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WELL

Ignoring Science at Our Peril

Personal Health

By JANE E. BRODY MARCH 12, 2018

Ignore the warnings of scientists at your peril. That is a very valuable lesson our nation can learn from a horrific weather-related tragedy that befell London in 1952, bathing the city in toxic smog that claimed the lives of thousands of people. Had London acted as had been suggested after a nearly identical disaster struck Donora, Pa., four years earlier, many deaths could have been avoided.

The yellow-brown “killer fog,” as it came to be called, reduced visibility to two feet. Thousands of tons of sulfurous coal smoke and diesel fumes were trapped over a 30-mile area by a cold, moist temperature inversion, covering London with a blanket of poisonous air. In less than a week, the fog killed about 4,000 people, and another 8,000 died prematurely in the months that followed.

British scientists had been warning of such a disaster, but alas, the protective

measures they suggested were approved by lawmakers but never implemented. To make matters worse, the government ignored its meteorologists' warning that an extraordinarily dense fog was about to descend on London.

It took nearly four years for Parliament to pass the Clean Air Act of 1956 that restricted the burning of coal in urban areas and helped homeowners convert from coal to less harmful ways to heat their homes.

The parallels of this catastrophic weather event to current concerns about climate change are hard to ignore. Already as the world's climate warms, there has been an increase in devastating droughts and life- and property-destroying wildfires, mudslides and floods.

All the while the polar and Arctic ice caps are melting and, despite dire warnings from highly reputable scientists, the current administration is taking little action to protect its citizens from future climactic disasters that scientists say are sure to come. Instead, there has been a push to bring back coal and rescind regulatory measures that helped to clean the air and water of pollutants.

Likewise, a loosening of regulations and appointments of agency administrators with strong ties to the industries they oversee threaten the safety and healthfulness of the foods and beverages we consume and feed to our most vulnerable: children, the elderly and those with compromised immunity. Agencies tasked with protecting public health are under fire and working with diminished resources.

Must it take a calamity, like an outbreak of food poisoning that kills tens of thousands or a deadly epidemic of an infectious disease, to awaken Congress to the dangers that lie ahead and goad it to protect the citizens it was elected to serve?

History is filled with examples of scientifically sound guidance that was ignored or pilloried by those in power. In the late 1990s, for example, half a dozen major health agencies, including the Department of Health and Human Services, endorsed a national needle exchange program to curb the spread of H.I.V./AIDS. But President Bill Clinton rejected the advice, and the resulting H.I.V. infections cost the health care system as much as half a billion dollars.

Last March, Scott Pruitt, newly appointed to head the Environmental Protection Agency, rejected the previous administration's proposal to ban agricultural use of a Dow Chemical Company pesticide, chlorpyrifos. The agency's scientific advisory panel had concluded in 2016 that children risked irreversible brain damage and neurodevelopmental problems from very low levels of exposure to food residues of the chemical, which continues to be widely used on fruits and vegetables.

In hopes of bolstering the coal industry, Mr. Pruitt, who has rejected established climate science, has also scrapped regulations in the Clean Power Plan put in place by the Obama administration to minimize heat-trapping pollution. A warming trend in sea surface temperatures in the North Atlantic in recent decades has been strongly associated with the spread of potentially deadly marine pathogens like Vibrio cholerae, the cause of cholera, and V. parahaemolyticus, a cause of food poisoning, and could lead to widespread outbreaks.

Food safety measures are also in jeopardy. Enforcement has been delayed indefinitely of crucial rules in the Food and Drug Administration's Food Safety Modernization Act, enacted seven years ago with bipartisan support to protect consumers from exposure to dangerous pathogens like salmonella and E. coli. Some of those who harvest, package and store foods produced on farms are now exempt from the act's rules to prevent contamination of the food supply. Yet, each year 48 million people in this country are sickened, 128,000 are hospitalized and 3,000 die from preventable food-borne diseases.

The lax food safety rules of the European Union should be a lesson to heed. France and its allies are currently reeling under massive recalls of baby formula and other products contaminated with salmonella, a crisis said to stem from weak regulations that allowed tainted products to make their way into supermarkets and pharmacies even weeks after the problem was discovered.

Nutritional depletion from rising concentrations of carbon dioxide, the main greenhouse gas in the atmosphere, is another risk to the healthfulness of the American food supply, according to some experts. Dr. Samuel S. Myers, principal research scientist at the Harvard T.H. Chan School of Public Health, and colleagues linked significant reductions in zinc, iron and protein in staple grain crops like rice

and wheat and smaller reductions in protein in legumes to rising levels of carbon dioxide in the air.

The researchers demonstrated these effects by growing 41 different varieties of staple crops under conditions likely to exist by 2050 unless there is a major decline in carbon dioxide pollution.

In an interview, Dr. Myers explained that even a small reduction in the protein content of grains could increase carbohydrate consumption and raise the risk of metabolic diseases like diabetes and heart disease that already endanger our overweight population.

Efforts to reduce greenhouse gas emissions to fight global warming can provide not only long-term benefits for public health but also have immediate health "co-benefits," according to Dr. Andy Haines of the London School of Hygiene and Tropical Medicine.

An increase in walking and cycling instead of a reliance on fuel-powered vehicles, for example, would help to counter diabetes, heart disease, stroke and other chronic ailments linked to a sedentary lifestyle. A shift to "environmentally more sustainable healthy diets," he notes, would not only help to counter greenhouse gases but also lead to reductions in all-cause mortality.

A version of this article appears in print on March 13, 2018, on Page D5 of the New York edition with the headline: An Ounce of Science Versus a Ton of Cure.