

**ATTACK ASTHMA: WHY AMERICA NEEDS A PUBLIC
HEALTH DEFENSE SYSTEM TO BATTLE ENVIRONMENTAL THREATS**

FOREWORD BY COMMISSION CHAIRMAN LOWELL WEICKER, JR.

In 1961, President John F. Kennedy stood before the Nation, boldly declaring that by the end of the decade, America would put a man on the moon. We were losing the “space race” to the Soviet Union, and that, he told the American people, was simply unacceptable.

He knew that America had never known an obstacle it could not overcome. We had settled a new Continent, won our freedom, tamed the frontiers and built a great nation. We had battled epidemics of disease that ravaged whole populations, built great cities, and advanced the cause of freedom around the world. We would put a man on the moon.

Today we are facing no less a threat to the American way of life. Chronic diseases are responsible for four of every five deaths in this country, and rob far too many of our children and young adults of long, productive lives. We also know that environmental factors contribute to the rate and severity of many chronic diseases, including birth defects, childhood cancers and asthma.

The Pew Environmental Health Commission was formed to help Americans better understand the need to shore up our public health defenses against environmental threats to the health of the nation, especially our children. Our goal is nothing less than a rebuilding of the public health system that has so effectively eliminated diseases and lengthened the lives of our citizens in the past. We have allowed this precious defense system to fall behind, and we cannot allow this to continue.

In this report, the Commission’s review of our nation’s approach to asthma vividly demonstrates the cost of maintaining our current course. The epidemic of asthma we are experiencing today will only grow exponentially worse over the next generation, unless we act now. We must revitalize our public health defenses to overcome the chronic disease killers and disablers of our people. Change has always been the hallmark of America’s achievements. Both as to systems and science, this old disease demands a new response.

Lowell Weicker, Jr.

ABOUT THE PEW ENVIRONMENTAL HEALTH COMMISSION

The Pew Environmental Health Commission was created by The Pew Charitable Trusts to develop recommendations designed to bolster the nation's ability to track and prevent health problems linked to conditions in the environment.

The Trusts, along with the Johns Hopkins University School of Public Health, determined it was important to focus on the often-overlooked role of environment in our efforts to prevent chronic disease, the leading cause of death and disability in the United States today. The Commission believes the role of environmental health cannot be underestimated if we are to be successful in combating these new health threats.

In the Commission's words, environmental health represents "those aspects of human health, including quality of life, that are determined by interactions with physical, chemical, biological and social factors in the environment. It also refers to the theory and practices of assessing, correcting, controlling and preventing those factors in the environment that may adversely affect the health of present and future generations."

The Commission is producing a series of reports that highlight the limitations of our present public health system in preventing chronic disease and disability, particularly those linked to the environment. This report, on asthma, documents the serious deficiencies in our national approach to a disease that has reached epidemic proportions.

EXECUTIVE SUMMARY AND COMMISSION RECOMMENDATIONS:

LAUNCHING AMERICA'S WAR ON ASTHMA

“One of the real issues is, why are we seeing this increase in asthma? And we don't know the answer to that. Until you understand why you have an increase, and you have documented it, it is very hard to say you have a strategy that is going to make a difference.”

David Satcher, the United States Surgeon General, 1999

Definition of Epidemic: “The occurrence in a community or region of cases of an illness, specific health-related behavior, or other health-related events clearly in excess of normal expectancy....”

J Last, Dictionary of Epidemiology, 1988

America is in the middle of an asthma epidemic – an epidemic that is getting worse, not better. The prevalence of asthma continues to rise at astounding rates – in every region of the country and across all demographic groups, whether measured by age, race or sex.

In America today, no chronic disease is increasing faster than asthma.

What is asthma? It is a chronic disease characterized by inflammation of the airways and lungs, causing attacks characterized by wheezing and shortness of breath. While we do not know what causes the development of asthma, the environment plays a role. Environmental factors, such as poor indoor and outdoor air quality, increase asthma's severity.

Overall, the number of people with asthma in America jumped by 75 percent between 1980 and 1994, according to the U.S. Centers for Disease Control and Prevention. Among those under four years old, it mushroomed by 160 percent. In 1995 alone, asthma caused 1.8 million emergency room visits and 10 million missed school days, making it the number one reason for school absenteeism. Hospitalizations for the 15-year period ending in 1994 soared by 20 percent to 466,000.

If rates continue unchecked, a child born a generation from now is twice as likely to develop asthma as a child born today.

By the end of this decade, if no action is taken to reverse this trend and it continues at its current pace, the Commission calculates that 22 million Americans will suffer from asthma – eight million more than at present. That's one in 14 Americans and one in every five families forced to live with the disease. By 2020, the Commission estimates that the number could increase to 29 million – more than twice the current number.

These figures are staggering. At the current rate of growth, that means that the number of asthma cases in 2020 will exceed the projected population of New York and New Jersey combined. If by chance all asthma sufferers lived in one state, it would be the second most populous in the country. Put another way, if all those with asthma stood side by side, they would stretch the distance between Los Angeles, California and Washington, D.C. over four times.

Deaths due to asthma are expected to continue to rise as well – even as rates of death from all other diseases and conditions are falling. Today, asthma causes more than 5,000 deaths per year. Unless the rates and severity of the disease are slowed, the annual number of asthma-related deaths could double by 2020, taking a tremendous personal toll on families across our nation.

Measured as a cost to society, the bill for asthma is staggering. In 1990 asthma's cost to society was \$6.2 billion. Currently it is \$11 billion, a figure that could rise to \$18 billion by 2020. By then, asthma treatment will absorb \$2 billion in Medicaid and Medicare dollars alone, double what we spend today.

Asthma and the Federal Government

At the dawn of the 21st century, we are passive witnesses to an unfolding public health catastrophe. The federal government knows what lies ahead but has failed to respond. The Department of Health and Human Services (HHS), this nation's public health agency, has put together an asthma strategy, but it will not be effective in reversing this alarming trend in time.

The HHS asthma plan is contained in two documents. The first, Healthy People 2010, focuses on treating asthma – not preventing it or stopping its rate of growth. The second, Action Against Asthma, lists prevention and tracking as goals and shows that HHS is heeding the wake-up call to address asthma. Unfortunately, overall the federal government is failing to commit the resources necessary to slow or stop the rise in asthma prevalence rates.

The federal government should be launching prevention efforts that have the potential to directly and quickly stop new cases of asthma from developing. Analyzing the more than \$125 million HHS research budget for 1999, the Pew Environmental Health Commission found that less than 1% went to asthma tracking – a core public health activity. Less than 9% was spent on prevention and less than 17% was dedicated to the study of asthma etiology—research into the factors that cause asthma. Much of the remainder, more than 70%, went to asthma treatment and biomedical research to identify basic cellular processes and mechanisms.

This research certainly provides a foundation for therapy and perhaps ultimately may be relevant for prevention. But research that is directly related to prevention in the near term is missing. While treating asthma is important for those who have the disease, it is also critical to focus on prevention – so that fewer people will ever develop asthma.

When America waged a war on heart disease in the last century, researchers used a large population based survey, the Framingham study, which followed an entire population for 20 years. They knew that to prevent heart disease, treating heart attacks was not enough. Finding risk factors such as high blood pressure, smoking, diet, and sedentary lifestyle, and preventing them from causing heart disease was the most effective long-term solution. Today heart disease is among the few chronic diseases for which rates and deaths are falling rapidly even while asthma continues to rise. While

treatment is important, asthma will continue to strike millions until we determine its causes and how to prevent it.

Doomsday predictions about the asthma epidemic, however, need not become reality. To forestall them, the federal government needs to build a public health defense system that can wage and win a War on Asthma. The Commission recommends moving toward a goal of cutting the number of asthma cases in half by 2020.

The Commission's recommendations and timeline give the Department of Health and Human Services five years to invest in building the public health infrastructure, initiate the long-term studies and do the testing and implementation of proven prevention programs. To win this War on Asthma, the Commission recommends that the federal government take the following actions:

- **Track asthma rates and environmental risks:**
 - Within five years, implement and commit funding for a national asthma tracking approach that would provide federal, state and local public health officials with the information necessary to analyze trends, determine causes, better understand the role of the environment, and prevent asthma. These efforts should track asthma incidence as well as prevalence, and environmental exposures as well as disease – and should be coordinated with other disease and exposure tracking efforts. As an interim goal, within two years, the federal government should support the launch of 15 new state tracking programs for asthma.

- **Address the environmental causes of asthma exacerbation and development:**
 - Within one year, develop and deploy a “911 Force” at the Centers for Disease Control and Prevention. Made up of physicians, epidemiologists, engineers, and health and environmental professionals, this team should track every asthma death in the country and conduct thorough, targeted investigations to identify causes of asthma deaths so that we can learn how to prevent them.
 - Initiate research programs to help scientists learn more about the environmental risk factors for asthma and other chronic diseases. These programs would include primary prevention intervention trials to be launched immediately, directly targeted to the prevention of asthma development and exacerbation in the short term. In addition, we need longer-term, nationwide Framingham-style environmental health studies that track all of the factors, environmental and genetic, that might be involved in asthma development and exacerbation. We also need to understand why rates are higher in low income and minority communities so that these populations can receive appropriate intervention strategies aimed at preventing the disease.
 - Within two years, initiate a comprehensive public education campaign on the ways that Americans and health care providers can prevent and reduce the prevalence and severity of asthma in their own homes and communities. Starting with factors we now know are involved in asthma development and exacerbation, this campaign would include a national, state and local effort to identify and

reduce environmental causes of asthma, including polluted indoor and outdoor air.

- To ensure that the War on Asthma is a coordinated and effective effort, with all federal health agencies working in tandem through a targeted action plan, give the Surgeon General the authority and responsibility to marshal all federal efforts, including those of the Department of Health and Human Services, in the War on Asthma.

These actions will have an important by-product. In addition to being vital to an effective War on Asthma, they also will begin to build the foundation for our nation's public health infrastructure – the essential component in preventing other environmentally related diseases.

INTRODUCTION

Epidemic Today; Worse Tomorrow

Asthma is a chronic disease characterized by inflammation of the airways and lungs that causes attacks of wheezing and shortness of breath. Often identified as a disease of children, it is the most common chronic illness among children and the number one cause of school absenteeism. But asthma is far more than just a children's affliction. It is on the rise among every age group all across the county.

We do not know what causes asthma development in most cases, but the environment plays a role. A number of environmental factors—from air pollution outdoors to poor indoor air quality to viral infections—are known to increase the severity of the disease. So little is known about asthma that we are not even certain whether it is one or a number of different diseases that have a common clinical picture.

Asthma is a problem that increasingly affects all Americans. Today, more than 14 million people in this country suffer from asthma, and it causes more than 5,000 deaths per year. Death rates from asthma attacks are increasing every year even as rates of death from all other causes are declining. Nearly every one of these asthma deaths may be preventable. Cases of asthma are rising so fast it is now widely viewed as an epidemic—one that is hitting hardest at the very young, minorities and the poor. Direct and indirect costs are estimated to be more than \$11 billion per year.

According to the U.S. Centers for Disease Control and Prevention (CDC), the number of people with asthma has increased substantially between 1980 and 1994, 75% overall, among all race, sex and age groups, in every region of the U.S. (See graphs below.) The most rapid increase was observed in children aged 0-4 (160%) and 5-14 (74%). Between 1974 and 1995, the estimated annual number of office visits for asthma nearly doubled. In 1995 there were 10.4 million office visits and 1.8 million emergency room visits for asthma. Between 1979 and 1994 the number of hospitalizations for asthma increased from 386,000 to 466,000.

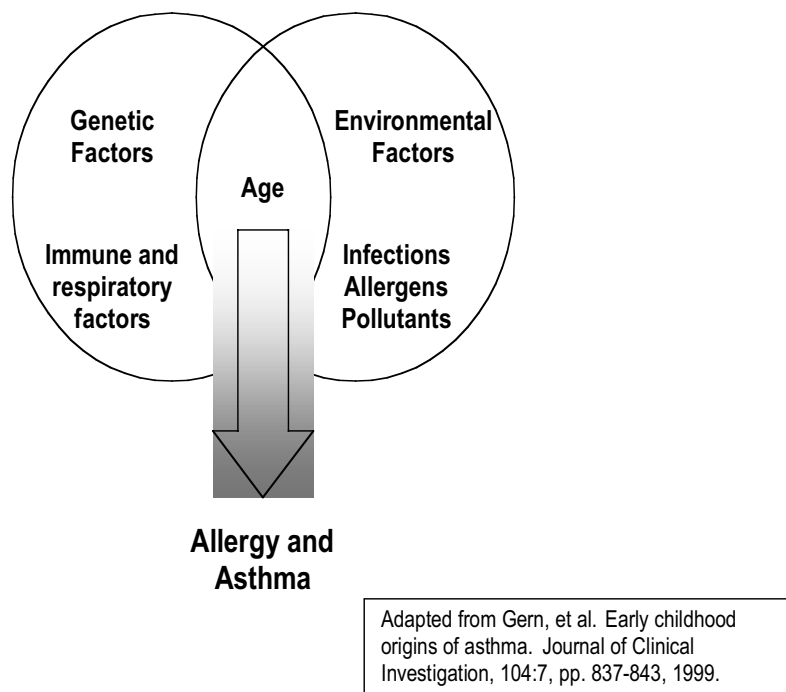


Figure 1. An Interactive Model of Asthma Development and Exacerbation

Asthma development is initiation of asthma in persons without the disease. Asthma exacerbation is the triggering of an asthma attack or worsening of an attack in a person with asthma. While little is known about the factors that cause asthma to develop (and even less about why prevalence rates are going up), more is known about the factors that cause exacerbation of asthma. Factors that cause asthma development and exacerbation include genetics, environment (including indoor and outdoor air pollution and infectious disease), social factors (nutrition and poverty), and interactions between these factors as shown in Figure 1. Genetics (especially immune and respiratory factors) and environment in early childhood both seem to be involved in the development of asthma. Although environmental health is the focus of this Commission and report, we recognize that an approach to research and prevention that broadly addresses all of these factors will be required to halt the rising prevalence rates of asthma as well as decreasing the severity of asthma.

To determine if this country is adequately positioned to fight and prevent this growing epidemic, the Pew Environmental Health Commission conducted an analysis of the most recent asthma trends in this country and the federal government’s proposed public health response.

The Climbing Rates of Asthma: One Symptom of a Failed Public Health Response

To analyze trends in asthma prevalence and deaths, Commission researchers used data from the National Health Interview Survey (NHIS), a household survey of the general public. The National Center for Health Statistics (NCHS) publishes data files that contain NHIS survey data. The Commission obtained these files for the years 1986-1997.

The NHIS data from 1986 to 1995 are valuable for public health researchers because they can be used to track trends in the changing rates of asthma prevalence. Unfortunately, the 1996 survey is of limited usefulness for asthma tracking because of sampling problems. In 1997, as part of a fundamental redesign of the NHIS undertaken to address budget reductions, NCHS changed the way it asked people about asthma, effectively destroying the ability to track trends. (A more detailed description of our methodology is contained in Appendix A.)

The Commission's analysis shows a sharp rise in prevalence rates of asthma across the board. This increase has occurred for those above and below poverty, for those living in and outside of large cities, for whites as well as blacks, Hispanics and other groups, and for all age groups. About 50% of the cases of asthma today are attributable to the rising rates of asthma over the last 20 years.

In 1998, on average about 14.5 people died every day from asthma. Death rates are highest among older age groups. The Commission's analysis of data from the Centers for Disease Control and Prevention indicates that at one time, from 1960-77, death rates for asthma in this country were falling, which might be expected given improvements in medical care during that time. From that time until the present, we have experienced rising rates of death that seem to run parallel with rising rates of asthma prevalence (see figures on the next page). In all age groups, death rates for blacks are higher than for whites and other groups. These data suggest that rising death rates are a result of the increased numbers of persons with asthma, and are not due to other factors such as increased severity of attacks or poorer asthma treatment. This escalating death rate is especially hard to understand because over the same period, medications for treating asthma have greatly improved. Since adverse reactions to medications play a role in asthma deaths, it would be expected that the safer and more effective medications available today would reduce asthma death rates.

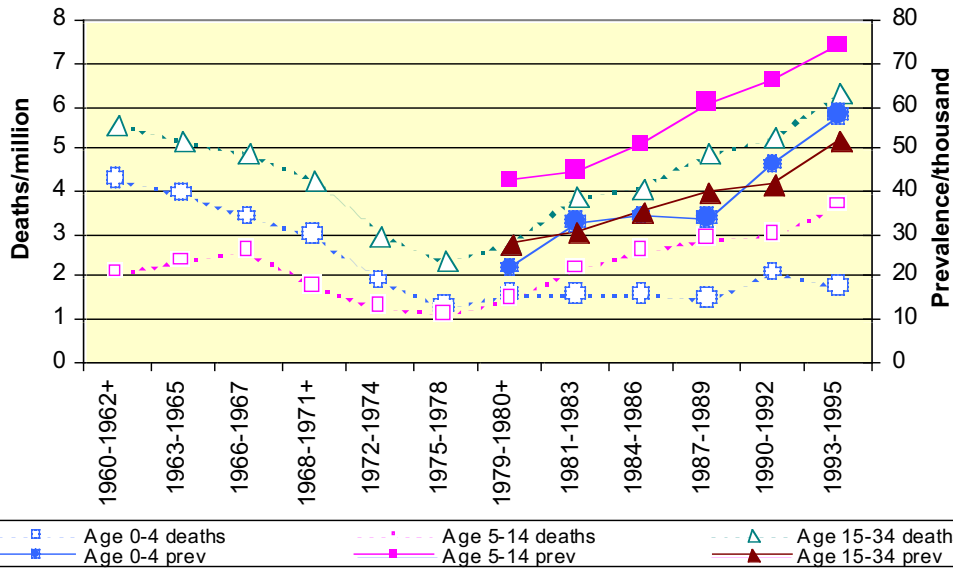
Our analysis shows that the burden of asthma falls most heavily on those below the poverty line. Our research and the research of others indicates that the prevalence rates of asthma among people living below the poverty level are significantly higher than the rates of Americans who are not poor. Our analysis shows that about 15% of asthma among the poor is attributed to poverty. This is most likely due to higher risks among those in poverty for poor indoor air quality, air pollution, infections, poor nutrition, lack of breast feeding of babies and other factors known to be associated with asthma development and/or exacerbation. This gap has been constant for at least 20 years.

Troubling Predictions

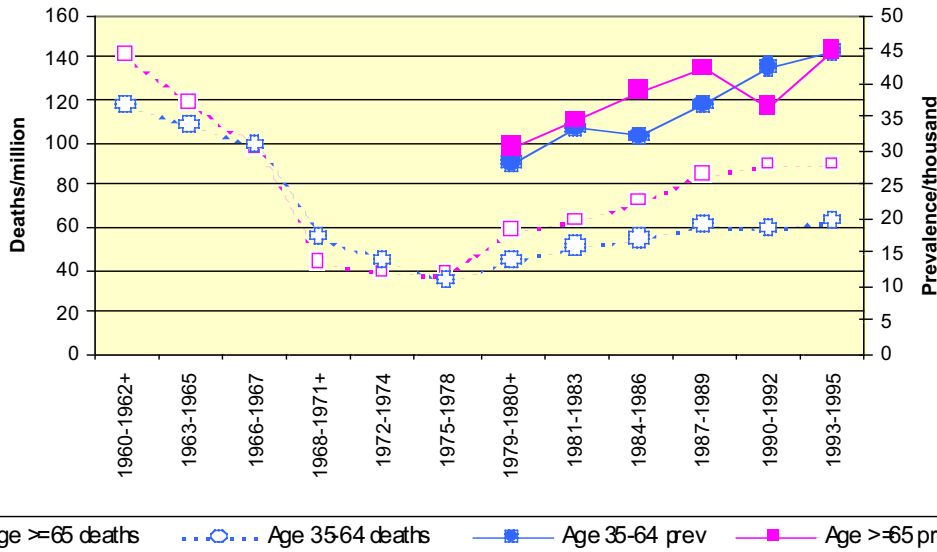
If asthma prevalence rates continue to rise as they have in the past, without public health intervention efforts the number of deaths and cases is likely to continue exploding. We are already facing a national crisis in our inability to understand and stem the rise in asthma prevalence. We estimate that by 2020, 29 million Americans could have asthma and costs due to asthma could rise to \$18 billion per year.

By 2020, when the children and young adults of today grow up, the Commission predicts the number of asthma deaths will double unless we take action. The prospect of as many as 10,000 deaths annually due to asthma – deaths that are likely to be entirely preventable – is an extraordinary indictment of the failure of our present approach in the face of the asthma epidemic.

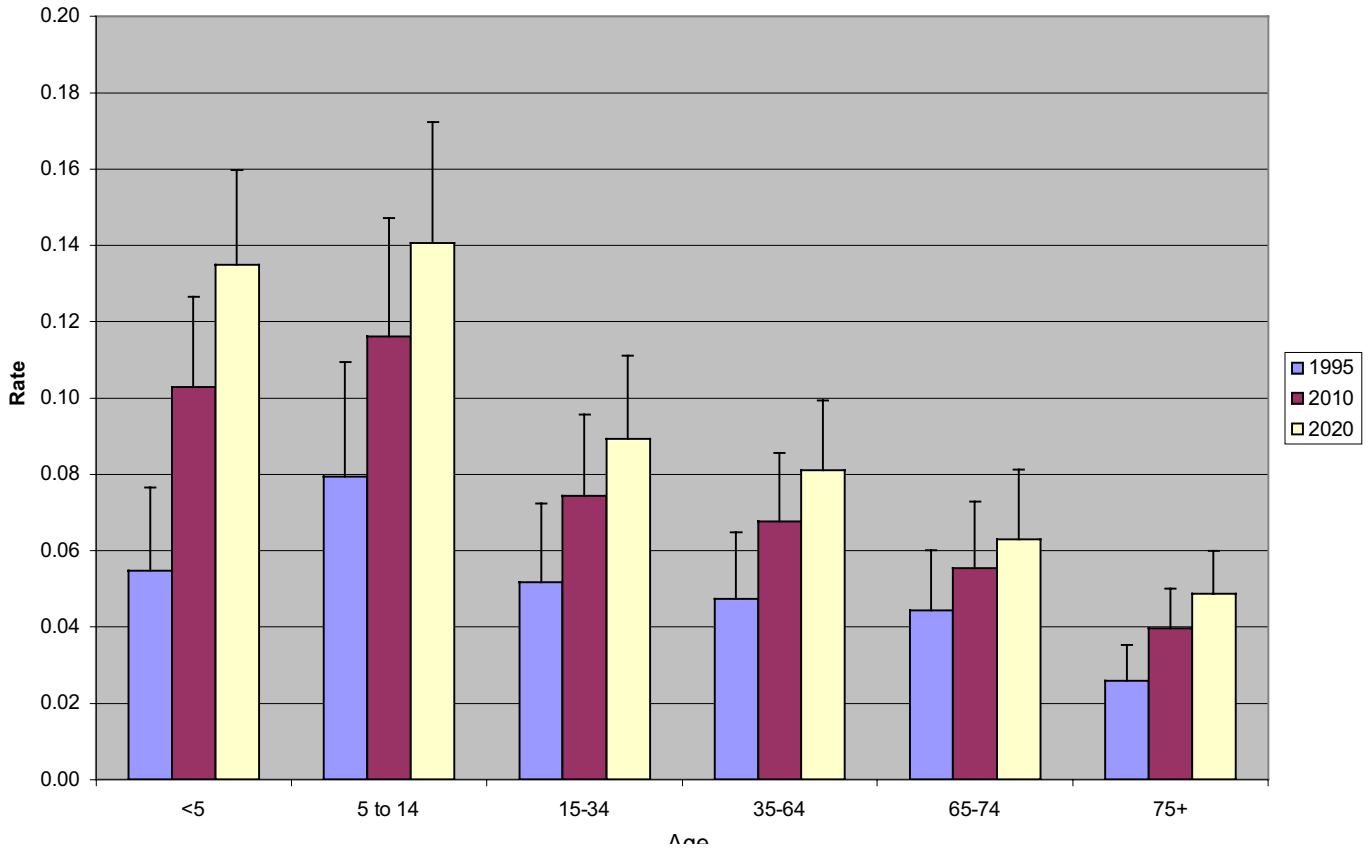
Asthma Prevalence and Death Rates for Children and Young Adults, 1960-1995



Asthma Prevalence and Death Rates for Adults 35+ Years, 1960-1995



Projected increase in rate of self reported asthma: 1995-2020



The Federal Government's Response

The federal government should be launching prevention efforts that have the potential to directly and quickly stop new cases of asthma from developing. As the nation's public health agency, HHS should be leading this work. The Department has put together an asthma strategy, but it will not be effective in reversing the alarming trends in asthma prevalence.

The Federal Government's Game Plan

HHS has published two documents that underlie the federal game plan to tackle asthma. The first, Healthy People 2010, is based on a series of milestones aimed at improving the health of Americans over the next 10 years. Asthma-related goals are but one of the sets of milestones present. The second document, Action Against Asthma, is HHS's strategic five-year plan of attack against this disease. The plan specifies four top priorities for investment during the next five years.

Healthy People 2010, our national prevention agenda, lists eight asthma goals closely aligned with improving treatment. These goals reflect a strong commitment to evidence-based public health and to minimizing the severity of asthma in disease sufferers. A very modest goal is included for state tracking. No goals for federal tracking of asthma prevalence, incidence or exposure have been established. Unfortunately, HHS has been unable to create a strategy to reduce the number of new asthma cases. After failing to achieve its asthma goals as listed in Healthy People 2000, HHS has backed farther away from prevention.

A draft version of Healthy People 2010 contained language acknowledging the gaps in our knowledge about asthma prevention. It stated:

Interventions to prevent asthma from developing, known as primary prevention intervention, have not been sufficiently studied. While information on the primary causes of asthma development is limited, there are some data on early infections and exposure in early life to allergens and tobacco smoke, and all are implicated as inducers of asthma. Most current efforts focus on secondary prevention of illness and on improving the quality of life of asthma sufferers.

The final version of Healthy People 2010 omits this statement. Instead, it says:

In addition, research to identify the primary causes of development of asthma is a high priority.

Comparing these two passages, it appears that the prevention research goals discussed in the first passage were dropped in the final version of Healthy People 2010.

Assessing the Federal Government's Response: A Day Late and a Dollar Short

The Healthy People 2010 goals are almost all treatment-related. Only one goal – a relatively humble call for 15 state surveillance systems – has its basis in public health practice. Although Action Against Asthma lists prevention and tracking as two of its goals, by our count few resources go toward either of these objectives. In addition, the plan does not say who will be in charge of executing and coordinating the nation's asthma strategy. Because no one is in charge of implementation, it is difficult to imagine who will be accountable for meeting these important goals.

The federal government invests relatively little in direct efforts to prevent asthma. Of the \$11 billion annual cost of asthma, HHS estimates that Medicare and Medicaid expenditures for asthma treatment exceeded \$1 billion. At the same time, our analysis shows that more than \$125 million is spent on asthma related research at HHS. Of this amount, we estimate that in fiscal year 1999 no more than \$850,000 was spent on tracking and no more than \$13 million was spent on direct prevention research. Together, these amounts represent less than two percent of Medicare and Medicaid costs. In addition to treatment resources spent by the federal government, we believe that a substantial but unknown investment in asthma treatment and biomedical research is made by the pharmaceutical industry.

Without question, research to improve treatment methods helps save lives and enhance the quality of life for asthma sufferers. But it will take an equal commitment to prevention research and action to reverse the explosive growth in asthma rates. Because treatment alone will not win the war against this disabling disease, we must invest in prevention research.

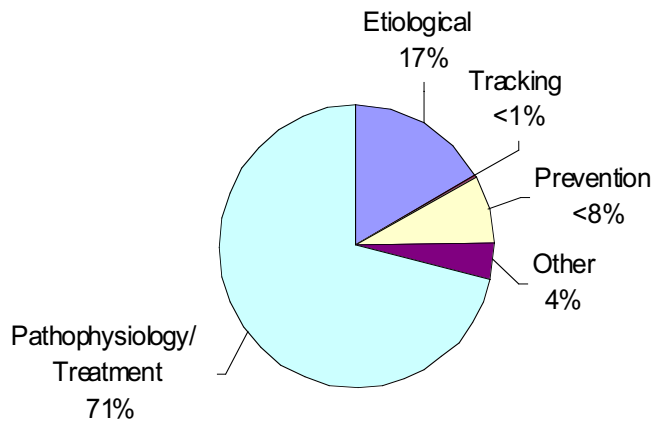
For this investigation, we define prevention research as studies targeted to populations and designed to yield results that are directly applicable to impeding the occurrence of or progression from an asymptomatic stage of disease, injury or impairment, or to promoting an enhanced level of function and sense of well-being. We looked for population-based research that had prevention as a clear, direct and immediate purpose.

Our examination of HHS's research efforts, as contained in the National Institutes of Health roster of asthma research grants, shows that relatively few resources are channeled into prevention. After reviewing the asthma research carried out in one year (Fiscal Year 1999), we found that less than one percent of the grants awarded were dedicated to the study and/or improvement of tracking. Less than eight percent were awarded to study population-based prevention. Again, the largest proportion of resources is invested in treatment and biomedical research. (Please refer to chart 1.)

HHS has failed to adequately fund intervention research studies to address environmental conditions that are known or suspected to trigger asthma attacks. For example, we know that asthma is a disease for which "genetics loads the gun" but "environment pulls the trigger." It is expected that improving environmental conditions that asthmatics face will cut down on the number and severity of their attacks and may diminish the number of people sensitized to environmental agents. This type of public health research into environmental causes is needed if we are ever to learn how to substantially reduce or eliminate asthma.

Finally, although HHS tracks asthma prevalence, it does not track incidence or exposures related to the development and exacerbation of asthma. The small investment in tracking has limited our attempts to understand how to prevent asthma.

Chart 1: NIH ASTHMA GRANTS AWARDED BY CATEGORY



Given the great potential of prevention efforts, we believe that the federal government’s plans fall far short of a real national strategic effort. While there is appropriate support for research on therapy and fundamental biochemical mechanisms, direct prevention efforts have been neglected. Our public health resources should be devoted to building a health defense system that can both treat and of greater importance *prevent* asthma, reducing the number of cases and avoiding the higher costs of investing in treatment as well as indirect costs of time lost from school and work. Prevention capacity and knowledge can and should be built up quickly, as equal partners with treatment.

The Need For a National Health Defense System

Our failure to fully address the asthma epidemic is emblematic of a broader problem – the lack of a strong public health system. Public health is the science and practice of preventing disease and improving the well-being of communities. While medicine treats individual patients one at a time, public health helps people thrive by fostering conditions on a population level that lead to health improvement for all. Public health concentrates on prevention by working to eliminate the environmental and other conditions that allow diseases such as asthma to occur. Public health employs tools, such as tracking disease patterns and exposures, to design and implement strategies that break the chain leading to the development of disease.

In public health practice, there is an important interrelationship between genetics and environment. Public health professionals focus on eliminating or reducing environmental factors across society, protecting those persons whose genetic susceptibility could make them sensitive to exposures that may not affect others.

We need a national health defense system that will help us provide an environment in which all Americans can hope to fulfill their potential of achieving optimum well-being. That system consists of the following:

--Tools to track priority diseases and exposures to better understand prevention;

--Better information for all Americans on improving our families' health, including education about environmental hazards, better nutrition and reducing life style risks - as well as specific right-to-know information to communities about local environmental hazards impacting the health of their neighborhoods;

--Better enforcement of public health and environmental laws and regulations;

--Training to produce sufficient numbers of well educated public health professionals; and

--Strategic leadership, vision and the political will to take action to achieve public health prevention.

In spite of its past successes in preventing disease, because our national health defense system is weak, public health is rapidly becoming a lost art. In 1995, health studies estimated that of the 30 years added to Americans' life expectancy since 1900, 25 years are attributable to public health programs. The steepest decline in mortality resulted from improvements to environmental conditions that prevented the spread of infectious disease, such as treatment of drinking water and removal of wastes, and better nutrition and food handling practices. Today, although medical science continues to advance, preventing illness, especially chronic illness, through public health programs is a forgotten success story.

It was not always this way. During the early 20th century, investments in public health were solid and provided the nation with clean water, a safe food supply and good housing. The public health approach played a major role in conquering many of the most vexing diseases and environmental health problems society faced, including tuberculosis, cholera and smallpox.

Reducing children's exposure to lead is an on-going public health success story that illustrates how public health and environmental protection should work together. Lead is particularly harmful to children's developing brains and exposure at low levels is associated with increased behavioral problems and lowered IQs. In the 1970s, public health efforts to screen children for lead poisoning resulted in banning lead from house paint. In the early 1980s, lead was being removed from gasoline as catalytic converters were introduced. When leaded gas left the market, a major source of childhood exposure was greatly reduced. As lead was phased out, public health researchers at CDC carefully tracked changes in blood lead levels of children. They were able to document that the drop in blood lead coincided almost exactly with decreased use of lead in gasoline. These data were so convincing that the Environmental Protection Agency (EPA) withdrew a proposal that would have allowed gas companies to add lead back to fuel. EPA also accelerated its phase-out of lead in gas.

In 2000, chronic diseases account for the majority of death and illness in America. While infectious disease remains important, chronic diseases are now responsible for three of every four deaths in the U.S. annually (about 1.8 million) and a yearly economic cost of \$325 billion. About 100 million Americans, more than a third of the population, suffer from some form of chronic disease. And the numbers are rising. By 2020, chronic disease is expected to afflict 134 million people and cost \$1 trillion a year. The list includes cancer, cardiovascular disease, multiple sclerosis, mental retardation and asthma. Asthma has been called an epidemic unlike any in the nation's history.

This dramatic rise in the burden of chronic diseases has been accompanied by decreased support for investments in public health and a dramatic increase in the cost of medical treatment. In 1992, approximately \$34 per person was spent on public health functions, in contrast to over \$3,000 per person on medical care services. Many of the medical costs associated with chronic diseases might be avoided if a strong public health system were in place to understand and prevent the onset of disease. Chronic health problems might be preventable if only we knew more about the complex interactions among the social, biological and environmental factors that affect us, and how to intervene to prevent disease.

Unfortunately, little investment in the necessary public health tools is taking place. In the wake of our national asthma crisis, HHS is unable to craft a game plan that can win the battle against asthma and wage war on environmental health threats. Nor has the federal government invested in the tools or personnel to carry out effective prevention. While there is appropriate support for research on therapy and fundamental mechanisms, direct prevention efforts have been neglected.

The First Charge: A War on Asthma

Asthma is a disease that afflicts all members of society and has been rising in the U.S. over the last century. Although the burden of asthma is more substantial for those who are below the poverty level, the rate of asthma prevalence is rising in all population groups at about the same rate of increase. The health disparities that exist between those above and below the poverty line have been constant over time. The greater burden of asthma on those below the poverty level is probably attributable to risk factors that are present to a greater extent in lower income groups such as poor indoor air quality, outdoor air pollution, early and more frequent respiratory infections in children and other factors, including poorer nutrition and less breast feeding. Clearly a national strategy to attack asthma needs to address both the factors that are disproportionately affecting those in poverty as well as those factors that are operating across the whole population.

Environmental factors play a predominant role in asthma exacerbation and, given the long-term rise in rates, are likely to be factors in asthma development. Therefore, it is crucial that we understand the environmental triggers of asthma and learn how to eliminate and/or control them.

The federal government needs to build a public health defense system that can wage and win a War on Asthma. The Commission recommends moving toward a goal of cutting the number of asthma cases in half by 2020.

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