

Climate Change at the Bedside? Observations from an ATS Membership Survey

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In this month's issue of *AnnalsATS*, Sarfaty and colleagues (pp. 274–278) report the results of a randomly sampled survey of U.S. American Thoracic Society (ATS) members about climate change and health (1). The survey respondents were predominantly clinicians (89% held an M.D. or other clinical professional degree). Overall, 89% of member respondents judged that climate change is presently happening and 68% indicated that climate change is mostly or entirely caused by human activity. In a geographically representative sampling of the membership, the 17% of ATS members who responded to the survey are clearly ahead of the general public in recognizing the effect of climate change, which is now deemed by the Intergovernmental Panel on Climate Change to be “unequivocal,” and mostly a result of human activity, with 95–100% certainty (2).

What may be most surprising to many about the survey results is that most physicians responding to the survey reported that they have already observed symptoms among their patients that they attribute to climate change. For example, 77% of respondents have noted increases in the severity of chronic illness resulting from spikes in air pollution as a consequence of climate change. Of the many clinical anecdotes provided, several respondents commented about regional wildfire activity and urban high-ozone events affecting their patients with asthma or chronic obstructive pulmonary disease (COPD). A majority of respondents also noted increases in allergic disease symptoms and injuries resulting from changes in weather.

Does this mean climate change has already reached the clinic and the bedside?

Observations by these ATS members are in line with a growing literature of mostly observational studies, which indicate that patients with respiratory disease are at particularly high risk for complications resulting from the changing climate. Periods of high temperatures can result in high ozone levels that have been associated with exacerbations of respiratory disease, including respiratory infections in children (3), pediatric and adult asthma exacerbations (4–6), and COPD exacerbations (7, 8). There is also strong evidence of an association between ozone exposure and mortality (9, 10).

Wildfire risk increases as a result of hotter, drier conditions; thunderstorm activity; and a longer warm “fire” season. Recent wildfire activity in North Carolina and California, for example, resulted in excess hospital visits for respiratory disease (11, 12), mostly likely as a result of particulate air pollution.

Changing temperatures and rising carbon dioxide levels are lengthening the pollen season (13) and increasing the production and allergic potency of pollen (14, 15), which may explain recent rises in allergic disease prevalence and contribute to exacerbations of asthma (16). Climate change also promotes the spread of vector-borne infectious disease such as malaria and dengue fever and the destruction of housing and public health infrastructure through storms and floods, resulting in injuries and unsanitary conditions, with the spread of respiratory and diarrheal illness. All of these issues were also identified by ATS members who responded to the survey.

Climate change is a global problem with enormous consequences for human

health. Prevention of climate change is no longer an option, as extreme heat, high ozone events, wildfire activity, worse pollen seasons, storms, floods, and infectious disease have already taken serious tolls on human health in the United States and across the planet. This important survey shows that as physicians, we are already engaged in the issue of climate change mitigation by managing adverse health effects of climate change among our patients.

What should our role be, as physicians, with respect to the very large and daunting problem of our planet's changing climate? The vast majority of survey respondents (72%) thought physicians should play a role in informing the public about climate change. But how? Most physicians are not climate experts. However, many of us are experts in pulmonary, critical care, allergy, or environmental medicine. Armed with this expertise, we have a valuable perspective to offer to the issue.

The U.S. Environmental Protection Agency (EPA) has recently proposed a Clean Power Plan that seeks to reduce the carbon dioxide emissions of power plants by 30% from 2005 levels by 2030 (17). Most of the economic benefits of the plan cited by the EPA are quantified in terms of avoided human health consequences, including reduced asthma visits and mortality. If this proposal moves forward, the EPA will delegate significant authority to each state to develop a plan for how to meet its carbon reduction goal.

Every state plan will make important policy choices that will directly affect the health of our patients. The state-level planning process is an opportunity,

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should we choose to take it, for physicians to play a role to help develop thoughtful climate change plans. There will be open meetings, public hearings, and public comment periods and opportunities for physicians to write op-eds and speak with the media. In the contentious planning process that lies ahead, there will be a need for a trusted voice of reason to remind policymakers and industry representatives that the health consequences of climate change are real: the epidemiologic literature on climate, air pollution, and health is robust, and our patients are already suffering the consequences of wildfire activity, rises in temperature and ozone, and an increasingly potent and lengthy allergy season.

As physicians, we offer a clinical perspective that no climate expert can claim. With this expertise and perspective comes a certain amount of trust from the public and our peers and a responsibility to “weigh-in” on such an important public health issue for our patients and their families. Surveys have demonstrated that the public trusts medical professionals’ knowledge about environmental problems more than governmental agencies or scientists, despite our lack of training about these issues (18). This trust was evident in this survey of the ATS membership. Despite the high level of climate change awareness among survey respondents, there was distrust of climate scientists. Only 40% of respondents trusted the

Intergovernmental Panel on Climate Change, a scientific body established by the United Nations to produce expert climate change assessments. In contrast, 83% of respondents trusted the ATS as a source of information on climate change.

There is an urgency to reduce greenhouse gas emissions for the sake of our patients, many of whom are at increased risk of suffering the health consequences of climate change. The ATS and its members must be a part of the solution by helping to educate the public and our government representatives of this threat to our patients’ health. ■

Author disclosures are available with the text of this article at www.atsjournals.org.

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