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Does Pollution and Poor Air Quality Raise the Risk of Coronavirus?

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Resource



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As the current novel coronavirus continues to spread, one fact has become clear: Governments around the globe were not prepared — especially concerning environmental impacts.

While there is no direct link between pollution and the risk of developing [COVID-19](#), yet, studies have shown that poor air quality can raise one's susceptibility to disease. Worse, high rates of toxic exposure can lead to poorer outcomes of those illnesses.

Disadvantaged groups, including Latinos, are in [greater jeopardy](#) as they are the ones who live in the areas with more significant amounts of air pollution.

“There’s lots of evidence that air pollution increases the chances that someone will get pneumonia, and if they get pneumonia, will be sicker with it,” Aaron Bernstein, interim director of the Center for Climate, Health, and the Global Environment at the Harvard T.H. Chan School of Public Health, told the *Los Angeles Times*. “We don’t have direct evidence of that with COVID, but I would be surprised if air pollution did not affect risk for COVID infection and the severity of illness.”

How Does Air Quality Impact Health?

When pollutants—[such as car emissions](#), [volatile organic compounds](#), [combustion particles](#), and others—disperse into the air, they will enter the bloodstream of those who breathe in those substances.

Those toxins will harm the body and impact other aspects of health, according to Michael Jerrett, a professor of environmental health science at the UCLA Fielding



School of Public Health.

“To the extent that it’s behaving like another pneumonia, yes, I think there’s going to be some elevated risk that’s associated with being in higher air pollution, but we don’t know enough about the biology of this particular virus to know how it’s going to respond,”

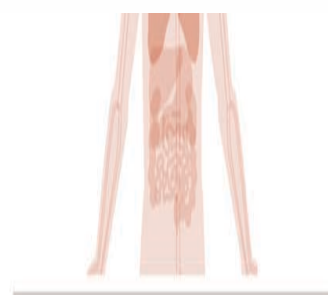
Jerrett told the *Los Angeles Times*. “When a pollutant enters the lung, the lung treats it like a foreign invader and initiates a whole process of defense.

“Once the lung is inflamed, the ability of a virus to penetrate is elevated. They’re already expending energy to fight air pollution. If another invader comes in, their defense is already diminished.”

Considering that COVID-19 is a virus that impacts the respiratory system, breathing in any form of pollution—even through smoking and vaping—could result in serious ramifications.

What Does Air Pollution Mean for COVID-19?

There is little information that straightforwardly correlates air pollution and COVID-19, mainly since this illness has only recently spread throughout the globe.



Severe



Graphic by Jennifer Lu / Los Angeles Times

Still, researchers throughout the science, healthcare fields are using history as a guide to inform their recommendation about the current novel coronavirus. Primarily, they are looking to the last coronavirus outbreak for answers.

A [2003 study](#) published in BioMed Central, linked higher rates of fatalities during the SARS epidemic in China to areas with higher rates of air pollution.

“Our analyses showed that air pollution was associated with increased risk of dying from SARS,” researchers write. “The biological explanation might be that long-term or short-term exposure to certain air pollutants could compromise lung function, therefore increasing SARS fatality.”

Worse, their research goes to show that even low-level air pollution exposure had adverse effects.

“Both long-term and short-term exposure to air pollution has been associated with a variety of adverse health effects, including acute respiratory inflammation, asthma, and COPD,” the researchers write. “Air pollution may predispose the respiratory epithelium of SARS patients, leading to severe respiratory symptoms and an increased risk of deaths.”

Looking at the present state of affairs, the areas with high rates of spread, such as China, Italy, and South Korea, also have high rates of air pollution.

John Balmes, a physician and a spokesperson for the American Lung Association, told [The Verge](#) this could play a factor—among many others—in the severity of cases.

Why Do Latinos Face Greater Risk for Air Pollution Impacts?

Commuting in [high-density areas](#), living near [energy plants](#), and working with [hazardous chemicals](#) all raise an individual’s exposure to pollutants.

Disadvantaged groups, especially Latinos, face these dangers at higher rates than their white peers.

Worse, they’ve experienced this kind of exposure for years, worsening the problem, according to Juliana Pino, a policy director for the Little Village Environmental Justice Organization in Chicago.

“You have a legacy of toxic exposure paired with a lot of social vulnerability, that means that the same pound of pollution impacts different people differently,” Pino told *The*



Verge.

There will be other impacts, too. These include [economic and worker effects](#), [rural impact](#), and a [lack of access](#) to needed goods and services.

“It’s like today, right now, they can’t afford the groceries because they would have taken that day’s cash to go get supplies,” Pino said. “It’s those folks in really precarious day-to-day situations that the community’s rallying around — even still, it’s not enough.”

While government officials passed a [\\$2 trillion emergency relief package](#) to aid in the fight against COVID-19’s spread, many believe they have not done enough to help those in need, either historically or right now.

“We’re the richest country in the world, yet we have some of the greatest inequities,” Balmes told *The Verge*. “These inequities have real consequences, and COVID-19 will show that. The air pollution interacts with multiple other factors that increase risk.”

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