DISCOVERY

For more than a century, the American Thoracic Society has brought hope to patients through the discovery and dissemination of scientific advances in respiratory medicine.

We help the world breathe

PULMONARY • CRITICAL CARE • SLEEP

American Thoracic Society
Contents

ATS members know firsthand the burden under-recognition of lung disease causes patients and their families. Diseases of the lung do not receive the attention or research dollars they deserve.

Lung Disease Is a Major Challenge

Lung disease accounts for one in seven deaths in this country, making it the third-leading killer of Americans. It is also a leading killer of people worldwide. And it is on the rise everywhere.

Lung disease takes many forms. Most people are familiar with asthma, lung cancer, pneumonia, tuberculosis, and cystic fibrosis. But there are many other lung diseases that are not as well known—pulmonary fibrosis, pulmonary hypertension, bronchiolitis obliterans, acute respiratory distress syndrome, Hermansky-Pudlak syndrome, among them—which are equally devastating.

Increasingly, the public is learning of chronic obstructive pulmonary disease, or COPD, thanks in part to a National Heart, Lung, and Blood Institute awareness campaign. This recognition among patients and public policy experts is important: COPD ranks fourth among the most deadly diseases worldwide. By 2020, it is projected to become the third-leading cause of death, both in the United States and throughout the world.

Individually and collectively, diseases of the lung do not receive the attention or research dollars they deserve, given their prevalence and the burden they impose on patients and their families. COPD will kill seven times as many Americans this year as HIV, but a Google search will find twenty times as many sites for HIV as for COPD. Despite the fact that about twenty-four million Americans have COPD, a disease for which there is no cure, only about 1.3 percent of the total annual National Institutes of Health research budget goes to COPD researchers.

As with other diseases, prevention of lung disease is a priority. Typically, the cost of preventing a chronic disease is a fraction of the cost of managing the disease once it develops, let alone the economic cost of lost productivity when sickness prevents a person from working.

While many factors, including genetics, put a person at risk for lung disease, there are important policies that, if enacted, are proven to reduce the burden of lung disease. First and foremost is tobacco control. A 2008 World Health Organization report estimated that as many as a billion people might die in this century as a result of smoking. While smoking rates are down here in the United States, the number of teenage girls who smoke has increased.

Air pollution is also a factor. The industrialization of the developing world, where most people live, is, literally, breathtaking. Beyond the greenhouse gases emitted, the burning of fossil fuels threatens the world's health by spewing particulate matter and other potentially carcinogenic by-products into the air we breathe. Air pollution alone, the World Health Organization estimates, kills 2.4 million people each year.

Our global economy presents other challenges to lung health. One of those is tuberculosis, a bacterium that resulted in a deadly epidemic at the turn of the twentieth century and led directly to the founding in 1905 of the American Thoracic Society, then called the American Sanatorium Society. Thanks, in large part, to the collaborative spirit that has defined our organization from the beginning, there is, today, a cure for TB. However, we have not yet vanquished this often-fatal disease, and one international traveler with active TB can spread the infection to people living in other countries. Multiple drug-resistant TB is a growing problem, particularly for those with compromised immune systems as a result of HIV/AIDS, substance abuse, and immunosuppressive drugs.

The issue of lung health is, in many ways, as expansive as the organ itself (flatten the alveoli, or air sacs, in the lung and they will cover the area of a football field). Add to this fact that ATS members also treat chronic and acute illnesses through their work in intensive care units—about 85 percent of all critical care physicians are trained as pulmonologists—and are involved in diagnosing and treating sleep disorders, and soon you realize just how much knowledge our members possess and how complex the medical issues they face can be.

Although complex, these medical problems must be addressed. Research into the diagnosis, treatment, and prevention of lung disease is part of the answer. Equally important is the dissemination of knowledge. Armed with an understanding of the latest discoveries in respiratory medicine, physicians, scientists, and other healthcare professionals can work to make a difference in the lives of patients everywhere. ■

Through the American Thoracic Society, the individual contributions of clinicians, scientists, advocates, and medical educators are magnified and projected in ways that improve patient care, here in the United States and abroad.

Bringing Science and Hope Together

The American Thoracic Society exists because there is hope. Our more than 15,000 members work to reduce the burden of respiratory, critical care, and sleep-related diseases worldwide. They believe that by putting into practice the medical knowledge they already possess, many lives can be saved—lung-related diseases are the third-leading cause of death worldwide—and the quality of others improved. They also believe that scientific discoveries can reduce the burden of these diseases for future generations.

The physicians, nurses, allied health professionals, and scientists who are members of the ATS are among the most distinguished in their field—here in the United States and abroad, where approximately 28 percent of our members work. They are also among some of the most active clinicians, educators, advocates, and researchers in the world. They join the ATS because the impact of their individual contributions can be magnified and projected in ways that improve patient care far beyond their own practices or their laboratories. The ATS is a highly regarded source of information for healthcare professionals and patients alike.

Today, our members recognize that their patients' health is often determined by the health of the larger community in which they live and work. This is one reason why the ATS actively provides information and opinions about public health issues ranging from clean air to tobacco control. These advocacy efforts, whether on Capitol Hill or in Geneva, where the World Health Organization is based, carry special weight with policymakers and the media because the information the Society provides and the positions it takes are grounded in the latest science.

Recently, the ATS launched a research program, which provides funding to young scientists. With these partnership grants, recipients have launched promising new studies, which have, in turn, garnered significant funding from the National Institutes of Health and other major supporters of biomedical research.

This program is a testament to the hope that has defined the Society from its beginnings more than a century ago. Then, a group of physicians and scientists realized that tuberculosis would continue to ravage lives unless they shared information and collaborated in finding answers. That recognition led to the creation of the American Sanatorium Association, which was later renamed the American Trudeau Society, before becoming the American Thoracic Society.

These name changes reflect a broadening of the Society's medical concerns beyond TB, which remains a threat in our highly mobile world. Today, the Society's ultimate goal is to eliminate, through prevention and cures, the many lung, critical care, and sleep-related illnesses that shorten lives or diminish their quality. ■

Diseases ATS Members Treat and Research

The American Thoracic Society provides its members with information and other resources that can help them fight against a host of diseases.

Diseases of Air Movement and Airways
- Asthma
- Bronchiectasis
- COPD (emphysema and chronic bronchitis)
- Large airway stenosis and obstruction

Infectious Lung Diseases
- Bacterial pneumonia
- Complicated lung and thoracic infections (including emphysema and pulmonary abscess)
- Fungal lung disease
- Mycobacterial lung disease (including TB and nontuberculous mycobacteria)
- Opportunistic lung infections
  - AIDS and HIV-related lung infections
  - Infections in immunosuppressed patients

Pulmonary Vascular Diseases
- Arterio-venous malformations
- Congenital vascular anomalies and malformations
- Pulmonary hypertension (primary and secondary)
- Pulmonary thromboembolism

Congenital and Genetic Lung Diseases (adult and pediatric patients)
- Cystic fibrosis
- Hermansky-Pudlak syndrome

Neoplastic Lung Diseases
- Benign lung tumors
- Lung carcinoma

Environmental, Exposure-Related, and Occupational Lung Diseases
- Drug-induced lung disease
- Exposure-related interstitial lung disease (including asbestosis)
- Occupational asthma

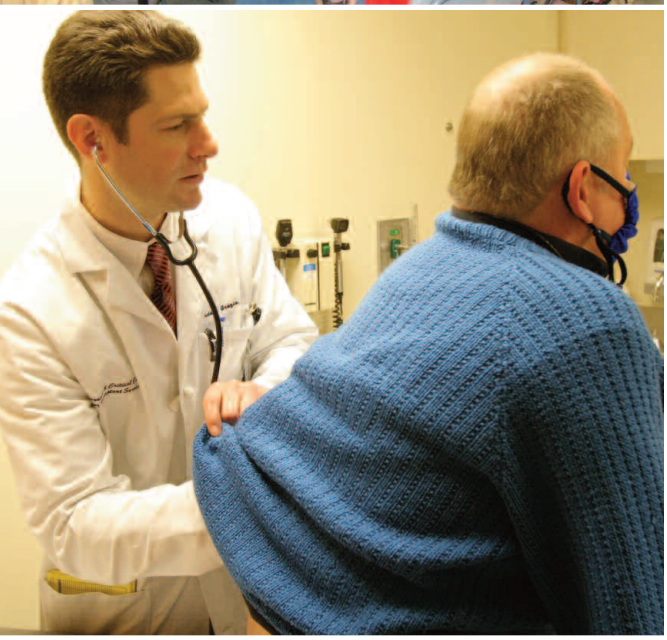
Interstitial Lung Diseases
- Cryptogenic organizing pneumonitis
- Hypersensitivity pneumonitis
- Idiopathic pulmonary fibrosis
- Interstitial lung disease associated with systemic autoimmune disease
- Lymphagioleiomyomatosis
- Nonspecific interstitial pneumonitis
- Pulmonary Langerhan's cell histiocytosis
- Respiratory bronchiolitis interstitial lung disease
- Sarcoidosis

Sleep-Related Breathing Disorders
- Central sleep apnea
- Obstructive sleep apnea
- Restless-leg syndrome

Pediatric Lung Diseases
- Asthma
- Bronchopulmonary dysplasia
- Congenital lung disease

Diseases of the Pleura, Chest Wall and Neuromuscular Breathing Disorders
- Amyotrophic lateral sclerosis
- Myasthenia gravis
- Pleural effusion
- Traumatic chest injury
- Traumatic spinal cord disease

Critical Care Medicine and Respiratory Failure
- Acute and chronic respiratory failure
- Acute lung injury and adult respiratory distress syndrome (ALI and ARDS)
- Sepsis
- Shock
- Multi-organ failure



The Society's Vision

In 2005, as the American Thoracic Society celebrated its hundredth anniversary, the Society adopted the following ten principles:

A Spirit of Inquiry

The ATS is defined by dedication to a spirit of inquiry as the principal means for preventing respiratory disease, critical illness, and sleep disorders and for advancing patient care. We will be an inclusive forum for collaboration, while applying scientific inquiry to eliminate the burden of respiratory diseases.

Serving the Needs of Our Patients and Community

The ATS will exist to serve patients, families, and the larger community. We will serve our patients through an equal partnership by which we offer our research, clinical expertise, and caring, and our patients offer their guidance and trust. As we expand knowledge of the causes and treatment of respiratory disease, critical illness, and sleep disorders, we will measure our success by the benefit we provide to the patients and families we serve. The ATS will find innovative and increasingly meaningful ways to incorporate patients into our organization.

Embracing New Fields of Science and Medicine

The ATS will lead the effort to identify, embrace, and support new fields of science, medicine, and other disciplines that can contribute to the battle against respiratory disease, critical illness, and sleep disorders. We welcome the knowledge and skills provided by disciplines that bring us solutions and answers to the challenges and questions we face.

Taking Care of the Future

We will prepare for the future by increasing the clinical and research workforce through advocacy, training, mentoring, and leadership development. We will recruit members who bring the Society novel knowledge and skills. The ATS will be the home of the best and the brightest who posses the commitment and compassion necessary to improve respiratory and sleep health and limit the effects of critical illness on patients and their families.

Growing Research

The ATS will advocate for greater funding of research by extramural agencies and will expand our grants program by novel approaches to increase resources dedicated to research.

Working Toward a World without Lung Disease

The ATS will continue its dedication to a local, national, and international perspective and identity. Retaining this focus will strengthen our ability to succeed in both our international and domestic agendas. We will advocate to enhance the treatment of respiratory diseases, critical illness, and sleep disorders in the United States and in the world.

Setting the Standards for Quality and Excellence

We will focus our programs toward achieving the highest levels of quality and excellence and will measure the success of our efforts to ensure we have maintained our standards and reached our goals. We acknowledge that science and clinical practice constantly evolve and that we must recognize early the next generation of quality ideas, performance measures, and concepts to provide guidance and accountability to our field. We will conduct all of our programs with the highest ethical standards.

Partnering for Greater Impact

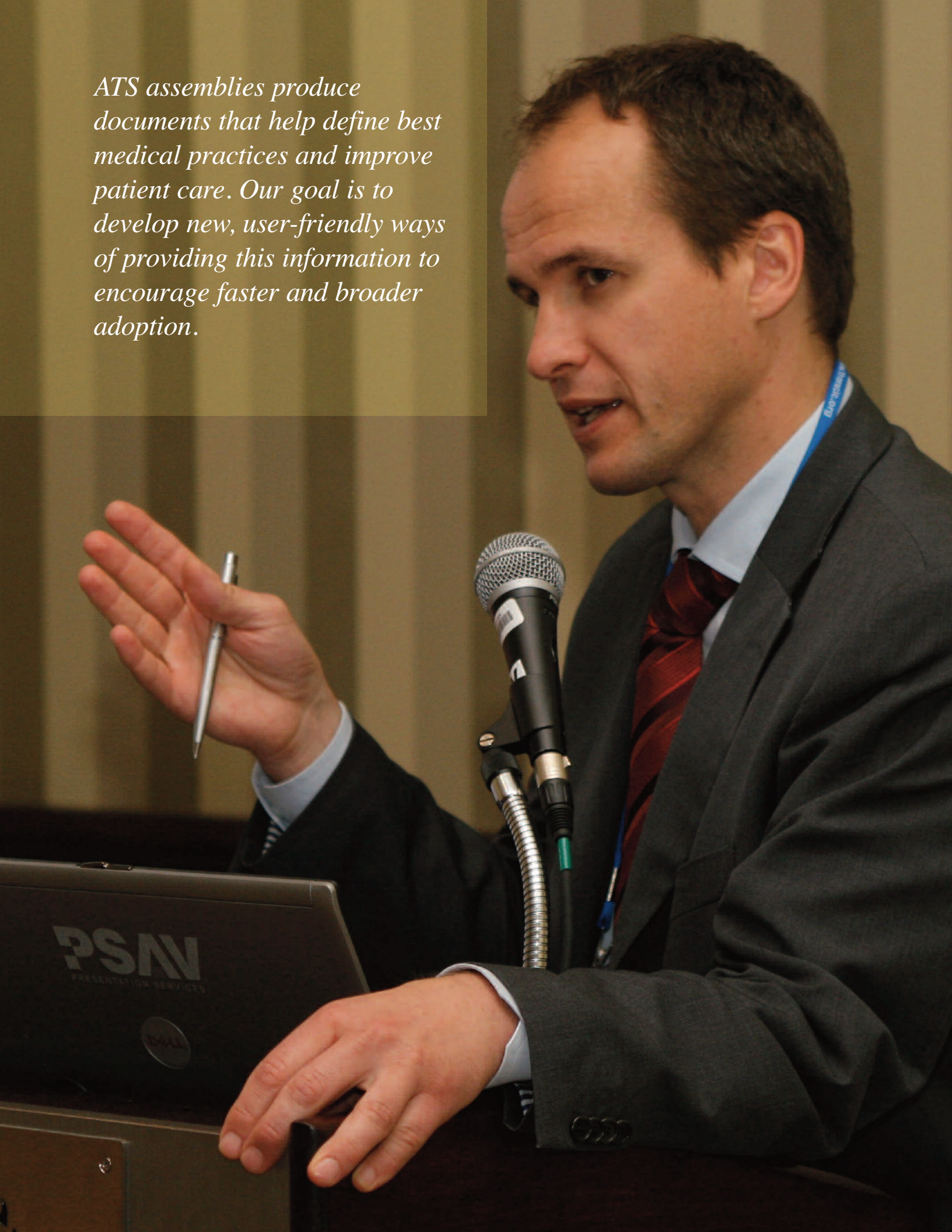
The ATS will lead in establishing partnerships that will reduce the burden of lung diseases, critical illnesses, and sleep disorders worldwide.

Responding to Challenges with Innovation and Agility

We celebrate our history, but will not be constrained by it or by our existing resources and tools. The ATS will foster self-evaluation and constant renewal to enhance our ability to conquer respiratory disease. The ATS will be a nimble, innovative, problem-solving organization that redesigns itself in a focused and strategic manner to address the challenges we face.

Serving Our Future through Revenue Diversification

The ATS will secure its future by diversifying its revenue stream and developing leadership and management with a keen concern for financial issues. Stewardship of financial resources will ensure that revenues are dedicated to meeting our vision and goals. ■



ATS assemblies produce documents that help define best medical practices and improve patient care. Our goal is to develop new, user-friendly ways of providing this information to encourage faster and broader adoption.

Assemblies, Statements, and Guidelines

The thirteen ATS assemblies and two sections are at the heart of the Society's mission. Through these groups, ATS members review, analyze, and disseminate the latest basic science and clinical information. Their collaborations bring expertise from many different institutions, not to mention countries, to bear on scientific problems and clinical issues. This "meeting of the minds" often leads, directly or indirectly, to better patient care, scientific advancements, and initiatives to reduce the prevalence of disease.

One of the more important functions of the assemblies and sections is programming the ATS International Conference. In the respiratory community, the conference is widely recognized for featuring the best and latest science.

In recent years, an emphasis has been placed on presenting sessions with the basic, translational, and clinical science perspectives, all represented by leaders in their fields (see International Conference, p. 13). This often requires assemblies to jointly organize sessions—something we believe enhances the learning experience of attendees.

Statements and Guidelines

ATS assemblies and sections also work on projects they propose to the Society. Most of these projects result in medical statements and guidelines. The quality of these documents, which influence clinical practice, rests with the expertise of the writing committees. Committee members are chosen for their expertise and for the diversity of their experience and research. In this way, the Society attempts to ensure that documents do not reflect a narrow viewpoint, but a broad view that is based on the best available evidence.

Recently, the Society decided that the quality and relevance of its statements and guidelines would be enhanced by incorporating the experience of patients. At least one patient is now part of every writing committee, and all medical documents now incorporate a section specifically written for patients.

The first guideline committee to include patient representation—both for the ATS and for our partner, the World Health Organization—resulted in the development of the 2006 "International Standards for Tuberculosis Care." In addition to publishing the standards for healthcare professionals, the committee produced "The Patients' Charter for Tuberculosis Care," outlining the rights and responsibilities of those infected with the bacterium.

Because ATS documents change medical practice, the Society continually strives to improve their quality and usefulness. Several years ago, the ATS established a Documents Development and Implementation Committee to oversee the process by which its statements and guidelines are produced. In forming the committee, the Society turned not only to some of its most experienced members in document writing, but also to experts outside the Society who are leaders internationally in evidence-based medicine and methodology.

On the recommendation of the Documents Committee, the ATS has adopted a systematic approach to evaluating the quality of evidence supporting documents with a concise method of communicating the strength of practice recommendations. The approach is known by its acronym, GRADE (Grades of Recommendation, Assessment, Development, and Evaluation), and it has been adopted by a number of organizations, including the World Health Organization, the Cochrane Collaboration, UptoDate, and the American College of Physicians. GRADE requires guideline developers to make a series of explicit decisions, reducing the possibility of unconscious bias and increasing the transparency of the process.

Implementing Best Practices around the World

Equally important, the Documents Committee is supporting the development of "derivative products" to facilitate the integration of these guidelines into actual clinical practice. The unfortunate reality is that too many healthcare professionals are unaware of current recommendations or have not organized their practices in ways that ensure these recommendations are followed.

To address this gap between documented "best practices" and the care patients actually receive, the committee is considering a range of tools that increase knowledge of "best practices"

and facilitate the use of these practices. PowerPoint slides, admission set orders, and reminders (paper and electronic) that can be attached to patient charts are among the tools the ATS wants to provide the medical community.

As electronic medical records become more common, the Society sees an even greater opportunity to transform its guidelines into interactive tools that clinicians will rely upon for information at the point of care. With the explosion of medical knowledge, few, if any, providers can keep pace. Having guidelines structured in ways that mirror the provider's decision-making process, particularly when dealing with difficult or unusual cases, will help clinicians and, ultimately, improve patient care.

The ATS is also committed to producing guidelines that are international. Today, for virtually every major disease, there exist multiple guidelines produced by various medical societies, insurers, and government agencies. It is far easier to get healthcare providers to implement best practices when there is one guideline that reflects the thinking of many experts representing different medical organizations, both here in

the United States and abroad.

Recently, we convened a meeting of seventy world leaders in guideline development for a two-day conference on developing international guidelines. Among the topics discussed were synthesizing and presenting evidence, dealing with co-morbidities, and adapting and evaluating guidelines. Our hope is that this workshop, among other outcomes, will lead to the first COPD guidelines that are embraced by medical professionals around the world.

Projects with Impact

Not all ATS assembly projects result in clinical practice guidelines. Many result in documents, workshop proceedings, or Web-based resources that frame important health policy issues. One assembly project, for instance, is studying the effect of not having medical insurance on lung health. Another assembly launched a "Virtual Asthma Center," an online peer-reviewed portal to the best resources on the Web for asthma care providers. And a third project will result in a workshop introducing fellows and junior faculty members to national and international data sets that can be used to conduct clinical research. ■

ATS Projects

From Lung Transplants and Work-Related Asthma to Cystic Fibrosis Research

In 2008, the ATS funded 29 assembly and committee projects that testify to the broad interests of the Society's members. Many of these projects will result in clinical guidelines and consensus statements that will improve the care of patients living around the world.

Assembly on Allergy, Immunology & Inflammation
- Consensus Definition of Acute Lung Injury in Animals

Assembly on Behavioral Science
- Novel Opportunities in Cystic Fibrosis Clinical Research Utilizing Existing Databases (joint project with the Assembly on Pediatrics)
- The Effects of Lack of Health Insurance on the Health of Lung Disease Patients
- ATS Quality of Life Web Site Project (joint project with the Assembly on Nursing)

Assembly on Clinical Problems
- Management of the Lung Transplant Recipient: A Comprehensive, Evidence-Based Guideline
- International Multi-Disciplinary Consensus Sub-Classification
- Idiopathic Pulmonary Fibrosis: Evidence-Based Guidelines

Assembly on Environmental & Occupational Health
- Spirometry in the Occupational Setting
- Diagnosis and Management of Beryllium Sensitization and Chronic Beryllium Disease
- Workshop and ATS Statement on Work-Exacerbated Asthma
- Novel Risk Factors and the Global Burden of Non-Smoking COPD
- Third Jack Pepys Work-Related Asthma Workshop: 2007 Proceedings

Assembly on Microbiology, Tuberculosis and Pulmonary Infections
- Emerging Issues and Current Controversies in HIV-Associated Pulmonary Disease
- Updated Guidelines for the Diagnosis and Treatment of Hospital-Acquired Pneumonia, Healthcare-Associated Pneumonia, and Ventilator-Associated Pneumonia
- Diagnostic Standards and Classification of Tuberculosis in Adults and Children
- Infections in Patients Receiving TNF-αAntagonists
- Bronchiectasis: An International Perspective
- Statement on the Diagnosis of Fungal Infections

Assembly on Nursing
- Revision of the 1999 ATS Dyspnea Consensus Statement
- ATS Quality of Life Web Site Project (joint project with the Assembly on Behavioral Science)

Assembly on Pediatrics
- Novel Opportunities in Cystic Fibrosis Clinical Research Utilizing Existing Databases (joint project with the Assembly on Behavioral Science)
- Working Group on Infant and Young Children Pulmonary Function Testing
- Central Hypoventilation Syndrome: Translational/Transitional Medicine Prototype

Assembly on Pulmonary Circulation
- Assessment of Thromboembolic Disease During Pregnancy

Assembly on Respiratory Neurobiology and Sleep
- Sleep Apnea, Sleepiness and Driving Risk II
- CPAP Monitoring: What Are the Ideal Strategy and Outcome Measures?

Assembly on Respiratory Structure and Function
- Quantitative Assessment of Lung Structure

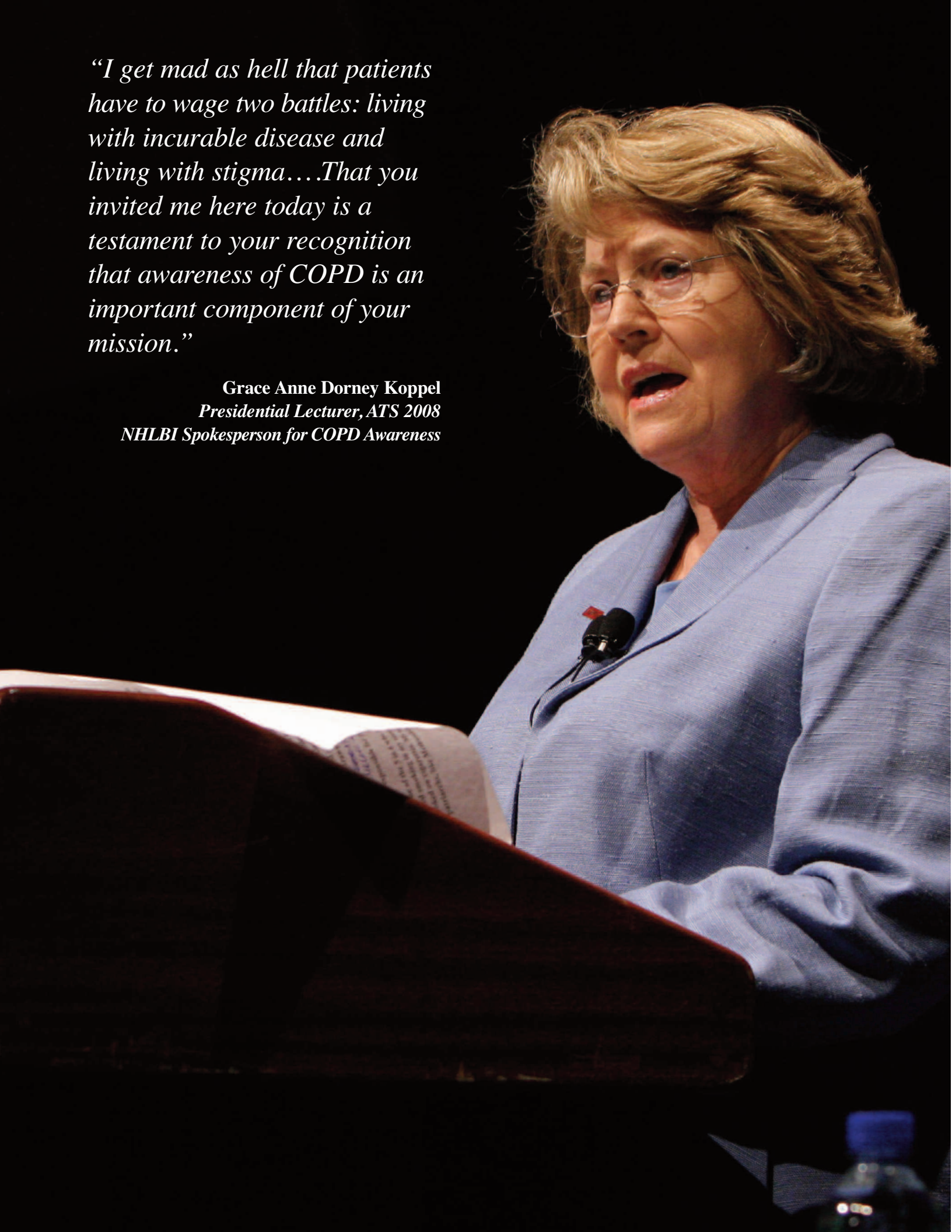
Documents Development and Implementation Committee
- Merging Efforts in COPD Guideline Development

Education Committee
- Optimizing Pulmonary and Critical Care Training via Analysis of the In-Service Exam

Health Policy Committee
- The Pharmaco-Economics of Medications of Respiratory Disease
- Pay for Performance in Pulmonary and Critical Care Medicine

"I get mad as hell that patients have to wage two battles: living with incurable disease and living with stigma….That you invited me here today is a testament to your recognition that awareness of COPD is an important component of your mission."

Grace Anne Dorney Koppel
Presidential Lecturer, ATS 2008
NHLBI Spokesperson for COPD Awareness



International Conference

For many clinicians and researchers, the American Thoracic Society's International Conference is synonymous with the ATS. Although the Society's scope of activities is much broader than this annual meeting, when attendees say that they are "going to the ATS," they capture an essential quality of the International Conference.

In putting together the conference, the ATS calls upon its entire membership, as well as thousands of other clinicians and scientists in the pulmonary, critical care, and sleep communities, for program proposals and research abstracts. This "grass-roots" approach results in the most comprehensive presentation of research that is transforming the field. More than 5,500 research abstracts are presented each year at the conference.

The size of the meeting—16,000 people selecting from among 400 sessions—is one of its advantages. The conference draws allergists and immunologists, advance practice nurses and molecular biologists, thoracic surgeons and neonatologists, as well as physicians and scientists who focus on pulmonary, critical care, and sleep medicine. The meeting is well known for the large number of sessions devoted to pediatric respiratory and critical care topics. By gathering so many experts in one place, the conference also helps attendees develop a professional network to call upon when managing a difficult case or looking to collaborate on a research project.

From Bench to Bedside

More important than the size of the meeting is the quality and scope of the research presented. Some conferences are dedicated to reporting basic science discoveries, others to exploring clinical applications. The ATS International Conference presents research from bench to bedside, and by emphasizing the translational research connecting the two, creates a dialogue among participants. "Being a bench researcher and hearing from clinicians, or vice versa, doesn't just have 'added value,'" explained a translational scientist who is a long-time attendee of the conference. "It has synergistic value."

It's this synergy that attracts speakers who are among the most influential professionals in their fields. Often, these speakers report on findings before they are published. Other times, they bring specialized knowledge to the attendees that would not otherwise be available within the Society. More than a fourth of the 800 speakers who make presentations at the conference are not ATS members. We believe, however, that their expertise contributes to advances in the field of pulmonary, critical care, and sleep medicine.

A new session entitled "Scientific Breakthroughs of the Year" brings two internationally recognized researchers to the conference to speak about groundbreaking discoveries that have the potential to impact patient care across many medical disciplines. These lectures on such topics as stem cell therapy and proteomics provide the context for four or five outstanding abstracts being presented at the conference on research extending these fundamental discoveries to the field of respiratory or critical care medicine.

A Patient Perspective

In recent years, patients have become an important part of the conference. Thanks to the efforts of the ATS's patient arm, the Public Advisory Roundtable (PAR), patients now speak at about a dozen scientific sessions, and the individual organizations that belong to the roundtable exhibit posters highlighting the work they do. Most recently, PAR opened a new chapter in our International Conference by organizing the first annual patient-family forum. In addition to hearing from

The ATS International Conference is truly international. Half of those who attend come from outside the United States. During the conference, more than 5,500 research abstracts reporting on discoveries in basic, translational, and clinical science are presented.

Breadth and Depth

The ATS International Conference is known for the breadth and depth of the research presented. Poster sessions on asthma, for instance, cover a range of topics, so that even those who have spent a lifetime treating or studying this disease are likely to become excited by the research being presented.

Below are the categories by which the 971 asthma abstracts presented at a recent conference were organized:

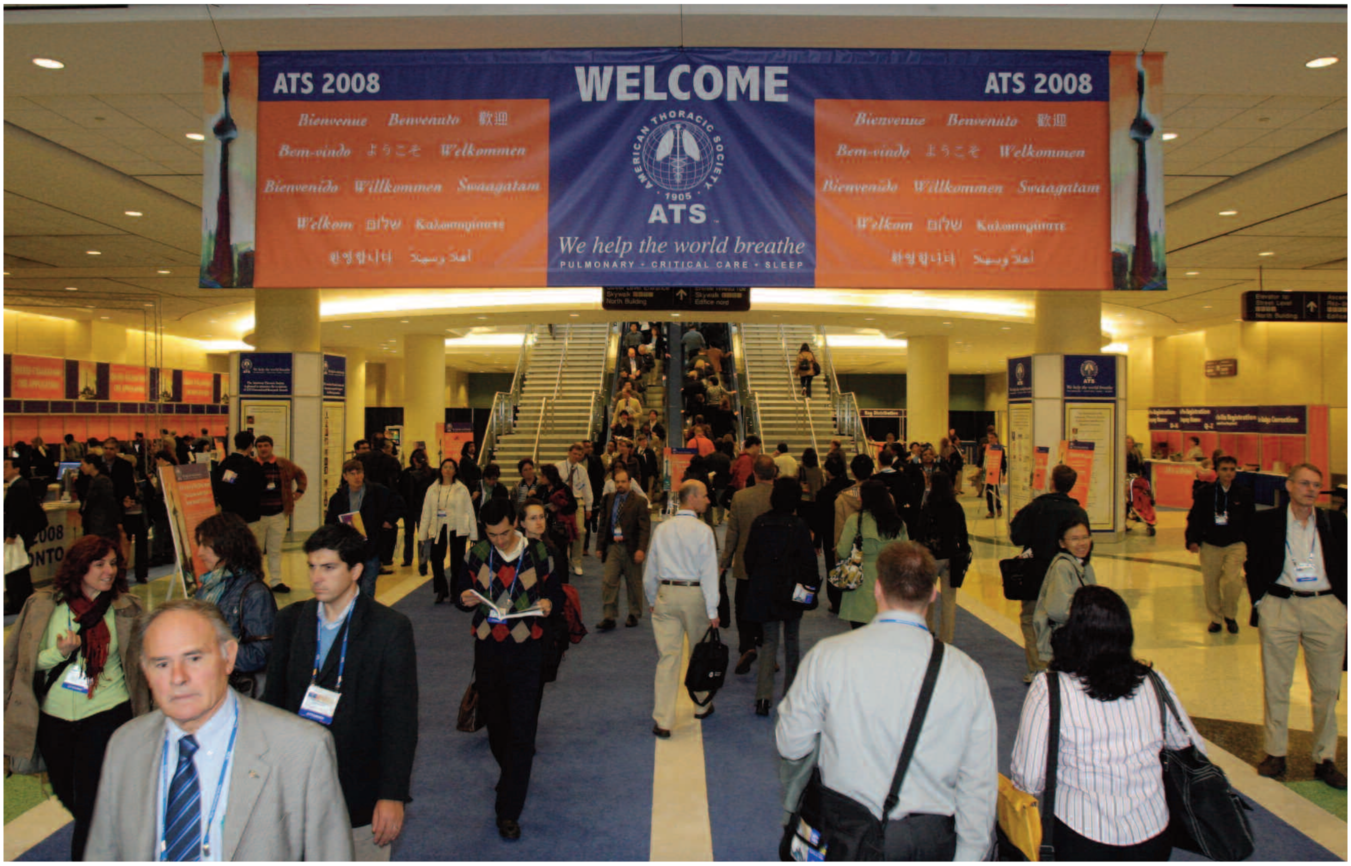
- Airway Receptors: Cytokines, Chemokines
- Airway Receptors: Nerves and Smooth Muscle
- Airway Remodeling: Asthma Genes and Gene Products
- Airway Remodeling: Asthma Mediators
- Airway Remodeling: Functional Consequences
- Airway Remodeling: Smooth Muscle, Fibroblasts, Extracellular Matrix
- Airway Responsiveness: Immunologic Mechanisms
- Airway Responsiveness: Physiology
- Allergic Mechanisms
- Asthma Mediators
- Clinical Asthma
- Clinical Asthma Management Programs
- Education/Self-Management/Asthma Guidelines
- Epidemiology: Adult Asthma: Outcomes
- Epidemiology: Adult Asthma: Risk Factors (Etiology)
- Epidemiology (Pediatric): Outcomes and Management
- Epidemiology (Pediatric): Risk Factors
- Genetics
- Immunology/Inflammation: Animal Models
- Immunology/Inflammation: Human Studies
- Infectious Mechanisms
- Non-Invasive Assessment of the Airways: Functional
- Non-Invasive Assessment of the Airways: Immunological
- Methods on Non-Invasive Assessment of the Airways: Exhaled Breath and Condensates
- Occupational and Environmental Airways Disease
- Rhinitis and Sinusitis
- Therapy

PAR's leaders, physicians, researchers, and patients, those in attendance used the opportunity to network and share common goals and opportunities for collaboration. Our hope is that by making the "Breathing Better with the ATS" forum an annual event that brings together lung patients and their families from in and around the host city, the ATS will help generate the support networks that can lighten the burden of being chronically ill or caring for someone who is.

A Week that Changes Care

Although the International Conference takes place in one city during six days in May, its impact extends around the world and throughout the year. It does this primarily through those who attend—more than half work outside the United States—or who review the more than 200 hours of conference presentations available on the ATS Web site after the conference.

However, it also reaches many healthcare professionals, as well as a patient audience, through coverage by both the medical trade and consumer press. More than a hundred reporters from North and South America, Europe, and Asia attend the conference to capture what they believe are the most promising new therapies and means of diagnosing illness for healthcare professionals and patients living everywhere. Their stories, published in newspapers, magazines, and Web sites and broadcast on radio and television, reach millions of readers. ■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Journals of the ATS

Along with the International Conference, the Society's three journals have established ATS's reputation for disseminating the latest science in the fields of pulmonary, critical care, and sleep medicine. The *American Journal of Respiratory and Critical Care Medicine*, the *American Journal of Respiratory Cell and Molecular Biology*, and the *Proceedings of the American Thoracic Society* have published many important discoveries in basic, clinical, and translational science that have led to improvements in patients' lives and reduced the burden of lung disease, sleep disorders, and critical illness.

The Society's most widely read and cited journal, the *American Journal of Respiratory and Critical Care Medicine* (*AJRCCM*), reports on research most likely to influence how medicine will be practiced in the future. Many of the novel and important studies published in the journal translate discoveries in basic science into clinical practice. Other articles provide results from clinical studies showing how best to treat patients with available interventions or novel therapies. Editorials highlight the most important articles and attempt to put the studies into context: Are the results unexpected in some way and, if so, what might explain the findings? What research questions does the report raise? What other studies have been published on the topic?

Over the last several years, the *AJRCCM* has focused heavily on ensuring that it is the preeminent journal, not only in pulmonary medicine, but also in critical care. Many of the best papers in critical care—and not just respiratory critical care, but critical care related to other organ systems—are submitted to the journal. The editors have also made a concerted effort to publish sleep research that has the potential to change the field.

These efforts have raised the journal's impact factor. According to the Science Citation Index, the *AJRCCM*'s impact factor is now over 9, making it the journal with the highest impact factor in immunology and allergy, respiratory and critical care, and sleep medicine.

The *American Journal of Respiratory Cell and Molecular Biology* (*AJRCMB*) is the highest-ranked journal by impact factor among pure basic science lung journals. More importantly, since it was first published in 1989, the *AJRCMB* has charted the rapid evolution of the field from purely molecular and cellular studies in culture to studying the relevance of these discoveries in animal models. Many of the articles in the journal epitomize this evolution by reporting on both in vitro and in vivo findings.

Nearly two-thirds of all submissions to the journal come from researchers working outside the United States. In recent years, the quality of submissions from Europe and Asia has been particularly high, and despite stagnant funding for basic science research in the United States, the number of submissions to the journal from American laboratories is also increasing.

Among the articles published in the journal that are most frequently cited in the scientific literature are those on stem cell and regenerative biology, genomics, matrix metalloproteinases, oxidative stress, and signal transduction. In 2007, the journal ran a series of original papers on nitric oxide and the largely overlooked role this simple molecule plays in governing cell function.

The American Journal of Respiratory and Critical Care Medicine has the highest impact factor in the field.

While a basic science journal like *AJRCMB* costs more money to publish than it can hope to recoup through subscriptions and advertising, the Society is committed to its publication. Recently, the ATS expanded the editorial board so that, with the addition of new experts, the journal's impact in the field will be enhanced. The therapeutic options for patients with respiratory disease or serious acute illnesses are limited, and *AJRCMB*, by reporting

AJRCCM in the News

As the leading journal in the field of respiratory medicine, the *American Journal of Respiratory and Critical Care Medicine* does more than educate ATS members and subscribers. In the last five years, more than 15,000 media outlets have covered research published in the *AJRCCM* and made it available for public dissemination in newspapers, magazines, medical journals, and online venues. Some of the most frequently highlighted articles include:

"A Twin Study of Post–Traumatic Stress Disorder Symptoms and Asthma" - *New York Times*

"Sex Differences in Severe Pulmonary Emphysema" - CNN Medical News

"Overweight, Obesity, and Incident Asthma: A Meta-analysis of Prospective Epidemiologic Studies" - *Reader's Digest*

"Effects of the Irish Smoking Ban on Respiratory Health of Bar Workers and Air Quality in Dublin Pubs" - *USA Today*

"A Web-Based, Tailored Asthma Management Program for Urban African-American High School Students" - *American Medical News*

"Asthma Link to Pregnancy Stress" - BBC World News

"Aspirin and Decreased Adult-Onset Asthma: Randomized Comparisons from the Physicians' Health Study" - *Los Angeles Times*

"Pulmonary Function after Exposure to the World Trade Center Collapse in the New York City Fire Department" - *Newsweek*

"Impaired Performance in Commercial Drivers: Role of Sleep Apnea and Short Sleep Duration" - *New York Post*

"Statin Use Reduces Decline in Lung Function" - *Time*

"Scientists ID Likely Culprit in 'Popcorn Lung'" - *Washington Post*

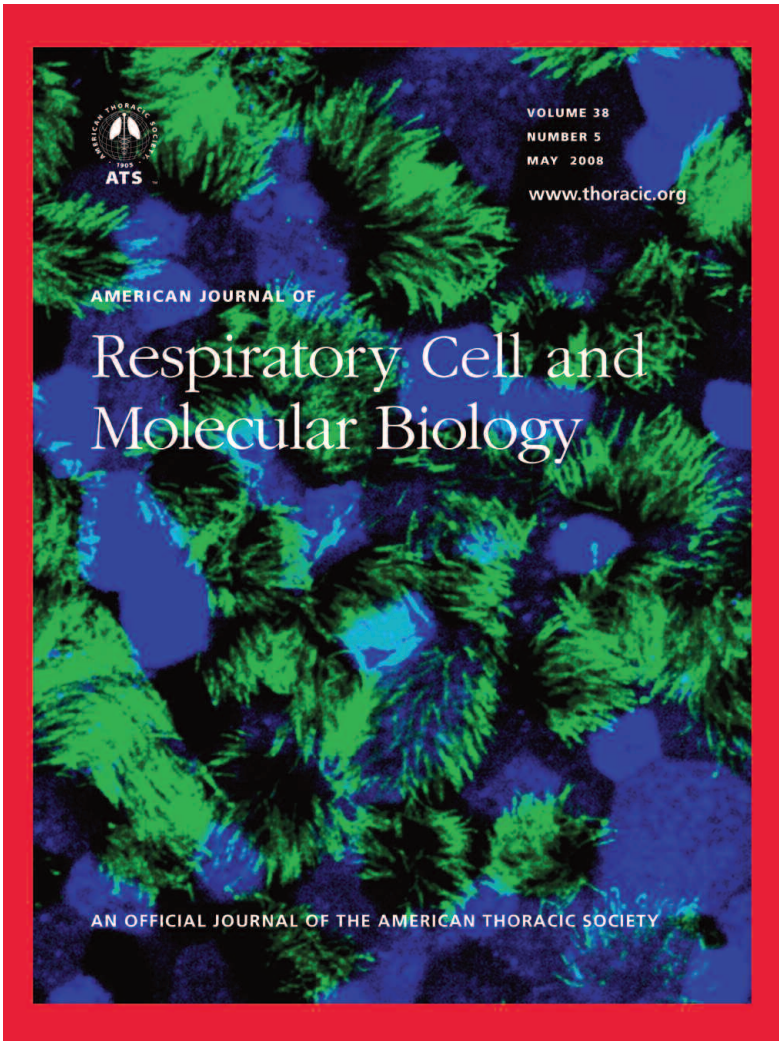
"Blood Test for Early Lung Cancer Shows Promise" - *Scientific American*

"TB Outbreaks May Be Predicted by First 2 Cases" - Forbes.com

important bench research, expands the horizons of biomedical science and hope.

Both the *AJRCCM* and the *AJRCMB* are participating in a pilot program that posts articles reporting on NIH-funded research to PubMed Central, the government's electronic library of biomedical research articles, twelve months after appearing in the Society's journals. Currently, NIH-funded authors are asked to submit their articles on a voluntary basis to PubMed's database. By submitting the articles for them, the ATS journals are making it easier for authors to comply and providing greater access to studies that may be important to other researchers, clinicians, and the public.

The ATS's newest journal, the *Proceedings of The American Thoracic Society* (PATS), embodies the Society's interest in covering bench to bedside research that affects respiratory disease, critical care, and sleep medicine. It does this by publishing review articles, not original research, on broad topics, such as the compromised host, and then having the experts in the field write about the latest basic, translational, and clinical findings.



The result is a publication targeted at clinicians and scientists who want to know more about the pathogenesis of the diseases they treat. Researchers also find the publication informative because it highlights what the unsolved issues are in a particular field and, therefore, the likely areas of future research.

PATS has published "virtual symposia"—that is, symposia that take place within the pages of the journal rather than the walls of a conference center—on a range of topics, including pulmonary imaging, genomics, and sleep. In addition, *PATS* publishes the proceedings of such major meetings as the Thomas L. Petty Aspen Lung Conference, the Lund Symposium, and the Transatlantic Airway Conference; policy statements of the Cystic Fibrosis Foundation; and clinical guidelines of the National Heart, Lung, and Blood Institute.

Because it covers topics in a systematic way, *PATS* helps readers stay at the forefront of the conditions they treat. The quality of its articles was confirmed when Medline, the government's electronic library of health science information, began indexing the publication after just four issues of the journal were published. ■

The ATS's three journals have an impact far beyond the Society's members and the pulmonary, critical care, and sleep patients they treat. Reports in the journals are often cited by other researchers.

By describing local conditions, MECOR graduates have changed policy in their own countries while contributing to a more global understanding of respiratory disease.

An International Organization

The American Thoracic Society is growing increasingly international in its membership and activities. This trend is not unexpected: significant results from laboratory or clinical trials are easily and, usually, eagerly transmitted beyond national boundaries to the wider community of biomedical scientists and healthcare professionals.

This desire to disseminate outcomes to the broadest possible audience, as well as to discuss scientific and medical problems, is reflected in the large percentage of ATS journal articles submitted by researchers working outside the United States, and by the fact that the majority of attendees at the Society's International Conference are, in fact, international.

It is also reflected in the fact that 28 percent of our membership is international. Because we believe this contingent strengthens our Society, we are encouraging members of the European Respiratory Society and the Asian Pacific Society of Respirology to join the ATS at a discounted rate. This arrangement is reciprocal, because we also believe that scientists and clinicians based in the United States benefit greatly from contact with the international biomedical community.

The ATS has also encouraged the development of a strong respiratory medical association in Latin America. Not only is the president of the Asociación Latinoamericana del Tórax, or ALAT, a member of the ATS Board of Directors, but every ALAT member received free membership within the ATS for 18 months. Now ALAT members can join or renew their membership at a modest fee, as part of the Society's ongoing commitment to building another strong, international respiratory society in the Western Hemisphere.

FIRS and Tobacco Control

The ATS, in collaboration with the European Respiratory Society, created the Forum of International Respiratory Societies, or FIRS, to identify lung issues important to the world health community and ways to address them. Eight years after being formed, FIRS members include the American College of Chest Physicians, the American Thoracic Society, the Asian Pacific Society of Respirology, the Asociación Latinoamericana del Tórax, the European Respiratory Society, and the International Union Against Tuberculosis and Lung Disease.

FIRS has actively promoted the Framework Convention for Tobacco Control. More than 150 countries have formally ratified the framework, which is the first international treaty negotiated under the auspices of the World Health Organization. Without the treaty, smoking was projected to double in about 25 years. Now, instead, the hope is that the number one preventable cause of premature death—smoking—will decline worldwide.

MECOR

Many of the leaders within ALAT are graduates of the Methods in Epidemiologic, Clinical, and Operations Research, or MECOR, program. Begun by the Society in 1994 as a single, intensive, three-day introduction to epidemiological research, MECOR has grown into a series of five week-long courses that take students from formulating a research question to developing a research paper, analyzing data, and writing a paper.

These courses fill a gap in students' medical education. Until very recently, medical schools in Latin America (as well as in the United States) did not teach students how to conduct clinical or epidemiologic research, much less how to critically assess the research literature they read in North American and European journals.

For virtually all of the more than 400 students who have taken at least one MECOR course—most return after the first year to take higher-level courses as their research interests progress—the program represents their first systematic immersion in research methodology.

Graduates have gone on to conduct research and publish on a wide range of topics, including asthma, COPD, TB, sleep apnea, air pollution, pneumonia, pulmonary rehabilitation, and quality of care. In describing conditions in their own practice, hospital, or city, they have not only influenced health policy at home, they have contributed to a more global understanding of respiratory disease.

An early group of participants from Argentina, for instance, decided to survey physician attitudes towards

smoking. Finding that a quarter of all Argentine physicians smoked galvanized the group to call for a ban on smoking at medical meetings and the inclusion of smoking cessation education in medical school curricula. Several of the original researchers, along with others who have joined the group, have lobbied successfully for public smoking bans in cities and regions throughout the country.

The ATS course, which is taught in English, has been replicated in Spanish by graduates who have created their own MECOR courses to share what they have learned with other medical professionals back home or with their colleagues.

The ultimate goal of MECOR is to develop an international network of researchers capable of describing the nature of pulmonary, critical care, and sleep diseases and conditions around the world. Such a network already exists for cardiovascular disease, and given that respiratory diseases are, as a group, the third-leading killer of people worldwide, the ATS believes it is essential to construct a similar network for respiratory disease. Successful efforts to quantify prevalence and mortality, as well as to develop prevention strategies and effective treatments for respiratory disease, will depend heavily on local knowledge of these diseases.

With MECOR well established in Latin America, the ATS has begun replicating the program on other continents. In 2007, MECOR was conducted for the first time in Africa. Sixteen students attended the introductory course, offered in collaboration with the Pan-African Thoracic Society and supported by the Nuffield Foundation. Respiratory societies in Turkey and India are also working with the ATS to develop MECOR courses in their countries. In this way, MECOR is also helping to produce the next generation of leaders in pulmonary, critical care, and sleep disorders throughout many regions of the world.

Tuberculosis

More than a hundred years after a group of U.S. physicians who were treating patients with tuberculosis began meeting, the medical society they formed—now called the American Thoracic Society—is at the forefront of international efforts to conquer TB. No other medical association can rival the ATS for its knowledge of this disease and for its long-standing efforts to prevent its spread and to treat those who become infected.

Although the eradication of TB in the United States has remained an elusive goal, the Society's efforts have turned abroad to the developing world, where 99 percent of the two million people who have the disease will die. This effort reflects the idealism of ATS members, as well as the reality in today's global world that health threats elsewhere are threats everywhere. As a Society and as a nation, we cannot afford to be complacent about TB (see related story on the ATS's legislative agenda on p. 25).

With support from the U.S. Agency for International Assistance, the ATS led a global effort, through the Tuberculosis Coalition for Technical Assistance, to develop the first International Standards for Tuberculosis Care. These standards established a widely accepted level of care that all practitioners, public and private, from wealthy and poor nations, should achieve in managing patients who have, or are suspected of having, TB.

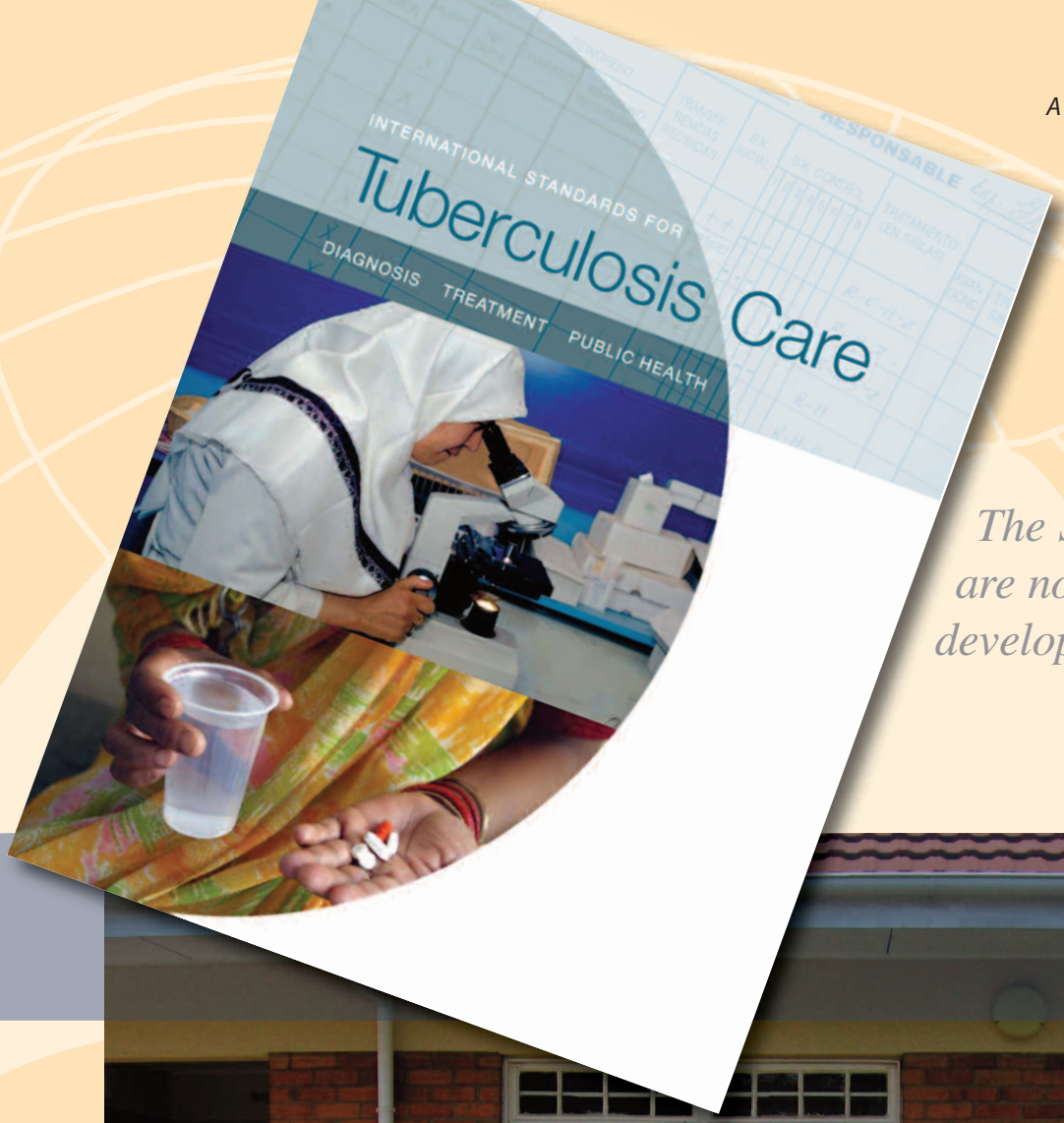
The writing committee that developed the standards was especially concerned about reaching healthcare providers in developing countries who work outside of governmental TB control programs. These private practitioners are less likely than government-sponsored healthcare workers to follow proven methods for evaluating and treating patients. Often, they fail to monitor adherence to treatment, which can lead to drug-resistant forms of the disease.

The document also emphasizes the provider's public health role. Successfully treating a patient satisfies only half of a healthcare professional's responsibility. A provider must also contact all those who may have been infected by their patient and evaluate them for the disease.

Shortly after the international standards were adopted, the ATS led an effort to give physicians and other healthcare professionals practical advice on implementing the standards. The handbook provides guidance on preparing a TB control budget, being an effective advocate for government support, and engaging patients and the community.

The handbook also summarizes the experience gained from pilot programs conducted in Indonesia, India, Kenya, Mexico, and Tanzania. Each of these countries has approached implementation differently, based on the circumstances in their country.

In addition, a "toolkit" of materials is being created that will facilitate adherence to the standards. PowerPoint slides for presenters, case studies for instructors, and patient education materials are among the tools already available to those wanting to make effective TB control a reality in their communities. ■



The Society's TB efforts are now focused on the developing world.

After years of advocacy, the ATS recently won a major victory for lung patients when Congress made pulmonary rehabilitation a national Medicare benefit.

ATS in the Nation's Capital

The American Thoracic Society has been a forceful advocate in Washington for patients and for the public's health. We seek increased funding for research and tighter standards for clean air. We champion fairer Medicare reimbursement, increased support for domestic and international tuberculosis control, and FDA regulation of tobacco.

In 2008, we enjoyed a major success when Congress passed legislation establishing pulmonary rehabilitation as a national Medicare benefit. This therapy is important to many of the patients our members treat.

In these advocacy efforts and others, the ATS partners with organizations that share our goals for better respiratory health. The Society also partners with lung patients and their families, including those represented by the ATS Public Advisory Roundtable (PAR). When patients speak, they often do so with an urgency that compels legislators and government officials to act. They amplify the message of ATS clinicians and researchers, who, amid the din of many competing demands on government, can go unheard, despite the merits of their arguments.

PAR and CCR: Two Effective Allies

Two new advocacy efforts have met with considerable success in recent years. PAR convenes an annual meeting in Bethesda, Maryland, of respiratory patient-interest organizations, at which representatives discuss their concerns and reach a consensus on their priorities. During one recent meeting, for example, attendees agreed to work to eliminate the stigma associated with certain respiratory diseases and to persuade the federal government to put a greater emphasis on translational research. After identifying the issues that needed to be addressed, representatives meet with leaders of the National Heart, Lung, and Blood Institute to articulate their concerns and ask questions.

In 2007, the Society's Council of Chapter Representatives (CCR) held its first "Hill Day." The chapters, which represent clinicians across the country, came to the nation's capital to inform their elected representatives of issues of concern to them. Among those issues were the importance of granting the Food and Drug Administration regulatory authority over tobacco products, and of responding to the shortage of pulmonary and critical care physicians. Before visiting the offices of some 50 members of the Senate and House, chapter representatives were briefed on a number of relevant legislative topics by public health and government experts, including four members of Congress.

The success of the first CCR Hill Day encouraged us to make it an annual event. In the future, PAR representatives will accompany physicians and other ATS members on their visits, so that elected officials can learn firsthand from a person whose life may be affected by the actions Congress takes.

Increasing Funding for Research

The Society's vision of eliminating respiratory illness depends on research. In recent years, the Bush Administration has submitted budgets to Congress that, from the ATS's perspective, seriously underfund research at the National Institutes of Health (NIH) and the Centers for Disease Control and Prevention (CDC). The ATS, along with other medical and scientific associations, has persuaded Congress to increase these agencies' budgets.

Although its research budget is considerably smaller than both the NIH and CDC, the Veterans Administration (VA), given the patient population it serves, funds the research of many ATS members. The Society's Washington office has been a leader in advocating for more VA research funding, and, with Congress's help, has secured increases beyond the rate of inflation.

TB Requires Heightened Vigilance

For a number of years, the ATS has cautioned government officials that TB could once again become the scourge of a generation if multi-drug-resistant or, worse, extensively drug-resistant TB spread uncontrollably. When a young man knowingly left and reentered the United States after being diagnosed with what was thought to be extensively drug-resistant TB, the threat became front-page news in 2007 and the Society's warnings proved prescient.

As this publication was being prepared, two bills drafted by the ATS—one to expand domestic TB control efforts, the other international efforts—were moving towards enactment. The global bill had passed the House unani-

mously, and the international and domestic bills had passed Senate committees unanimously and were awaiting Senate floor votes.

Pulmonary Rehab Coverage

Studies have shown that pulmonary rehabilitation improves quality of life for patients with chronic obstructive pulmonary disease (COPD). Exercise is central to pulmonary rehabilitation, which also includes education about the disease, nutritional advice, and supportive counseling.

For these reasons, ATS has long championed pulmonary rehabilitation for patients and appropriate reimbursement for the therapy so that all patients who need pulmonary rehabilitation can benefit. In 2008, at the urging of the ATS and allied professional and patient organizations, Congress passed the necessary legislation to make pulmonary rehabilitation part of the nation's Medicare policy. While this proven therapy had been covered in some states, in others it was not.

We believed that situation was unfair and detrimental to the health of COPD patients and other lung patients who could not afford to pay for rehabilitation out of pocket. We also believe that, in the long run, access to pulmonary rehabilitation will reduce health-care costs, because those who have completed a program have fewer exacerbations and are less likely to be hospitalized than those who have not.

COPD Advocacy in Other Areas

The ATS has been active on other policy fronts related to COPD. The Society led the effort to improve federal regulations for patients who require supplemental oxygen while traveling by plane. The ATS and several allies in the respiratory community successfully persuaded the Federal Aviation Administration to lift its ban on portable oxygen concentrators on commercial airplanes. Airlines now allow patients who need supplemental oxygen to board with these devises.

The ATS and its sister societies have also received a positive response to our request that the CDC develop a pubic health response to the growing epidemic COPD represents. As a first step, the CDC will begin collecting more data about the prevalence of the disease.

For Cleaner Air, Against Tobacco

The quality of the air we breathe affects us all, young and old, those who cope with respiratory disease and those who, fortunately, do not. For this reason, legislation to limit air pollution is a high priority for the Society.

In 2006 and 2007, the ATS wrote amicus curiae briefs for the U.S. Court of Appeals and the Supreme Court objecting to changes the Environmental Protection Agency (EPA) proposed to the Clean Air Act's New Source Review program. Citing a preponderance of scientific evidence, the Society argued that the public's health, particularly those already

Elizabeth Nabel, M.D., director of the National Heart, Lung, and Blood Institute, and Jim Kiley, Ph.D., who heads the institute's lung division, often attend the ATS International Conference, to exchange information with the respiratory community and to meet with some of its newest members.

diagnosed with respiratory illness, would be threatened by overturning the program, which is a key provision of the Clean Air Act. The Supreme Court agreed with the ATS.

The ATS was less successful in convincing the EPA to reconsider its new rule on fine particulate pollution. Although the new standard was more stringent than the 1997 rule it replaced, the Society believes strongly that it did not go far enough. This view was shared by many other physicians and researchers, including the panel of experts the EPA convened to address the matter. The ATS Washington office also coordinated a petition of leading environmental health experts, within and outside the ATS, calling on the EPA to set stricter ozone pollution standards.

In 2007, the ATS also filed an amicus brief in a Supreme Court case against the tobacco industry. The Court must consider whether the Racketeer Influenced and Corrupt Organizations (RICO) ACT has been properly applied by lower courts. For a number of years, the Society has strongly encouraged the U.S. Department of Justice to apply the statute, which has been instrumental in convicting leaders of organized crime, to the tobacco industry.

In 2008, the ATS advocated for FDA regulation of tobacco. At press time, the U.S. House of Representatives had overwhelmingly passed the bill, and the Senate was soon to vote on the legislation.

Clinical Care Reimbursement

The ATS's advocacy agenda embraces many other issues of importance to respiratory and critical care patients and the public. For example, the Society continually works to ensure members are appropriately reimbursed for their services. As a result of these efforts, in 2007, the Centers for Medicare and Medicaid Services (CMS) raised reimbursements for fifteen procedures that members commonly perform, both in ambulatory and in-patient settings.

More recently, the ATS joined with the AMA and other medical groups to successfully encourage Congress to overturn a presidential veto so that Medicare reimbursements for physicians would increase slightly, rather than be reduced by 10 percent. If the veto had held, many physicians would not have been able to afford to provide care to our nation's senior citizens. ■

Educational Programs

Fifty years from now, medical practice will have changed in ways that we can only begin to imagine, now that the sequencing of the human genome has mapped the contours of a new biological world.

From the Society's beginning, facilitating the exchange of knowledge of the latest scientific discoveries and translating this knowledge into ways that improve patient care have been central to its mission. With the pace of discovery and medical invention accelerating, the Society's role in education is growing more important.

The ATS provides many opportunities for scientists and clinicians to stay abreast of the latest advances in the fields of pulmonary, critical care, and sleep medicine. We do, in fact, play a unique role in bridging these medical disciplines, and many of our members belong to the Society because its programs address all three areas.

It is the quality of the science presented during ATS educational programs that has led so many clinicians to rely upon the Society to ensure that their medical knowledge is current. The healthcare professionals who attend our educational programs or access our rich library of enduring materials online or in other digital formats not only want to know what to do for their patients, they want to know why that approach is recommended.

The ATS International Conference is a highly regarded venue for presenting basic science and new biological approaches to elucidating the pathogenesis of lung disease and potential therapies. Recently, the ATS assumed responsibility for organizing another internationally recognized but smaller conference, the Grover Conference on Pulmonary Circulation. Co-sponsored biannually with the National Heart, Lung, and Blood Institute and three other medical societies, this conference emphasizes, through lectures, discussions, and poster presentations, the latest bench research in the field and how these discoveries might relate to clinical care.

The International Conference is the Society's largest education program. There are also many smaller events throughout the year that the ATS sponsors or jointly sponsors with Thoracic Society Chapters. Like the International Conference, these activities confer Continuing Medical Education (CME) credit and are designed to meet the specific needs of different audiences.

Postgraduate Courses

At the Society's postgraduate courses, which precede the annual International Conference, nationally and internationally recognized experts report on the latest developments within a wide range of topics. Recently, clinicians and clinical researchers chose from more than twenty day-long courses on topics such as lung function testing in young children, nonpulmonary aspects of sleep medicine, the diagnosis and management of diffuse interstitial lung disease, and critical care nephrology. These courses also provide practical career advice, for instance, on obtaining grant funding or improving coding and billing practices.

The ATS has added to its postgraduate offerings a course to help pulmonary and critical care physicians maintain certification through the completion of one or more American Board of Internal Medicine (ABIM) Self-Evaluation Process, or SEP, modules. Completing a number of SEPs in the years leading to the closed-book examination is now required of those who want to recertify in these subspecialties. Participants in the SEP course discuss and "solve" complicated patient cases with the help of expert faculty, thereby keeping up-to-date in their specialty and preparing for the recertification exam.

The importance of quality and safety in medicine is reflected in the growing interest in pay for performance among public and private insurers. In addition, all recertifying physicians within the ABIM system must complete at least one Practice Improvement Module (PIM) to illustrate their knowledge of quality methods. To create PIMs helpful to pulmonary/critical care specialists, the ATS Education Committee has formed a PIM subcommittee, which is collaborating with the American College of Physicians to develop a PIM on COPD. A newly formed Task Force on Quality Improvement in Performance and Safety is likely to identify additional avenues for addressing this need through education.

State of the Art Course

Each year, the Society's State of the Art Course, or SOTA, draws more than 200 attendees, most of whom are clinicians in private practice. The course, which begins on a Thursday evening and ends on a Sunday afternoon, examines the latest information in pulmonary, critical care, and sleep medicine.

More than thirty experts, drawn from the best in medical education nationwide, provide comprehensive lectures and lead interactive "Meet the Professor" seminars. Because many clinicians regularly attend SOTA, the course directors rotate the topics, so that about one-third of the content is new each year. In addition, each year's course offers sessions that are unique. For instance, the most recent SOTA offered sessions on how to manage difficult patients and malpractice issues that affect pulmonary and critical care physicians.

A Focus on Fellows, the Future

Considerable thought and energy at the ATS has been directed at developing programs and services that will enhance the education of fellows. Recently, the Society joined with the American Academy of Allergy Asthma & Immunology (AAAAI) to direct the Pulmonary and Allergy Fellows Symposia held before the start of the ATS International Conference. These highly regarded three-day programs were originated by GlaxoSmithKline, which continues to support them through an unrestricted educational grant. Fellows, who attend free of charge, represent virtually every pulmonary and allergy subspecialty training program in the United States.

The symposia are unique because they bring together fellows from both subspecialties to participate together in sessions of mutual interest. The overlapping interests of these subspecialties are reflected in the faculty, many of whom are prominent members of both ATS and AAAAI. With a student/faculty ratio of about nine to one, there are many opportunities for the trainees, most of whom are finishing their first year of fellowship, to interact with the instructors and with each other.

The symposia also typically feature a renowned physician, who talks to students about issues beyond their immediate subspecialty. Most recently, Lynne M. Reid, M.D., the first woman to achieve the rank of professor of experimental pathology in England, spoke about her career. Jeffrey Drazen, M.D., an ATS member who is editor of the *New England Journal of Medicine*, spoke the previous year about the responsibilities of manuscript authors.

The ATS is helping to improve the training of fellows in other important ways. Recently, the Society formed a task force involving four other medical societies to formulate a comprehensive list of core competencies essential for internal medicine physicians entering pulmonary medicine and critical care. The task force has consulted with the Accreditation Council for Graduate Medical Education, American Board of Internal Medicine, and counterpart European societies in pulmonary medicine and intensive care medicine. The recommendations of the task force are expected to help guide future continuing medical education in the two subspecialties, as well as postgraduate training.

Working with two of the partners in the core competencies project, the American College of Chest Physicians and the Association of Pulmonary and Critical Care Medicine Program Directors, the ATS has also developed an "in-service" examination for fellows to test their knowledge and skills in pulmonary and critical care. In addi-

tion to serving as a way for fellows to monitor their educational progress, the in-service examination provides feedback to training program directors so they can modify their curricula to emphasize those areas where their fellows have not performed well on the examination.

Transparency and Ethics

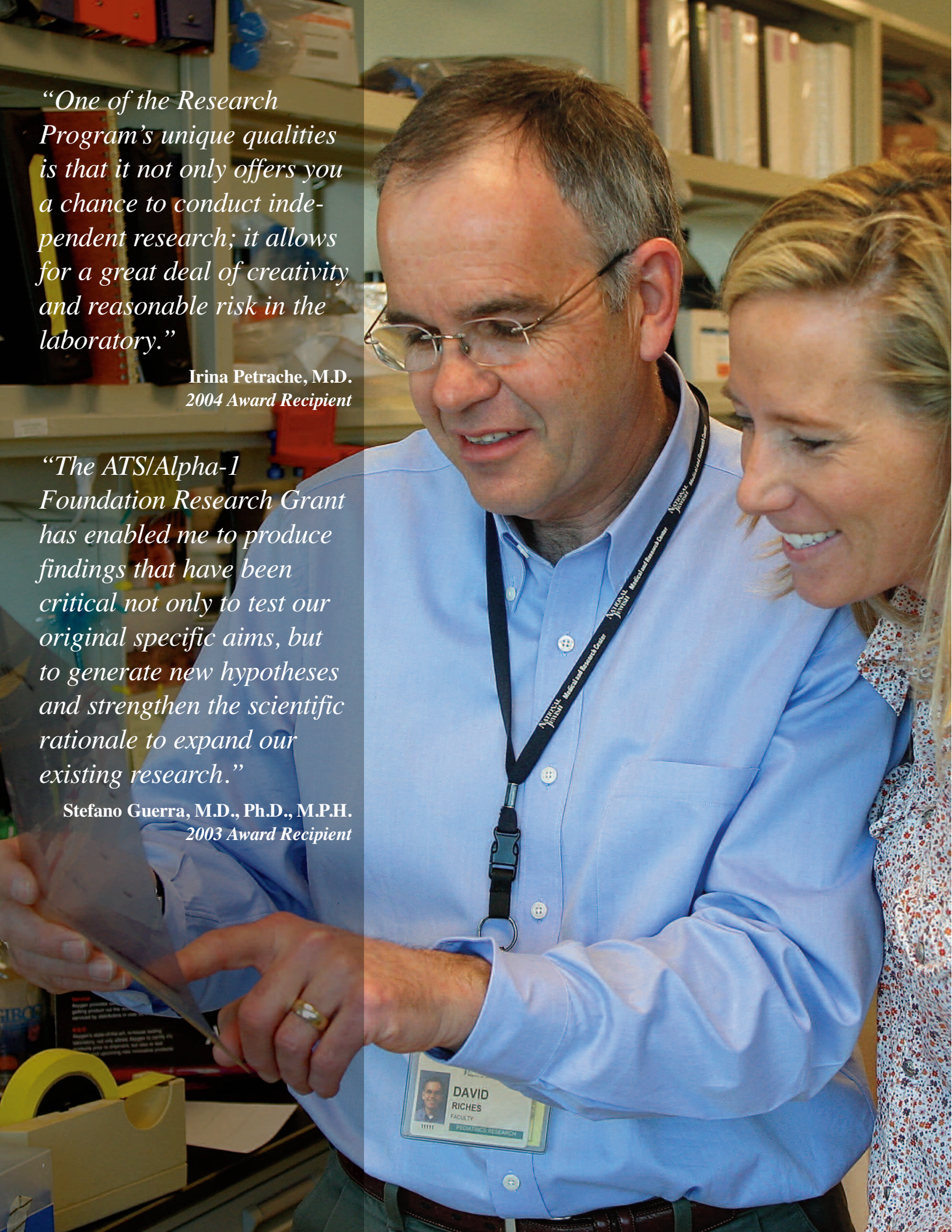
The ATS is acutely aware that its reputation rests on presenting information, to the greatest extent possible, free of any influence other than sound medical reasoning and the scrupulously accurate reporting of new knowledge. Therefore, the ATS is a leader in ensuring that its education programs and other activities are scientifically rigorous, balanced, and independent.

The ATS recognizes that every expert, whether a seminar panelist or a study author, has a point of view that is shaped by many forces. It believes that listeners and readers have a right to know what these influences are. Transparency is critical. The ATS Committee on Ethics and Conflict of Interest has developed extensive policies and procedures for disclosure of outside interests by members and others involved in ATS activities.

The goal is to ensure that the Society's work will continue to benefit from a diversity of perspectives, including those informed by academic medicine, clinical care, research, and pharmaceutical and healthcare device development, in a manner that is transparent and dedicated to the best in science and patient care. ■

"You may work here in the United States or in Africa, Asia, or other continents. You may work in a private practice or at a major university. You may be a nurse who conducts clinical research, a physician running an ICU, or a basic scientist. Although the ATS is a diverse organization, we share a common goal: to advance the prevention and treatment of lung diseases, critical illnesses, and sleep disorders. Education—of healthcare professionals, biomedical researchers, and patients—is essential for achieving our goal."

Jo Rae Wright, Ph.D.
President, ATS, 2008-2009



"One of the Research Program's unique qualities is that it not only offers you a chance to conduct independent research; it allows for a great deal of creativity and reasonable risk in the laboratory."

Irina Petrache, M.D.
2004 Award Recipient

"The ATS/Alpha-1 Foundation Research Grant has enabled me to produce findings that have been critical not only to test our original specific aims, but to generate new hypotheses and strengthen the scientific rationale to expand our existing research."

Stefano Guerra, M.D., Ph.D., M.P.H.
2003 Award Recipient

Research Program

Launching a career in biomedical research is a challenge. In recent years, federal spending for research, particularly at the National Institutes of Health and the Centers for Disease Control and Prevention, has been constrained by other budget priorities. The competition for grants is intense, all the more so for those at the beginning of their careers.

To address this problem, the ATS established the Research Program, which typically provides young investigators $50,000 a year for two years. Since 2003, the ATS Research Program has awarded nearly $4 million to forty researchers.

These researchers are making important discoveries relevant to a full spectrum of lung diseases and to life-threatening illnesses that are treated in intensive care units by critical care physicians. In addition, some of these researchers are focusing on minimizing the burden of sleep disorders. Some are researching genetic susceptibility to illnesses like asthma; others are unraveling the pathophysiology of diseases like acute lung injury; and still others are hoping to identify potential therapies to stop the progression of COPD, pulmonary fibrosis, and lung transplant rejection. Overall, as a group, these reseachers are working to reduce the burden of respiratory illnesses, the third-leading cause of death in the United States and the world; to increase survival for those admitted to an ICU; and to reduce the burden of sleep disorders.

A recent survey of 2004-2005 award recipients demonstrates the remarkable success of the program. After completing their ATS-sponsored research, nine awardees reported receiving twenty-six grants from other sources to continue their research, including seven individual investigator (RO1) grants from the National Institutes of Health (NIH). In total, the 2004-2005 recipients went on to receive more than $45 million (about half as principal investigators, the other half as co-investigators) in research funding.

Together, this group has published fifty-three original research articles in journals such as *Nature Medicine; Arteriosclerosis, Thrombosis*, and *Vascular Biology; Genes and Immunity*; and the *American Journal of Respiratory and Critical Care Medicine*. Nine of the ten ATS Research Program recipients have been recruited by academic or research institutions and now, in turn, find themselves mentoring thirty-four junior researchers.

Although certain that the Research Program is helping researchers at a crucial point in their careers, the Society is concerned that the demand for these grants outstrips its resources—in 2007, the Research Program received 176 letters of intent and invited seventy to submit full grant applications, of which fifteen will receive funding. The ATS is aggressively seeking additional sources of external funding to expand the number of grants it awards, because there are many promising proposals that go unfunded each year.

Fellows Career Development Awards

The Research Program aims not only to launch scientific careers but to solidify the young investigators' commitment to careers in academic medicine. In 2007, the ATS, along with the American Academy of Allergy, Asthma & Immunology (AAAAI), assumed responsibility for a another program established to encourage promising fellows to continue their careers in academic medicine.

Begun by GlaxoSmithKline (GSK), the Fellows Career Development Awards are now administered by ATS and AAAI, which are responsible for soliciting and reviewing applications and monitoring the progress of grant recipients. GSK continues to fully fund the one-year, $50,000 grants—there are eight for pulmonary/critical care fellows and six for allergy/immunology fellows. Grants can be used to fund equipment needs, provide salary support, or pay for conference fees, travel costs, or expenses. The expectation is that this support will enable the fellows to compete for larger grants from the NIH and other institutions, as well as to solidify their commitment to academic medicine. ■

Research Program Partners

Since the Research Program began in 2003, the ATS has relied on partners—primarily patient interest organizations, other medical organizations, and corporations—to help fund Research Program awards. The Society's current research partners are:

ALA
Alpha-1 Foundation
American Society of Transplantation
ARDS Foundation
Asthma and Allergy Foundation of America
Boehringer Ingelheim
Coalition for Pulmonary Fibrosis
COPD Foundation
Cystic Fibrosis Foundation
Foundation for Sarcoidosis Research
GlaxoSmithKline
Hermansky-Pudlak Syndrome Network
LAM Foundation
LUNGevity Foundation
Pulmonary Fibrosis Foundation
Pulmonary Hypertension Association
Respironics
Veterans Administration

www.thoracic.org

PREVIOUS | NEXT

ATS and the World Wide Web

As more members of the American Thoracic Society, as well as other healthcare practitioners, policy experts, and the patient community, turn to the Internet first for information, the Society's Web site has grown in importance. However, the ATS has gone much further than simply posting online what it has published on paper.

During the last several years, the ATS has developed a robust Web site that takes advantage of the electronic medium's ability to disseminate information instantaneously and to support interaction among users. The result is a Web site with important medical content, practice management information, and educational materials for clinicians and patients. There are also resources for basic science, clinical research, and teaching, including a recently launched Image Library.

More than a million visitors come to the ATS Web site each year, and each day the site averages about 12,000 page views. These figures do not include those who read the Society's journals online. Although accessible through the ATS Web site, the journals are hosted by Stanford University's HighWire Press.

Along with the growth in users, there has been a notable increase in the number of other sites linking to the ATS Web site. Many pulmonary, critical care, and sleep training programs link to the ATS Web site—recognition of the quality of information available on it. So do many departments of internal medicine, respiratory patient interest groups, and national and international agencies, including the National Institutes of Health, the Centers for Disease Control and Prevention and the World Health Organization. Altogether, more than 600 other Web sites link to the ATS homepage.

The increase in visitors and in sites choosing to link to the ATS Web site has helped raise the visibility of the Society in Google search rankings. Type in "ATS" from most places in the country (and many places around the world), and you're likely to see the American Thoracic Society at the top of the list. As the number and scope of online ATS patient education materials grow, we expect the Society's ranking to rise as well when patients or family members search for information about a wide range of respiratory, critical care, or sleep conditions.

Providing more information to patients, as well as to the media and to policymakers, is a priority for further ATS Web site development. First and foremost, however, the Web site has been developed to meet the needs of pulmonary, critical care, and sleep clinicians and researchers—and not just our members. Most of the intellectual content—whether it is a summary of recent applications of gene-microarray analysis or an evening session from the ATS International Conference—is available to anyone at no charge. This decision reflects our members' commitment to sharing information and erasing barriers to its rapid dissemination, which will ideally advance patient care and further scientific research.

Among the resources for healthcare professionals on the ATS Web site are the following:

Best of the Web

Endocrine function in critical illness. Acid-base physiology. Pulmonary pathology images. Today, there is probably no subject without information to be found on the Web. The problem, indeed, is not finding information but sifting through dozens, if not hundreds, of sites that might be relevant. To address this challenge, the ATS launched the Best of the Web series. Each month, the ATS conducts a search on a specific topic and reviews the best sites for authority, accuracy, currency, and utility. Visitors learn which sites have information not readily found elsewhere and are told where to find useful downloads on topics ranging from choosing the best statistical test to thoracic radiology.

Clinical Cases

The challenge of solving an unusual or complex case motivates clinicians, particularly those at the beginning of their careers. This is one reason why a clinical cases Web feature was created. Each month an ATS member, or group of members, presents a case from his or her practice and asks a series of questions. Those trying to "solve" the case can choose from multiple-choice questions and can immediately see if they are correct by clicking on an answers tab. Each case also comes with a list of

references so that anyone who wants to learn more can find the most relevant sources of information. To ensure the accuracy of the cases and their pedagogical usefulness, each is reviewed by an ATS Assembly before being posted.

ATS Forums

Even better than solving a patient problem is discussing the thinking that informs clinical decisions. ATS Forums, another new Web feature, allows members and others to post questions and to discuss, via an electronic bulletin board, the cases presented on the Web site. Another forum allows readers to create a dialogue around the columns written by ATS members for CareerTalk, an online resource for fellows and younger members of the Society.

Sleep Fragments

Similar to the case studies, Sleep Fragments asks members to review polysomnograms and then identify what conditions are identified or, conversely, to identify the areas of the tracing indicative of a particular diagnosis. The tracings, themselves, come from both adult and pediatric patients, and represent physiologic events, abnormal events, artifacts, and sleep disorders.

PDA Tips

Medical PDAs help physicians and other healthcare professionals keep a vast amount of information, including ATS guidelines, at their fingertips. Palm was the first company to realize the potential of a computer that fits into your hand or pocket. Since then, other hardware and software companies have entered the market. This monthly column reviews the latest technology, provides advice to readers, and offers links to other sites offering products and services that expand the uses of handheld computers, often for free.

Fellows and Fellowship Section

In these Web pages, internal medicine residents will find information about adult and pediatric programs in pulmonary, critical care, and sleep medicine, both in the United States and Canada. There is also information about such related training programs as allergy and immunology and environmental and occupational health. Fellows (and clinicians already in practice) will find an excellent reading list, covering thirty-seven subject areas. The list highlights both articles of historical importance and current articles that are most likely to, or already have, changed clinical practice. ■

The ATS provides its members, as well as the pulmonary, critical care, and sleep communities, with unique resources to advance their research and improve patient care. The Society is now creating opportunities on its Web site for members to learn from each other by posing questions and providing answers and a list of resources for further study.

ATS at a Glance

Organization Name
American Thoracic Society (ATS)

History
Founded in 1905 as the American Sanatorium Association to prevent, control, and treat tuberculosis; renamed the American Trudeau Society in 1938 and the American Thoracic Society in 1960. Originally a division of the American Lung Association, the Society became independently incorporated in 2000.

Membership
More than 15,000 physicians, scientists, nurses and other allied healthcare professionals, 28 percent of whom work outside the United States.

Specialties
Pulmonology, critical care, sleep medicine, infectious disease, pediatrics, allergy/immunology, thoracic surgery, behavioral science, environmental, and occupational medicine, among others.

Budget
$27 million/year

2008-2009 Officers
Jo Rae Wright, Ph.D., President
J. Randall Curtis, M.D., M.P.H., President-Elect
Dean E. Schraufnagel, M.D., Vice President
Nicholas S. Hill, M.D., Secretary-Treasurer
David H. Ingbar, M.D., Immediate Past-President

Publications
Through its three peer-reviewed journals—the *American Journal of Respiratory and Critical Care Medicine*, the *American Journal of Respiratory Cell and Molecular Biology*, and *Proceedings of the American Thoracic Society*—the ATS supports the dissemination of groundbreaking research.

Education Activities
Through the national office and its chapters, the Society sponsors hundreds of CME activities each year, including its annual International Conference, which draws about 16,000 physicians and scientists from around the globe. The annual State of the Art (SOTA) attracts clinicians from around the country for an intensive update of best medical practices in pulmonary, critical care, and sleep medicine.

Statements and Guidelines
Through the publication of clinical statements and guidelines, the ATS establishes the latest and best standards of care for a variety of respiratory, critical care, and sleep disorders in adults and children. To date, the Society has published nearly a hundred documents on topics ranging from pediatric asthma testing to diagnosing and treating tuberculosis.

ATS Assemblies
The diverse interests of members are represented by the Society's thirteen specialty-specific assemblies and two sections, which play a large role in planning the International Conference and in developing statements and guidelines.

ATS Public Advisory Roundtable (PAR)
PAR is the arm of the ATS that incorporates patient and family perspectives into the Society's activities. Comprising fifteen member organizations representing individuals affected by lung disease, PAR works with the ATS to advance shared education, research, patient care, and advocacy goals.

ATS Chapters
With the common goal of reducing the burden of respiratory diseases, critical illness, and sleep disorders, each chapter represents a state or other geographical area and includes in its membership thirty or more active ATS members. Each chapter designates a representative to the Society's Council of Chapter Representatives, which provides a national forum to address issues of education, clinical practice, research, and public policy.

Advocacy
Through its office in Washington, D.C., the ATS promotes increased funding for lung research, enforcement of the Clean Air Act, fairer Medicare and Medicaid reimbursements, and holding tobacco companies accountable for harm to the public's health.

ATS International Activities
The ATS engages its members around the globe and has formed productive partnerships with other international respiratory organizations. Working with the World Health Organization (WHO), ATS has produced the first international guidelines for TB diagnosis and treatment. The Society's Methods in Epidemiology, Clinical and Operations Research (MECOR) program has graduated more than 400 Latin American physicians. At the request of respiratory societies in Turkey and Africa, the course is now being offered to other international healthcare professionals.

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