How worsening air quality affects the wellbeing of respiratory disease patients

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Climate change is exacerbating threats to human health, especially affecting the health and well-being of those suffering from respiratory diseases.

Air pollution is one of the biggest environmental threats to human health, causing at least 238,000 premature deaths per year, according to the European Environment Agency (EEA). Bad air quality also provokes illnesses like asthma, cardiovascular disease, or cancer.

The situation is exacerbated due to climate change, with increasingly frequent heat waves and increasing pollen amounts in the air – which has a profound effect on the quality of life of respiratory patients.

In this series of articles, Euractiv takes a look at the climate change effects of those suffering from respiratory diseases and the political actions needed to address this.
Pollen and heat waves increasingly affect people with respiratory diseases

Respiratory diseases patients particularly affected by climate change

Poor air quality is impacting quality of life of people with lung conditions, and climate change is exacerbating the problem, according to a patient survey

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Pollen and heat waves increasingly affect people with respiratory diseases

By Simone Cantarini | euractiv.com

Increasingly frequent heat waves due to climate change, and rising pollen amounts in the air are impacting the quality of life of respiratory patients, a report has found.

Changes in air quality associated with climate change such as heat waves and increasing pollen amounts are a significant problem for patients living with lung disease, along with the continuing problems arising from pollutants, which have traditionally been the focus of air quality policy.

This is one of the findings of the Economist Impact report in collaboration with Chiesi Group, a pharmaceutical company, that was launched in Milan on the occasion of the International Day of Clean Air for Blue Skies, on 7 September.

The report analysed the experiences of 500 people affected by lung disease in five European countries: Italy, Spain, Germany, France and the UK. The majority of respondents in both urban and rural areas frequently reported traffic exhausts as the cause...
of air pollution, but heat waves and the amount of pollen as the three main causes of difficulty breathing, with the exception of urban areas where pollen was the fourth most frequent choice.

Among the main causes of air pollution, over 40% of those interviewed highlighted climate change, in particular, extreme weather events and increased pollen concentrations.

The risks of air pollution are receiving increasing attention at the EU level: after a plenary on a revised law to improve air quality in the EU on Wednesday (13 September), MEPs introduced a right to compensation for people with health problems due to air pollution levels above legal limits.

Under the Parliament’s report, new access to justice rules will allow citizens to seek justice from their governments when they fail to protect them. With its position adopted, the Parliament is ready to begin negotiations with EU member states and the European Commission to finalise the law.

Global Initiative for Asthma (GIA) president Arzu Yorgancıoğlu, one of the speakers at the launch event in Milan, explained that climate change has increased heatwaves and this is causing people with asthma to suffer from dyspnea – the feeling that you can’t get enough air into your lungs.

Yorgancıoğlu told Euractiv that climate change has extended the pollen season, exposing people with allergies to an increased amount of allergens. “We also have a lot of winds, and these winds carry the desert dust. So there are a lot of allergens, and our people with asthma have a peak of that in warm weather,” she said.

This impacts the daily lives of 30 million Europeans and 300 million people globally who are living with asthma, which is expected to increase to 400 million people worldwide by 2025, according to the European federation of allergy and airways diseases (EFA).

**Overarching effect on wellbeing**

As the report outlines, it is no surprise that air quality has an impact on people with lung conditions. “More striking, though, is the extent of the effect,” the report said.

The perception of the impact of poor air quality was significantly higher in cities than in rural areas. In urban centres, 35% of the respondents reported that poor air quality affected their symptoms a lot and only 5% of those stated not being affected by air quality at all.

In addition to physical health, air quality also puts a strain on people’s overall well-being. The report found that people living in areas with poor air quality were more likely to fear a deterioration in their health condition than those living in areas with good air quality – 44% and 28%, respectively.

There was also a tangible perception that travelling to work, exercising outdoors and indoors and simply staying indoors worsens their lung condition.

More than half of the respondents living in areas with low air quality claim to have avoided outdoor activities, both physical and social, that could have had a positive impact on their well-being.

In particular, climate change and its repercussions on air quality are a high-risk factor for people working outdoors, especially during the summer season.

“The impact of climate change on the workforce is the most noticeable. And it is also one of the biggest because it has many faces,” Shouro Dasgupta, an environmental economist at the Euro-Mediterranean Center on Climate Change (CMCC), told Euractiv.

“Workers’ health is affected. We’re hearing more about cardiovascular disease and respiratory disease, and we’re finding more evidence of it,” Dasgupta added. “This leads them to either work less or reduce their efforts, which in turn lowers productivity, which often leads to a decrease in their income.”

**Addressing the issue**

During the event, Chiesi presented several policy recommendations, in particular the recognition of the impact of climate-related factors on the overall quality of life of respiratory patients, not limited to lung health alone.

Carmen Dell’Anna, Head of Global Medical Affairs of the Chiesi Group summarised: “The climate crisis is also a health crisis.” As such, patients’ views and real-life experiences must be incorporated when assessing these elements together.

At the event, Yorgancıoğlu emphasised the need to consider air quality a human right: “Everyone must have clean air.”
Climate change is a global challenge and a problem for all, “but it’s true that patients with respiratory diseases are particularly affected,” the vice president of the European Federation of Allergy and Respiratory Diseases Patients Association (EFA) told Euractiv.

Speaking on the sidelines of an event in Milan organised by Chiesi Group, titled “Patient Perspectives on the Impact of Climate Change on Respiratory Wellbeing”, Armando Ruiz underlined that the first problem related to the effects of climate change on air quality is that “healthy people start to have more problems with allergy or asthma”.

According to Ruiz, “the number of patients with allergy and asthma is growing nonstop, week after week”. Data from EFA shows that asthma is a condition which impacts the daily
lives of 30 million Europeans and 300 million people globally, with a global prevalence expected to increase to 400 million people by 2025.

The second problem identified by Ruiz is that the people who already have respiratory diseases “have more exacerbation, they have more complications related to that because of the heat waves and the concentration of the pollen”.

For example, patients with chronic obstructive pulmonary disease (COPD) – a lung disease causing restricted airflow and breathing problems – are less physically active than the average population, according to a study published in the Respiratory Medicine journal.

“Mild COPD patients that have relatively normal lung function walk approximately 50% less than healthy controls,” the study said.

Ruiz warned that “we have a lot of old people with COPD and it is difficult for them to go out to walk. They need oxygen.”

Climate change, he said, affects these patients immensely.

“If you put this together with the pollution, together with the pollen concentration, together with the hot weather – all of this is making problems for this kind of patients”, he stressed.

Reduced mobility and time spent outside affect the mental health of many. People suffer from severe depression because their lives completely change and “psychological support is difficult […] to access for free”, Ruiz underlined.

**The recent vote in Parliament**

A week after the International Day of Clean Air, the European Parliament adopted on Wednesday (13 September) its position on a revised law to improve air quality in the EU, calling for stricter limits on several pollutants.

With 363 MEPs in favour, 226 against and 46 abstentions, the Parliament voted to align EU rules with the most recent guidelines from the World Health Organisation.

The vote sets Europe on course to achieve its zero pollution objective by 2050, in line with the Zero Pollution Action Plan presented by the European Commission in October last year.

The law calls for more ambitious limits on pollutants, increased air quality sampling points in urban areas, and standardised air quality indices for citizens' information.

A novelty for EU legislation, the new law introduces a right to compensation for people with health problems due to air pollution levels above legal limits. Under the Parliament’s report, new access to justice rules will allow citizens to seek justice from their governments when they fail to protect them.

“The result of the vote at the European Parliament plenary shows a strong commitment to health protection and disease prevention. Now we hope that member states will show the same ambition in the upcoming negotiations that will shape the new regulatory framework,” Ruiz said in a written answer.

He added that EFA has been involved in this new proposal.

“Basically, we have been talking about two things,” he explained. “One is that we should put the pollen into the quality air guidelines, because until now they were not. Only some kinds of chemical pollution (Are considered) but not pollen”.

The other one is the creation of a European network for real-time monitoring of the pollen. “We can work together with all the countries” because it is a problem that affects all countries.

According to Ruiz, including pollen is very important for EFA “because it’s affecting a lot the quality of air related with what is affecting the patients”.

A study published in Reports of Biochemistry and Molecular Biology journal denotes plant pollen as the main aeroallergen causing allergic reactions. “According to available data, urban residents experience more respiratory allergies than rural residents mainly due to the interaction between chemical air pollutants and pollen grains,” the study said.
The United Nations General Assembly designated today, 7 September, as the International Day of Clean Air. But the air we breathe globally is still not clean enough, and climate change is aggravating the situation, harming people’s health and diminishing their quality of life.

Carmen Dell’Anna is the Head of Medical Affairs, Chiesi Group.

- This June has etched its name as the hottest month ever recorded in the 174-year history of temperature tracking.
- Last year there were over 61,600 heat-related deaths in Europe.
- Meanwhile, wildfires continue to surge in frequency and intensity, complemented by an exponential rise in airborne pollen, linked to heightened CO2 levels.

The impact of climate change on respiratory wellbeing is a critical public health issue that requires urgent action, now.

A Chiesi-supported, independent report published today by Economist Impact unveils fresh insights into the interplay between air quality, lung health, and socioeconomic disparities. Comprising a European survey of patients with respiratory conditions across five countries in Europe, “Cleaner air, clearer lungs, better lives: exploring the intersection of air quality, health inequalities and lung health”, details that, while progress has been made in primary environmental metrics, the patients’ perception regarding air quality improvements remains generally unfavourable, affecting adversely their wellbeing.

The report indicated that, although air quality has improved in the past years in the five countries, air pollution remains a major health concern for European patients with lung conditions. 69% of patients surveyed reported perceiving that it has worsened or stayed the same. When asked to indicate the main causes of air pollution, over 40% pointed to factors related to climate change, namely extreme weather events like heatwaves and increased pollen levels, exceeded only by car exhaust emissions.

While those in urban areas acknowledge a greater burden of poor air quality, respondents from both urban and rural areas alike consistently reported that heatwaves/extreme weather and increased pollen levels have a significant impact on the air quality in their localities. What’s particularly worrying is that nearly all (98%) of survey respondents living in areas with poor air quality responded that exercising outdoors makes their lung conditions worse; more than half (57%) said that they actively avoided participating in outdoor activities, whether exercise or social engagements.

These findings suggest that the favourable effects expected from cleaner air may be negatively impacted by climate-related factors, according to patients’ insights.

We need to do better.

We are currently facing a climate emergency, a planetary challenge which will affect both present and future generations. Collectively, we must do
everything possible to immediately reduce Greenhouse Gas (GHG) emissions and help all communities worldwide to rapidly adapt to the consequences of rising global temperatures.

To this end, Chiesi is actively engaging in this fight and committed to achieve net zero emissions on direct GHG emissions and indirect GHG emissions from purchased electricity and heat (Scope 1 and 2) by 2030 and on all other indirect GHG emissions (Scope 3) by 2035. Chiesi’s targets were approved by the Science Based Target Initiative (SBTi) in April 2021.

We prioritise action over words and want to be held accountable on our progress.

We need everyone to play their part, including those in charge of climate and health policies. Taking into account the insights offered by this report, we urge policymakers to consider the following recommendations, as they develop climate policies:

1. Develop comprehensive respiratory health plans that address the unique needs of respiratory patients within broader climate adaptation and health equity strategies.

2. Comply with effective monitoring and implementation measures, focusing especially on urban areas where the negative effects of pollutants, heatwaves, and pollen are more acute.

3. Facilitate collaboration among healthcare providers, environmental experts, industry, community representatives, and patient advocacy groups.

4. Prioritise research that examines the intersection of respiratory health and climate change, including the specific risks, vulnerabilities, and adaptation strategies for individuals with respiratory conditions.

Change begins at home, and we need to encourage businesses across the healthcare value chain to adopt sustainable practices that reduce their own environmental impact and promote respiratory health.

As a company and as an industry, we at Chiesi pledge to prioritise research into the intersection of respiratory health and climate change, and facilitate greater collaboration among parties. By promoting dialogue and information-sharing, policymakers can ensure that respiratory policies are informed by diverse perspectives, culturally sensitive, and effective in mitigating the impacts of climate change on respiratory health.

As part of our effort to contribute to greater dialogue in this field Chiesi is gathering today a panel of healthcare professionals, environmental scientists, and patients’ associations at an event titled Patient Perspectives on the Impact of Climate Change on Respiratory Wellbeing, where the main findings of the Economist Impact report will be presented. Our panel discussion will focus on those that are suffering the effects of the climate crisis on their health, and call for holistic health policy solutions.

It is crucial that we address the intersection of air quality, climate change, and respiratory health with urgency. By working together across sectors, industries, and communities, we can make significant strides to improve the quality of life of those that are gasping for clean air.
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