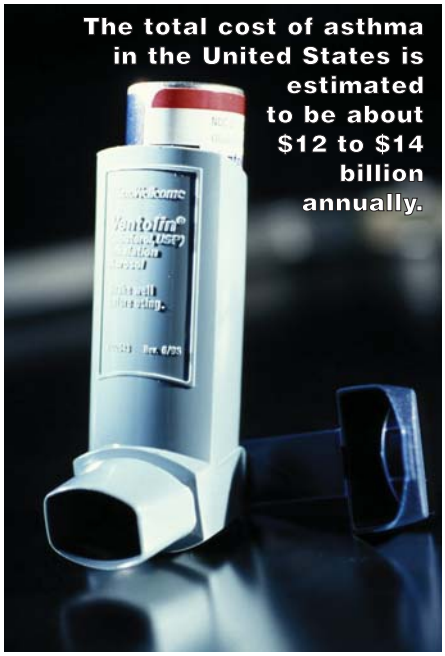
As health care professionals we read this information and think, "This is really a bad situation, but I guarantee that we are not in as great distress as we would be if this disease were cancer or HIV."

From the media, the Global Initiative for Asthma, and pharmaceutical advertisements, more information is being beamed to the public about asthma than ever before. Yet the literature states repeatedly that the disease is on the rise despite new guidelines for treatment and management, outreach programs, more efforts at diagnostic testing, and more public awareness in general.

Education

Many, many programs are attempting to provide education on asthma, such as:

- Disease management programs, primarily sponsored by health-related companies
- Continuing education credit offerings for nurses and physicians
- Articles in nursing and medical journals



- Community programs, such as Asthma University in South Florida
- Community-based programs sponsored by major teaching centers
- Health fairs
- Hospital-sponsored asthma clinics
- Informational "Lung Lines" through the National Jewish Hospital in Colorado and recorded messages by leading insurance companies (eg, HELP LINES)
- The National Heart Lung & Blood Institute
- National Asthma Education and Prevention Program
- The American Lung Association and many other prestigious organizations committed to asthma awareness and asthma education
- COACH-Harlem in New York City
- Asthma-related Web sites
- National Institutes of Health efforts
- Radio and television news and magazine shows

Notwithstanding the efforts of all the resources listed above and the commitment of these organizations, asthma is winning the battle, and people with asthma are suffering and dying. In the United States alone, more than 5000 people die each year of asthma.

The economies that have a large number of asthmatics pay a high price in terms of pharmacy costs, productivity, and absenteeism. The total cost of asthma in the United States is estimated to be about $12 to $14 billion annually. The total cost of asthma in Australia is estimated to be between $720 and $800 million annually.

So what is missing that would make a difference in the lives of people who suffer from this disease? Are there triggers related to our lifestyles that have a global commonality that is causing more and more of the world's population to be diagnosed as asthmatic? What is happening in Australia and Harlem in New York City, for example, so that these two disparate areas—on different continents and with vastly different demographics—have increased prevalence and incidence of asthma?

If urbanization and industrialization are contributing to the increased prevalence of asthma, what focused national or world body is in place to address the negatives of urbanization, such as air pollution, homes with molds, certain types of building materials used in the construction of homes and furniture, poorly ventilated schools, or poorly maintained housing in low-income areas? Where we place industries that emit pollutants is a factor that needs monitoring. In Harlem, for example, a contributing factor to asthma was deemed to be the many bus depots that emitted excessive pollutants from the diesel-fueled buses.

We also need to pay more attention to food additives of all types, including hormonal and genetic adaptations. Chickens are filled with hormones, and tomatoes have been genetically altered.

Treatment and Management

The current medical/pharmacologic/education model for the treatment and management of asthma has at its core trigger avoidance, education about the disease, and recognition of symptom severity, as well as an understanding of medication management as it relates to drugs that provide long-term control and those that provide quick relief or "rescue" when an attack erupts.

The pharmaceutical industry's role in developing new medications and new delivery systems to control asthma cannot be overemphasized, and giant steps in medication management, such as convenient delivery systems, have taken place during the past 10 years. The current drugs provide excellent control for many asthmatics and help achieve some of the major goals of asthma therapy—near normal lung function and living as normal a life as possible without the disease dictating lifestyle.

Unfortunately, the problem stretches beyond medication management and now must be considered on a larger environmental scale. We have developed zoning boards to regulate how communities expand. We have building codes to protect the safety of the structures in which we live and work. We have the Clean Air Act and lots of regulatory bodies. But what do we have that says after we have decided to build a community, revitalize a decaying urban area, or build a plant that the agents used to create the structures need to be free from the kinds of chemicals that we know affect the respiratory tract and can lead to asthma?

What also seems to be missing is a global approach, a medical model that is focused not on controlling and managing asthma once it is diagnosed but instead a preventive approach that identifies, controls, or eliminates environmental triggers caused by urbanization. I call this concept the business industrial model for the prevention and management of asthma.

This idea is not all that novel regarding global disease prevention. We have piecemeal attempts through such organizations as the Children's Health Environmental Coalition (CHEC) and Clean Power Act bill, which would curb harmful pollution from the nation's power plants, and the Department of Housing and Urban Development's Health Homes Initiative, which aims to provide safe environmental conditions in schools. The CHEC is geared to educate the public about environmental toxins; for example, they advise which paints used in homes have low volatile organic compounds.

What we do not have is one voice, either nationally or globally, looking at a

business industrial model as the vehicle through which asthma can be prevented. To make this happen would mean the coming together of powerful agencies that affect decision making on lifestyle/environmental triggers. Two successful models come to mind: the World Health Organization's containment of smallpox and polio and the Global Initiative on Asthma, known as GINA. This group could become the leader in worldwide asthma prevention. In fact, the next phase or Expert Panel 3 of GINA could take that goal as its mission. This group did an incredible job of bringing asthma out of the closet and setting effective guidelines for physicians to follow. It also formalized a framework for teaching asthmatics and all who intervene in their lives on how best to manage the disease.

The Need for a Global Consortium

Regardless of which consortium takes the lead in asthma prevention, representatives from the nonmedical arenas of housing, fixtures, fittings, furniture, paint, carpeting, and chemicals; environmental agencies; landlord associations and major developers in highly urban areas; and tobacco companies would need to participate alongside asthma educators, clinicians, and case managers to initiate the business industrial model.

The advice, recommendations, and research available from this group would be part of any due diligence for urbanization. Where structures already exist, a corrective action plan recommended by the consortium would be put in place to remove and improve the conditions that ostensibly lead to a decrease in asthma incidence of a specific community.

Despite being an advocate of the medical model and a direct recipient of some of its positive methods, I know it is not sufficient for the task under discussion, and that is why the other side of the asthma problem needs attention. In a practical world, the likelihood of the necessary agencies coming together to effect this kind of change could be seen as idealistic or even implausible. However, the fact that hydrofluorocarbons are being phased out and so the drug industry has had to design other types of delivery devices that do not require aerosolized mists or that omit them from metered-dose inhalers leaves hope that a business model can be implemented that is good for asthmatics and good for the profitability of any particular industry.

The cleansing of the air in Pittsburgh and the subsequent development of that city into a desirable place to live instead of one where the environment created profound health consequences speaks to the fact that the business model as a source of disease prevention is possible.

On a personal level, I know that if fortune had not intervened whereby I saw the underside of some furniture I had purchased, the personal action plan that is part of the medical model would not have prevented deterioration in my own asthma. The furniture I purchased was too large to come through the narrow door space, so it had to be turned upside down. It was then that I saw a warning by the manufacturer that the furniture had been made with materials that could be harmful to people with respiratory conditions! I would have begun to have asthma attacks, my medications would have been increased, my quality of life would have declined, my productivity and attendance at work would have suffered, and I would not have known that my *furniture* was now a trigger.

Thank goodness for a narrow door frame! This role of advocacy falls not only to the case manager working with asthmatics but to all asthma educators. As educators and case managers we have to be the Erin Brockovich for asthma!

It is with this advocacy in mind that the learned experts must look at a nonmedical model with the same rigor applied to the Global Initiative in 1991 and attack this most disabling, distressing, frightening, and costly disease from a different perspective. It must now be attacked at the source. A set of guidelines for how urban areas are developed and the types of construction and manufacturing materials used to build the infrastructures in which people live, work, play, and learn could be approved by the consortium. The group also could create a consumer guide that lists toxins, additives, and volatile materials that the consumer should look for or ask about before buying certain types of homes, eating certain foods, wearing certain clothes or shoes, or living, working, or being educated in certain areas.

Call to Action

In the meantime, a difference can still be made by individual asthma educators and case managers and through disease management models if they include this kind of advocacy as an integral part of the asthma education plan. The current national and international guidelines do not address this issue as a problem for nations, nor are educators really focusing on asthma triggers at the macro or global level of the environmental infrastructure. However, individual asthmatics, educators, and clinicians can lead the way to the business model.

We can empower our patients to act and our governments to follow Australia's lead and make the prevention of this disease a priority. Asthma will require *big* business interventions and compromise as the best preventive tool against this disease. ❑

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