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PULMONARY • CRITICAL CARE • SLEEP

LUNG DISEASE RESEARCH FUNDING fact sheet



MARCH 2012

REQUEST

The American Thoracic Society urges Congress to provide \$32 billion for the National Institutes of Health for fiscal year 2013.

BACKGROUND

The NIH is the world's leader in groundbreaking biomedical health research for the prevention, treatment and cure of disease, including conditions like lung cancer, COPD and asthma. Eighty-five percent of the NIH budget is invested in U.S. communities through universities, medical schools, hospitals and innovative small businesses.

NIH SCIENCE MUST CONTINUE TO ADVANCE, NOT STAGNATE

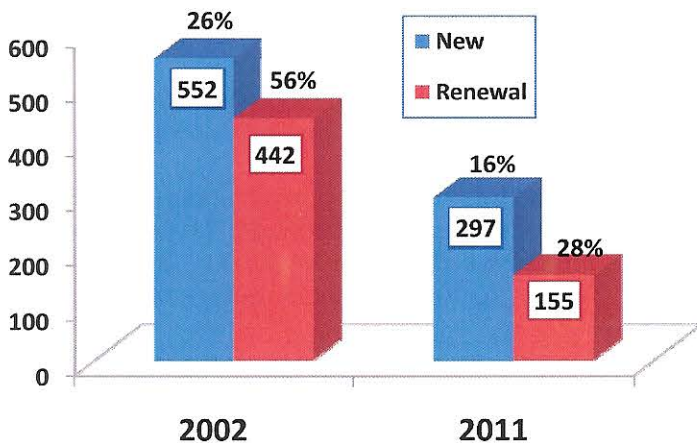
Stagnant funding and biomedical research inflation have eroded NIH's purchasing power. The number of grants supported by the NIH is now at the lowest level since 2001. The success rate for NIH grants has plummeted to 14%, which means that more than 85% of meritorious research is not being funded. The ATS is also concerned that there is a lack of opportunities for young investigators who represent the future of scientific innovation.

LUNG DISEASE – THE THIRD LEADING CAUSE OF DEATH IN THE U.S.

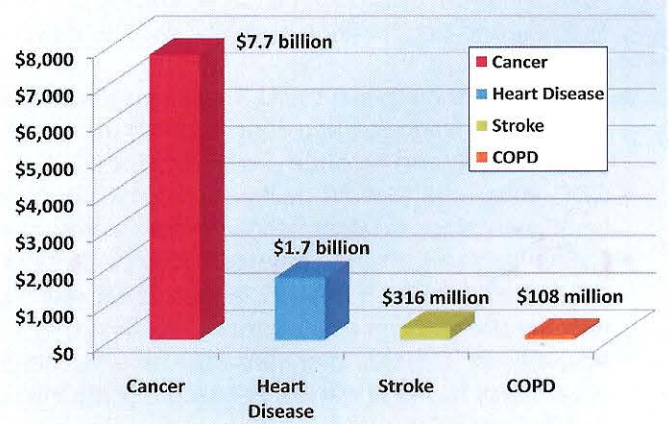
Respiratory disease in America is on the rise. According to CDC, lung disease, specifically chronic obstructive pulmonary disease (COPD), is now the third leading cause of death in the U.S. The COPD death rate has doubled within the last 30 years and is still increasing, while the rates for the other top causes of death (heart disease, cancer and stroke) have decreased by over 50 percent. The number of people with asthma in the U.S. has surged over 150 percent since 1980. In 2010, the estimated economic cost of lung disease in the U.S. was \$85 billion, including \$66 billion in direct health expenditures and \$19 billion in indirect morbidity and mortality costs.

Despite the rising lung disease burden, lung disease research is underfunded. In 2011, lung disease research represented just 23.1 percent of the National Heart Lung and Blood Institute's (NHLBI) budget. Although COPD is now the third leading cause of death in the U.S., research funding for the disease is a small fraction of the money that is invested for the other leading causes of death, heart disease, cancer and stroke.

Decline in Success Rates of NHLBI ROI Grants Between FY2002-2011



NIH Funding by Disease of the Four Leading Causes of Death (in billions)





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RECENT ADVANCES IN LUNG RESEARCH

- The NHLBI SUPPORT study recently revealed a new therapy, continuous positive airway pressure, for premature infants with serious lung conditions. The results of this large clinical trial will help inform treatment and management of respiratory problems in vulnerable preterm newborns.
- NHLBI researchers have linked a gene variant to increased risk for asthma and reduced lung function in three independent study populations. The findings raise the possibility that asthma risk may one day be measurable via a simple blood test and that identification of this gene may serve as a useful biomarker for diagnosing asthma.
- NHLBI researchers recently found that high estrogen levels in women with cystic fibrosis may exacerbate their symptoms of the disease. Cell culture research has revealed that the drug tamoxifen alleviates these symptoms and may be an effective new therapy for treating cystic fibrosis in women.

COPD

Chronic Obstructive Pulmonary disease (COPD) refers to two lung conditions – chronic bronchitis and emphysema.

- 12 million U.S. adults are diagnosed with COPD. CDC estimates that another 12 million have the disease but don't know it.
- COPD costs the economy almost \$50 billion a year, including \$29 billion in direct medical costs and \$20.4 billion in indirect costs such as lost wages.

ASTHMA

Asthma is a chronic inflammation of the airways with episodes of obstruction, caused by increased reaction of the airways to stimuli. An estimated 24.6 million Americans have asthma.

- Asthma is the most common chronic disorder in children, with an estimated 7 million children currently affected.
- Asthma can be a life-threatening disease if it is not appropriately managed. In 2007, 3,447 people died as a result of asthma.
- Asthma is the third leading cause of hospitalization among children under age 15.

OTHER LUNG DISEASES AND CONDITIONS

- Lung cancer is the leading cancer killer in both men and women in the U.S. Lung cancer causes more deaths than the next three most common cancers combined (colon, breast and prostate). In 2010, about 157,300 Americans died from lung cancer.
- Approximately 140,000 Americans suffer from Pulmonary Fibrosis, a lung disorder characterized by progressive scarring and deterioration of the lungs. The disease kills 40,000 people each year - the same number as breast cancer.
- About 75,000 people in the U.S. die as a result of acute lung injury, a disease that can be triggered by infection, drowning or traumatic accident. ALI kills about the same number of people each year as die from breast cancer, colon cancer, and prostate cancer combined.
- CDC estimates that 50 million to 70 million American adults suffer from sleep and wakefulness disorders. Insufficient sleep is associated with diseases such as diabetes, cardiovascular disease, obesity, and depression.
- Cystic fibrosis (CF) is an inherited chronic disease that affects the lungs and digestive system of about 30,000 children and adults in the U.S. In the 1950's, few children with CF lived to attend elementary school. Many people with the disease can now expect to live into their 40's and beyond.
- As many as 100,000 Americans may have Pulmonary Hypertension (PH), but thousands are undiagnosed. Many people may have PH without knowing it or are misdiagnosed with illnesses such as asthma or bronchitis, delaying proper treatment.

Sources: Research America, Facts about COPD, NHLBI Fact Book 2010, CDC National Center for Health Statistics National Health Interview Survey Raw Data, 2008, American Lung Association, American Cancer Society Cancer Facts and Figures, 2010. Cystic Fibrosis Foundation, Pulmonary Hypertension Association.