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## Choking to Death:Health Consequences of Air Pollution in China

According to a Chinese public health expert, the nation's poor air quality is worse than SARS.

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By **Yanzhong Huang**

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As the delegates of the National People's Congress (NPC) gather in Beijing to formally endorse nominees for key government leadership posts and policies, it would be hard for them to ignore the poor air quality in the country's capital. Last Thursday morning,

readings near Tiananmen Square measured the concentration of PM2.5—fine particles in the air that are smaller than 2.5 micrometers in diameter and are considered dangerous because they tend to penetrate the gas exchange regions of the lungs—at [469 micrograms](#) per cubic meter, which [corresponds to](#) a U.S. EPA Air Quality Index reading of 479 (the scale stops at 500). Anything above 301 is considered “hazardous” in that it can cause “serious aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly,” and there is a “serious risk of respiratory effects in general population.” The PM2.5 levels in other famously polluted cities pale in comparison to those in Beijing; for instance, the highest PM2.5 level in a 24-period [recorded in Los Angeles](#) was 43 micrograms per cubic meter.

The poor air quality, according to a leading Chinese public health expert, is [worse than SARS](#) because nobody can escape it. [Research suggests](#) that air pollution can “raise the risk of cardio-respiratory death by 2 to 3 percent for every increase of 10 micrograms per cubic meter of pollutants.” Only 1 percent of China’s 560 million urban residents breathe air considered safe by the European Union, according to [a 2007 World Bank study](#). A [report](#) released by China’s Ministry of Environmental Protection in November 2010 showed that “about a third of 113 cities failed to meet national air standards.” The [2012 Cancer Registry Annual Report](#) revealed that lung cancer is top among all types of cancer in terms of the number of cases and deaths in China. Indeed, the number of lung cancer-caused mortality in China has increased by [465 percent](#) in the past three decades. In Beijing, the number of lung cancer patients has

increased by **60 percent** in the last ten years. The rising incidence rate of lung cancer coincides with drastic reduction in the incidence rates of stomach cancer and cervical cancer, which is thought to be a result of improvements in public health standards.

For years, public health experts considered smoking the leading risk factor of lung cancer. Yet **a recent report** prepared by some prominent Chinese public health experts and economists did not find any significant change in China's overall smoking rate over the last decade. A group of scientists **analyzed** historical records of aerosol particles and lung cancer incidence in Guangzhou and found that a dramatic increase in the occurrence of air pollution from 1954 to 2006 was followed by a large increase in the lung cancer incidence rate despite the drop in the overall smoking rate. **It was found** that 750,000 Chinese die prematurely each year, primarily because of air pollution in large cities. According to **more recent estimates** by Greenpeace and Peking University's School of Public Health, exposure to PM2.5 contributed to more than 8,500 premature deaths in Beijing, Shanghai, Guangzhou, and Xi'an in 2012 alone.

The thick haze served as a wake-up call for the government, which seems to become **more transparent** in discussing air pollution in China. As public awareness of the problem grew, pressure on the government to address the underlying causes also increased. To improve the air quality, the Beijing municipal government has taken **some emergency measures**, including temporarily shutting down more than 100 factories and ordering one-third of government vehicles off the streets. However, given that coal burning in neighboring

provinces and cities is a major contributor of the PM2.5 concentration in Beijing, the effectiveness of these steps has been limited. Moreover, while emissions from motor vehicles and coal-burning operations are responsible for the worsening air pollution in China, economic growth requires increased energy use. Since the regime’s legitimacy hinges upon delivering robust economic growth, governments at all levels continue to pursue growth at the expense of environment. We are going to see more NPC delegates pushing for better environmental protection measures, but don’t expect any fundamental change until the government has shifted to a new legitimacy base and restructured the state-society relationship to allow for more effective participation of civil society groups in the public policy process. [In the words](#) of Chinese premier-to-be Li Keqiang, “It will be a long process to resolve environmental problems.”

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