

## **American Thoracic Society Documents**

### **An Official American Thoracic Society/European Respiratory Society Policy Statement: Disparities in Respiratory Health**

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This official statement of the American Thoracic Society (ATS) and the European Respiratory Society (ERS) was approved by the ATS Board of Directors, XXXXXXXXX, and by the ERS XXXXXXXX, XXXXXXXXX

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## **Abstract**

**Background:** Health disparities, defined as a significant difference in health between populations, are more common for diseases of the respiratory system than for those of other organ systems because of the environmental influence on breathing and the variation of the environment among different segments of the population. The lowest social groups are up to 14 times more likely to have respiratory diseases than are the highest. Tobacco smoke, air pollution, environmental exposures, and occupational hazards affect the lungs more than other organs and occur disproportionately in ethnic minorities and those with lower socioeconomic status. Lack of access to quality health care contributes to disparities.

**Methods:** The executive committees of the American Thoracic Society (ATS) and European Respiratory Society (ERS) established a writing committee to develop a policy on health disparities. The document was reviewed, edited, and approved by their full executive committees and boards of directors of the societies.

**Results:** This document expresses a policy to address health disparities by promoting scientific inquiry and training, disseminating medical information and best practices, and monitoring and advocating for public respiratory health. ERS and ATS have strong international commitments and work with leaders from governments, academia, and other organizations to address and reduce avoidable health inequalities. Their training initiatives improve the function of health care systems and health equality. Both the ATS and ERS support all aspects of this document, confer regularly, and act together when possible, but the activities to bring about change may vary because of the differences in the continents where the two organizations carry out most of their activities.

Conclusions: The ATS and ERS pledge to frame their actions to reduce respiratory health disparities. The vision of the ATS and ERS is that all persons attain better and sustained respiratory health. They call on all their members and other societies to join in this commitment.

## **Executive summary**

Health disparities, defined as a significant difference in health between populations, are common in persons with respiratory diseases, which have strong environmental associations. Life expectancy differences at birth between lowest and highest socioeconomic groups can reach as much as 10 years for men and 6 years for women. The lowest social groups are up to 14 times more likely to have respiratory diseases than are the highest. Poor children with cystic fibrosis have 3.6 times the adjusted risk of death compared to more wealthy children. The American Thoracic Society (ATS) and the European Respiratory Society (ERS) are making a multipronged effort to decrease respiratory health disparities.

This policy reaffirms the societies' determination to promote respiratory health and alleviate suffering from respiratory disease in all individuals. Addressing health inequalities lies at the core of ERS and ATS' missions and is fundamental to their policies, actions, and attitudes.

- A goal of the ERS is raising the level of education to a uniform, high-level across the European Union by providing resources, standards, and procedures to ensure better education and facilitate access and mobility for pulmonary specialists. A goal of the ATS is to increase the numbers of under-represented minorities in adult and pediatric pulmonary and critical care medicine in North America.

- Reducing respiratory health disparities based on race, ethnicity, economics, and geography requires awareness and understanding of the vulnerable groups, the disparities that can be corrected most easily, and those that need the most urgent correction. The societies will prioritize problems in which they have the most influence.
- The ERS and ATS support programs that educate the public about activities such as smoking and drug-addiction. They support increasing awareness and education about rare diseases that affect only a portion of the population to improve the access of afflicted individuals to appropriate care. The ERS and ATS support broad access of patients with respiratory disease to specialists. They espouse greater access to health care and other national programs designed to reduce health care inequalities.
- The ERS and ATS support comprehensive tobacco-control strategies that include state and national policies that are effective in decreasing smoking in the general population.
- The ERS and ATS affirm the principle that everyone is entitled to clean and safe air. The ATS and ERS promote inquiry into climate change and its effects on respiratory health.
- The ATS and ERS will develop programs to educate professionals and policy-makers to reduce disparities in respiratory health. Creating tools for education, community involvement, and health literacy will be developed, tested and disseminated.
- The ERS and ATS will take a leading role in closing the gap in world health care disparities by such activities as the Tallinn Conference on health care disparities that brought together leading experts from governments, academia, and organizations to reduce avoidable health

inequalities and improve health care systems. They will work with the World Health Organization and other societies, agencies, and organizations to eliminate disparities in respiratory health and other noncommunicable diseases.

- The ATS and ERS will foster attitudes among their members that promote and frame actions to reduce disparities.
- The vision of the ATS and ERS is to help all persons to attain better and sustained respiratory health. They call on all their members and other societies to join in this commitment.

## **Background**

### *Definition*

Health disparities are defined as a significant difference in health between populations. The disparity could be across groups classified by race, ethnicity, sex, sexual identity, age, disability, social or economic status, geographic location, or other population features [1]. Extensive data document substantial disparities across populations in the frequency and outcomes of major respiratory diseases in Europe and the United States. Generally, certain racial and ethnic minorities and those with less education and lower incomes have the highest rates of morbidity and mortality [2].

### *Scope of the problem*

Disparities are of concern for all major respiratory diseases. Chronic obstructive pulmonary disease (COPD) is a chronic, complex, debilitating and life-threatening disease that progresses over time. The World Health Organization (WHO) predicts that it will be the third leading cause of death by 2030. Millions of people suffer from asthma, one of the most prevalent chronic conditions in the world. Lung cancer remains the number one cancer killer in the world and is likely to increase in prevalence faster than any other type of cancer. Sleep apnea is common and increasing because of the increase in obesity. These respiratory diseases unequally affect the socioeconomically disadvantaged and some ethnic minorities. Health care inequality, especially in children, causes a higher proportion of deaths from respiratory disease than disease in any other organ [3] [4].

In the European Union, there are substantial disparities for general health indicators. More than five times as many babies die in their first year of life in certain countries compared with others. Life expectancy differences at birth between lowest and highest socioeconomic groups can reach as much as 10 years for men and 6 years for women [5]. The health divide in Europe is particularly prominent for respiratory diseases. Social inequality is associated with a greater proportion of deaths from respiratory disease than from any other disorder [6]. Compared with individuals in the highest social group, those in the lowest social group are up to 14 times more likely to have respiratory disease. In people with asthma, those from low socioeconomic groups are more likely to smoke than are those from higher groups. Additionally, more people from low socioeconomic groups believe that they cannot intervene to control their asthma symptoms than do those from higher status groups [7].

In the United States, there are similar disparities for general health indicators, including infant mortality rates and life expectancy [8]. The prevalence of asthma is 16% among Puerto Rican children, 15% among children with multiple races, compared to 8.2% among non-Hispanic white children and 5.2% among Asian children. The prevalence of asthma is 11.2% for children in families living below the poverty level compared with 8.7% for children in families earning 200% above the poverty level. Black children are more likely to be hospitalized and die from asthma than white children [9]. Children with cystic fibrosis of low economic status (as determined by Medicaid use) have lower forced vital capacity, height, and weight and higher chance of exacerbations. They have 3.65 times the adjusted risk of death compared to children not on Medicaid [10],

### *Contributing factors*

Developing a disease and the severity of that disease are largely affected by an environmental exposure (environmental risk) and predisposition of persons to develop a specific condition (genetic risk) (see figure). For respiratory disease, the exposure is usually breathing unhealthy air. The factors associated with the exposure and the resulting loss of health are influenced by population inequalities that contribute to health disparities. Health disparities are affected by economic status, lack of health care access, health literacy, cultural beliefs, social and family situations, a governmental structure or laws that do not protect vulnerable individuals, individual preferences, availability of quality health care providers, and racial and ethnic discrimination. The causes of health disparities may be overt, such as the lack of insurance, and therefore access to health care, or subtle, such as unconscious bias and stereotyping [11, 12].

In addition to the factors influencing general health disparities, the variation in respiratory health has several specific causal influences, such as smoking prevalence, air quality, environmental hazard exposure, and influenza vaccination coverage. The variation in asthma prevalence among different ethnic groups is not fully explained. More importantly, the combination of these factors may lead to unfortunately high risks for adverse outcomes. For example, lung function at birth is a major determinant of lung function in childhood and adulthood. Maternal malnutrition and smoking lead to placental insufficiency and low birth weight, which is associated with reduced lung function and respiratory morbidity in adulthood.

Tobacco use is the leading cause of preventable illness and death in Europe and the United States. It is a powerful cause of lung cancer and COPD, as well as many other diseases. Smoking rates vary widely within populations and across nations. Disparities in smoking rates persist among certain ethnic minority groups, such as Native Americans. It is increased among those with low income, low social status, history of mental health and substance abuse, and



those who are unemployed or drop out of high school. Lesbian, gay, bisexual, and transgender individuals have higher smoking rates than the average across the population [13] [14] [15] [16].

Outdoor air pollution is usually greater in urban areas and most strongly affects the health of people who live and work near its sources. Racial and ethnic minority groups are more likely to live in cities with poorer air quality and, therefore, experience a disparately larger impact [17], [18], [19]. Indoor air pollution from smoky cooking fire is more common in rural areas. It, along with ambient cigarette smoke, is a major factor contributing to respiratory illness in the world.

Human immunodeficiency virus (HIV) infection is a major risk factor for pulmonary disease. In the United States, racial and ethnic minorities, with the exception of Asian-Pacific Islanders, experience disproportionately higher rates of infection with HIV than whites. Men who have sex with men are also at higher risk [20].

Sickle cell disease, which is an inherited condition primarily of individuals of African descent, has some of its most severe effects on the lung. Other genetic diseases affect only certain populations.

Environmental exposures and occupational hazards affect the lungs more than other organs and occur disproportionately in ethnic minorities and those with lower economic status [21] [22]. People may be paid higher salaries to work in occupations in unhealthy environments, thereby increasing risk for poorer persons in need of money. Smoking aggravates many conditions. Vulnerable persons may have grown up lacking cultural and community awareness of the dangers of tobacco use. Persons using unhealthy substances (such as tobacco and other drugs) are less likely to practice other healthy behaviors, such as having annual influenza vaccinations [23].

The same factors driving respiratory health disparities lead to disparities for other major diseases, such as cardiovascular disease and diabetes. When multiple or complicated diseases occur in disadvantaged individuals, the consequences may be amplified because the resources to correct or cope with them are less. The problems are further worsened if the public health infrastructure does not intervene effectively on behalf of the patients.

### Economic burden of health disparities

The economic burden of respiratory health disparities can be decreased with access to preventive care, early treatment of illness, and the use of primary care health care providers instead of emergency departments. In the United States, LaViest and colleagues estimated the cost of health inequalities and premature death between 2003 and 2006 as \$1.24 trillion [24]. In the European Union, losses related to health inequalities have been estimated to cost €1,000 billion or 9.5% of GDP annually [25].

### Research can reduce disparities

Research and innovation are crucial to understanding, treating and controlling respiratory diseases generally and for addressing health disparities specifically. Currently, medical research in Europe lacks a strong strategic central framework. Cross-fertilization between clinical and basic science disciplines is vital and can accelerate the adoption of basic science findings into clinical practice. New discoveries can reduce the burden of disease globally, regardless of race, socioeconomic status, and other characteristics, for the present and future.

## Methods

The executive committees of the ATS and ERS established a writing committee to develop a policy on health disparities. The members of which are the listed authors of this paper. Potential conflicts of interests of the committee were vetted and managed according to the policies and procedures of both the ATS and ERS. The document was reviewed, edited, and approved by the full executive committees and then the boards of directors of the societies.

### **What the American Thoracic Society and the European Respiratory Society are doing to address disparities**

The American Thoracic Society and the European Respiratory Society consider that professional medical societies can be extremely important in developing solutions, not only for clinical problems, but for broader problems that affect population health. In the clinical realm, development of guidelines often changes how diseases are studied, diagnosed, and managed. These guidelines may also influence the funding, direction of research, and approach to public health. Professional societies through their meetings, websites, and journals educate and raise awareness that may influence professional behavior and even the norms of society.

Many activities of professional medical societies influence population health and its determinants, including promoting scientific inquiry, training, disseminating medical information and best practices, and monitoring and advocating for effective public health strategies. Such activities can be powerful effectors for improving health care inequalities. However, the American Thoracic Society and the European Respiratory Society recognize that there are multiple factors contributing to health disparities; some cannot be reached by the activities of professional medical societies. For example, tobacco use among vulnerable populations reflects a complex interaction of many components, such as socioeconomic status, group behavior,

stress, genetic and other biologic factors, tobacco-company targeted advertising, price of tobacco products, and capacities of communities to affect tobacco-control. Thus, a multipronged approach is typically needed to address health disparities and medical societies may affect only some of the components.

### *Training*

#### American Thoracic Society

Correcting the imbalance in the numbers of persons entering the health care field is important in reducing disparities in respiratory health. Stark ethnic disparities exist in the health care professions in the United States. The National Research Council has reported that recruitment of minorities into careers in biomedical research continues to be low, despite programs intended to foster such recruitment [26]. The American Association of Medical Colleges reported that the percentages of minorities among United States physicians are far less than their representation in the United States population [27]. A membership survey of ATS members performed in 1999-2000 revealed surprisingly low percentages of members reporting being African-American (1.5%), Hispanic (3.9%), Native American or Alaskan native (0.1%), or Pacific Islander (0.1%). At the same time, the ATS Training Committee surveyed training directors to determine the frequency of minority members among current trainees in United States adult and pediatric pulmonary and critical care fellowship programs. The results indicated remarkable under-representation of trainees of African-American (4%), Hispanic (8%), Native American (0.9%), or Pacific Islander (0%) origins. This implies that minority pulmonary and critical care physicians and scientists will continue to be under-represented in the future (unpublished report).

The challenge of recruiting minority group members into careers in pulmonary and critical care medicine and research is complex. Ultimately, success is dependent upon the development of a stream of trainees who are attracted to such careers early in their education, such as high school or even earlier. Because activity to improve early training is beyond the scope of the American Thoracic Society, its efforts must be in conjunction with others groups.

The ATS Membership Committee has held a Diversity Forum at the ATS International Conference for 11 years. This program, which attracts up to 200 attendees, features a speaker or a panel discussion that focuses on the diversity in practice and academic careers. Twenty minority trainee travel awards are presented to acknowledge individual scientific research or other activities related to reducing racial disparities.

The ATS held a symposium on Racial Disparities in Pulmonary and Critical Care at the 2011 International Conference. The symposium's purpose was to highlight issues related to diversity in the ATS community. In 2013, the American Thoracic Society Meeting will include its first "Year in Review" on "Health Disparities in Pulmonary, Critical Care and Sleep Medicine".

#### European Respiratory Society

Addressing health care disparities in Europe and including members of the affected groups in finding solutions involves a different paradigm in Europe. While the United States has federal regulations and training and examination procedures that are homogeneous across the country, Europe is quite different. European countries each have their own means and access to care. European countries also have their own educational rules and examination procedures. These differences are reflected in pulmonology training, specialty and residency programs that differ

widely across countries. While most specialty training programs last 5 or 6 six years, the United Kingdom, Ireland and Italy have 4-year programs. On the other hand, training lasts 7 years in Poland and 7.5 in Denmark. The content of training also differs. For example, some programs contain mandatory training in research, but many do not. Some include training in oncology, allergology or sleep medicine, but others do not. The number of invasive procedures performed or required is not always defined; and practices differ according to national guidelines.

Other important differences are the numbers of pulmonologists and the number of pulmonology trainees in each European country. Although the mean number of pulmonary specialists per 100,000 population is 4.5, it ranges from 0.97 in the Republic of Macedonia to 10.56 in Greece. The number of trainees and the ratio of adult pulmonologists to trainees also differ. The mean ratio is 8.3, but the range goes from 34.3 for Georgia to 1.4 for Ireland. Many of the countries with the higher ratios are Eastern European and have large numbers of tuberculosis specialists who are classified as pneumologists. These differences may reflect the total number of doctors per population, health care funding, and the health system structure. For example, there are few general practitioners in Greece, which has a health system structured around specialists.

These factors lead to variation in respiratory medicine specialists and respiratory medicine specialty care. In the early 2000, the ERS initiated a program to harmonize education across Europe, the Harmonised Education in Respiratory Medicine for European Specialists (HERMES) initiative. The mission of the initiative was to encourage uniform, high-level training across the European Union, by providing educational resources, and a standardized HERMES examine and certification (HERMES diploma). These resources, standards, and procedures ensure better education and facilitate access and mobility for pulmonary specialists. An improved, uniform specialty will improve respiratory health care across all levels of society, but especially in areas of most need. The curriculum was developed and the first HERMES diploma

exam took place in 2008. Currently more than 150 pulmonologists take the exam every year and many countries have the HERMES diploma as their certifying exam. The ERS School has developed curricula for pediatric pulmonology and sleep medicine and are preparing curricula for critical care and thoracic oncology. Educational standards and exams are also being prepared for allied health professionals in spirometry and physiotherapy.

### *International activity*

The European Respiratory Society and American Thoracic Society have strong international commitments.

Now in its 18<sup>th</sup> year, the ATS Methods in Epidemiology and Clinical Outcomes Research (MECOR) program was designed to improve global lung health through the development of local and regional lung disease research capacity in developing countries. This program is developing a cadre of clinicians and scientists that provide the capacity for collaboration in clinical and epidemiologic projects. A goal of these courses is to reduce health care inequities worldwide. MECOR courses are offered in Latin America, Africa, Vietnam, Turkey, and India. The ERS is a founding member of the European Chronic Disease Alliance. A key goal of this alliance is to reduce health inequalities through the creation of a European Union (EU) strategy to stem the rise in chronic diseases in Europe.

The ERS Summit in Tallinn in June 2012 brought together leading experts from governments, academia, and organizations such as the WHO and the European Commission, to address and reduce avoidable health inequalities. The summit focused on how new members of the European Union can reduce health inequalities and implement the Tallinn Charter [28]. A key message of the Tallinn Charter is that well-functioning health care systems are essential to

improve health equity. Health care systems can be improved through the active involvement of scientific and medical societies. An ERS representative attended the United Nations High Level Meeting on prevention and control of noncommunicable diseases in September 2011. This landmark meeting focused on health inequalities in chronic illness. The ERS and ATS fully support efforts to implement the resolutions of this meeting.

As part of its commitment to improving global health, the ATS strongly advocates for control of tuberculosis both within the United States and globally. The ATS was instrumental in the creation of a Tuberculosis Elimination Caucus in the U.S. House of Representatives and, along with other partners, helped the US Congress establish ongoing funding for both domestic and international tuberculosis control. The ATS, working within the World Health Organization, lead the development of the first international standards for tuberculosis diagnosis, treatment, and control.

The ATS was instrumental in helping establish other professional respiratory societies, such as the Asociación Latinoamericana del Tórax (ALAT) and the Pan African Thoracic Society. Both ERS and ATS work with many international professional groups to alleviate health care inequities in pulmonary, critical care, and sleep medicine.

### *Advocacy*

ERS and ATS support advocacy in many forms. The ATS advocacy in Washington DC centers on good respiratory health for all and promotes tobacco control, reduced air pollution, and research to improve asthma, tuberculosis, and other respiratory diseases that disproportionately affect vulnerable people in society. It espouses greater access to health care and other national programs designed to reduce health care inequalities. The ATS and its members regularly meet



and communicate with elected officials, provide expert testimony at government panels and hearings, write letters to the editor, file friend of the court briefs, and hold briefings for opinion leaders to attain these goals.

ERS is a founding member of the Alliance for Biomedical Research in Europe, which advocates for a European Council for Health Research that could help centralize and coordinate biomedical and clinical research in the wider framework of Horizon 2020 (the next EU instrument to fund research). Such a platform would consolidate expertise and resources across borders, providing significant benefit. It would address the current fragmented research landscape in Europe and help accelerate the translation of discoveries into applications that will influence healthcare delivery into the future. ERS is working to ensure that research to combat respiratory disease continues to be a priority. It advocates for a strategic approach that matches funding with unmet medical needs and knowledge gaps to provide future solutions to address health inequalities.

The ERS website has many resources for policy makers and stakeholders. These include the publication of the **European Roadmap in Respiratory Diseases** and the **European Lung White Book**. These publications aim to show policy makers and stakeholders the importance of respiratory health and the burden of disease and to help advocacy. The ATS produced a similar book, **Breathing in America: Diseases, Progress and Hope**, aimed at the US Congress and other policy makers. These publications assess the burden of respiratory disease and its reduction.

### *Resources*

The ATS and ERS provide many resources to their members and the public through their websites and other venues.

The ATS website provides links to resources that support training of minority members. This includes a variety of programs of the US National Institutes of Health (NIH), such as their Minority Biomedical Research Support Awards from the National Institute for General Medical Sciences that reach undergraduate, graduate, and medical students. The NIH also offers research supplements for underrepresented minorities and additional funding to hire minority researchers at all levels. The ATS website also includes links to minority faculty development, minority access to research careers, faculty postdoctoral positions, and institutional programs for minorities, travel, graduate training (PhD), and undergraduate training. These opportunities are available from the NIH, Robert Wood Johnson, Ford Foundation, and other sources.

The ERS website contains learning resources with a wealth of updated educational material including power point presentations, guidelines, live online seminars, interactive case reports, and CME accredited articles. The ERS also produces books, journals, and monographs, many of which have multiple-choice questions that are linked to continuing medical education credits. All members have access to the learning resources website; and ERS membership is free for those under 35 years of age. The European Lung Foundation, which is the public voice of the ERS, provides the public, patients, and their families with reliable and relevant information regarding common and less common respiratory conditions, in most European languages.

**What American Thoracic Society and European Respiratory Society plan to overcome disparities in respiratory health**

This American Thoracic Society-European Respiratory Society Policy on Disparities in Respiratory Health reaffirms their determination to promote respiratory health and alleviate suffering from respiratory disease in all individuals. Addressing health inequalities lies at the core of ERS and ATS missions and is fundamental to their policies, actions, and attitudes.

While health disparities have complex causes, the ATS and ERS feel that their organizations can contribute to their elimination. Approaches for doing so include: 1) shaping research agendas that will contribute relevant evidence, promoting research training on the topic, and providing venues for discussion of research on disparities; 2) increasing awareness among health care professionals about disparities and preparing them to engage in finding solutions; 3) advocating for policies that will address the sources of health disparities; and 4) tracking progress in reducing health disparities. The ATS and ERS propose additional action steps to lead to long-term solutions:

### *Tobacco*

Smoking is the leading preventable cause of death in the world and kills half of all lifetime users prematurely [29]. There is no safe level of exposure to tobacco smoke and legislative measures over recent years recognize this. The ERS and ATS support tobacco control measures such as plain packaging of tobacco, mandatory large pictorial warnings, point of sale display bans, and the full implementation of the WHO Framework Convention for Tobacco Control (even though the USA has not ratified it). ERS calls for a robust and strong revision of the EU Tobacco Products Directive. The ATS strongly supports the US Food and Drug Administration's authority to regulate all tobacco products and the forceful implementation of this authority. The ERS and ATS oppose nonmedical forms of nicotine delivery, such as electronic cigarettes and other smokeless tobacco products, until harm reduction strategies are fully studied.

The ERS and ATS will continue to support comprehensive tobacco-control strategies [30], which include state and national policies that are effective in decreasing smoking in the general population, such as public smoke-free policies for all workplaces, restaurants, bars, and entertainment venues. The ERS and ATS support increasing the price of tobacco products and reducing the ability of the tobacco companies to promote or sponsor their products. The ERS and ATS support measures that reduce the accessibility of tobacco products to youth. They support expanding tobacco cessation counseling and services in vulnerable populations. They call on their members and the medical community to lead these efforts.

### *Environment*

The ERS and ATS will promote the ERS "10 Principles for Clean Air" [31] that state that everyone is entitled to clean and safe air. Climate change can worsen the effects of air pollution, especially where local environmental factors affect the quality of the air. The ATS and ERS will promote inquiry into climate change and its effects on respiratory health. European Union environmental legislation covering air quality is being reviewed in 2013. The ERS calls for more stringent air quality standards (in-line with WHO guidelines) to be promulgated into national law that extends to all EU countries, along with enforceable penalties for rule-breakers. The ATS will continue its strong advocacy for clean air and protection of the environment and continue to maintain its strong support for the US Environmental Protection Agency.

### *Occupational respiratory disease*

Occupational respiratory disease remains an important concern with conditions such as allergies, occupational asthma, COPD, and pneumoconiosis continuing to affect European and American workers in the 21st century. The ERS has joined as a partner to the EU Healthy

Workplaces campaign, to combat health inequalities by providing scientific and medical evidence showing the impact of workplace conditions on respiratory health. The ATS will continue to advocate, educate, and promote research on respiratory occupational health and safety.

### *Chronic Diseases*

Disease prevention and health promotion are guiding tenets of the ERS and ATS. A major part of chronic diseases can be prevented by reducing common risk factors such as tobacco use, hazardous or unhealthy environments, physical inactivity, and poor nutrition. These risk factors are often associated with health inequalities.

The ERS and ATS will be involved in the WHO consultations to create a monitoring framework and targets for the prevention and control of noncommunicable disease following the United Nations programs on their prevention and control. ATS and ERS support the decision of the World Health Assembly to adopt a voluntary global target of a 25% reduction in premature mortality from noncommunicable diseases by 2025.

### *Advocacy*

The ATS and ERS will increase advocacy efforts that underscore reduction in respiratory health disparities. They will emphasize finding answers at national and international forums attended by policy makers who can implement solutions.

Reducing respiratory health disparities based on race, ethnicity, economics, and geography requires awareness and understanding of the disparities, the vulnerable groups, and which

disparities can be corrected most easily. The societies will raise awareness of what interventions are possible and which ones work. They will also raise awareness that worse disparities need more urgent correction. The societies will pursue problems in which they have the most influence. Advocacy for stringent tobacco control laws and air quality legislation will reduce respiratory health disparities.

Lung health interventions need to be targeted at individuals in the most disadvantaged communities. Specific interventions to reduce the effects of respiratory health inequalities should include improved national policies for prevention of disease and promotion of respiratory health. The ERS and ATS support programs that treat and educate the public about activities such as smoking and drug-addiction. They support increasing awareness and education about rare diseases that affect only a portion of the population to improve the access of afflicted individuals to appropriate care. For these diseases, they support neonatal screening and national registries to identify the problems of individuals with rare diseases to improve their outcomes. The ERS and ATS support broad access of patients with respiratory disease to specialists. They encourage centers of excellence for care and research on respiratory diseases disparately affecting society.

The ATS and ERS will promote lessons learned from existing international health care delivery models that have reduced the burden of disease in other countries and settings (e.g. national tobacco control programs).

The ERS will advocate that European governments fully implement EU Council conclusions on asthma [32]. The ATS will develop a “lung corps” of the next generation to encourage advocacy.

*Other steps to reduce inequalities*

The ATS and ERS will foster identification of the problems of and solutions to respiratory health care disparities with scientific rigor. They will promote studies on the origins of health disparities, including the environmental, molecular, and other relevant influences with the main goal being to change outcomes for patients. Understanding root causes can expedite solutions to avoidable health inequalities, but it is critical to coordinate and integrate research between basic sciences, clinical medicine, and public health to obtain the greatest benefit. Committed and collaborative multidisciplinary experts with stakeholder involvement can best improve respiratory health disparities.

The ATS and ERS will develop programs to educate professionals and policy makers to reduce disparities in respiratory health. Creating tools for education, community involvement, and literacy that will be developed, tested and disseminated.

The ATS and ERS will promote strategies around the models that have shown that reducing health disparities results in better economic as well as clinical outcomes. They will take these strategies to national levels to complement anticipated changes in health care delivery models.

The ATS and ERS will foster attitudes among their members that promote and frame actions to reduce disparities.

The ATS and ERS will cooperate with other societies, agencies, and organizations to affect elimination of disparities in respiratory health. The ERS will work with European medical societies and other health-care stakeholders to bridge the health divide. It will promote sharing of ideas and knowledge to increase the dissemination of the best healthcare practices in Europe.

The ATS and ERS will develop a multidisciplinary corps of respiratory experts committed to finding solutions for respiratory health disparities.

The vision of the ATS and ERS is to help all persons to attain better and sustained respiratory health. They call on all their members and other societies to join in this commitment.

This official statement was prepared by XXXXXXXXX

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### **Legend for figure: The path to poor health**

Illness results from an event occurring in or to a susceptible person. The event is usually an environmental exposure and being susceptible is affected an individual's genetic makeup.

Health disparities can result from either and can be ameliorated by specific steps. The path to sickness is illustrated in the blue boxes. The interventions to ameliorate them are contained in the red boxes (adapted from an illustration by Dr. Jonathan Samet with permission).

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