The JAMA Forum

A Breath of Bad Air: Cost of the Trump Environmental Agenda May Lead to 80 000 Extra Deaths per Decade

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President Donald Trump and Environmental Protection Agency (EPA) Administrator Scott Pruitt have pledged to reexamine landmark environmental policies and to repeal regulations. In their view, excessive regulations are harming US industry, and thus reducing regulation will be good for business. As Donald Trump has said, seemingly without irony, "We are going to get rid of the regulations that are just destroying us. You can't breathe—you cannot breathe."

As has become apparent, however, it is the changes Trump is proposing that are likely to make breathing more difficult. A central feature of his agenda is environmental damage: making the air dirtier and exposing people to more toxic chemicals. The beneficiaries, in contrast, will be a relatively few well-connected companies.

The Trump Agenda
In pursuit of its wide-ranging environmental agenda, the administration has already reversed or proposed to reverse more than 60 environmental rules. The full extent of the effects on health has not been tabulated and is hard to quantify, but guesses can be made for some of the larger ones (see the Table).

The largest health consequences are likely to come through changes in air quality. The Trump administration has announced its intention to repeal the Clean Power Plan rule, President Barack Obama’s signature policy on climate change. The rule provides for the EPA to assign each existing power plants and gives the states latitude in meeting those goals, such as switching from coal to natural gas or building new wind or solar farms. Based on the regulatory impact analysis done by the EPA when the rule was implemented (as well as other analyses), repealing the rule would lead to an estimated 36 000 deaths each decade and nearly 630 000 cases of respiratory infection in children alone.

A controversial rule stipulating that policy can be based only on research for which the underlying data have been made accessible to the general public. The idea is to make repealing them difficult. But that is not the case. Even as it is targeting environmental rules, the Trump administration is taking aim at the use of science that supports enactment of these rules would have negative effects on certain types of jobs, the environment (global warming pollution), and consumer savings. The administration is also planning to repeal the emission requirements for glider vehicles—rebuilt trucks that do not meet current environmental standards—a loophole that could lead to as many as 41 000 premature deaths per decade and 900 000 cases of respiratory tract symptoms.

Overall, an extremely conservative estimate is that the Trump environmental agenda is likely to cost the lives of over 80 000 US residents per decade and lead to respiratory problems for many more than 1 million people. This sobering statistic captures only a small fraction of the cumulative public health damages associated with the full range of rollbacks and systemic actions proposed by the Trump administration.

An Attack on Science
One might imagine that the science that supported enactment of these rules would make repealing them difficult. But that is not the case. Even as it is targeting environmental rules, the Trump administration is taking aim at the use of science that supports public policy.

Scott Pruitt recently signed a controversial rule stipulating that policy can be based only on research for which the underlying data have been made accessible to the general public. The idea is to...
### Proposed Changes in Environmental Protections and Possible Effects

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<thead>
<tr>
<th>Area</th>
<th>Actions</th>
<th>Projected Effects</th>
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<tbody>
<tr>
<td><strong>Air Quality</strong></td>
<td>Repeal of Clean Power Plan</td>
<td>- Increases exposure to small atmospheric particulate matter&lt;br&gt;- An estimated 36,000 deaths over a decade&lt;br&gt;- An estimated 630,000 cases of respiratory ailments in children over a decade</td>
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<td>Rollback of CAFE standards for automobiles</td>
<td>- Increases exposure to small atmospheric particulate matter and ozone&lt;br&gt;- An estimated 5500 deaths over a decade&lt;br&gt;- An estimated 140,000 cases of respiratory ailments in children over a decade</td>
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<td>Repeal of emission requirements for glider vehicles</td>
<td>- Allows noncompliant diesel trucks on the roads&lt;br&gt;- An estimated 41,000 premature deaths over a decade&lt;br&gt;- An estimated 900,000 cases of respiratory ailments over a decade</td>
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<td>Loosening of other air pollution rules (eg, power plants, solar power tariffs)</td>
<td>- Potential for industrial plants to increase emissions by 4 times&lt;br&gt;- Endangering those living near power plants (areas of high poverty)</td>
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<td><strong>Water Quality</strong></td>
<td>Repeal of Waters of the United States rule</td>
<td>- Exposes water sources for approximately 117 million US residents&lt;br&gt;- At least 1 million people in each of 21 different states depend on small streams for their drinking water</td>
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<td><strong>Chemicals</strong></td>
<td>Scale back of lead-risk reduction program</td>
<td>- Leaves an estimated 4 million households with children at risk of exposure to high levels of lead&lt;br&gt;- Approximately 500,000 children currently have elevated blood lead levels</td>
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<td>Delay or reduction of chemical bans</td>
<td>- Exposes toddlers and older children to 11 to 15 times the recommended levels of chlorpyrifos (because of denial of ban on use in agriculture)&lt;br&gt;- Exposes public to 3 carcinogens (methylene chloride, trichloroethylene, and N-Methylpyrrolidone) used in furniture stripping, grease removal, and dry cleaning (action delayed)</td>
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<td>Weakening of rules on coal ash waste</td>
<td>- More than 100 million tons of coal ash are produced annually, resulting in more than 100 documented cases of coal ash poison contamination in the drinking water, wetlands, creeks, and rivers between 1948 and 2008</td>
</tr>
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*There is substantial uncertainty with respect to the extent of the rollback of the Corporate Average Fuel Economy (CAFE) rules. Projected health effects are calculated based on the assumption of full achievement of CAFE standards vs rollback of those standards.*

Remove most observational studies of health effects of air pollution exposure from being considered in regulatory settings, unless the individual health records are made publicly available. This is a nearly impossible task because the health data are collected under the agreement to maintain patient confidentiality. With no evidence of harms (because of constraints on presenting the available evidence), regulations cannot be sustained. On April 23, 985 scientists sent him a letter urging him to abandon the proposal. Fortunately for those interested in public health, the regulatory process will take many years. Whoever is sworn in as President in January 2021 will have a large effect on whether the Trump administration’s full environmental agenda goes into effect.

**Implications for Physicians and Policy**

For physicians, the manifestation of these changes is likely to be an increase in disease and number of deaths. Respiratory and cardiovascular problems are most likely, but a wide variety of conditions are likely to be seen. Poor, black, or elderly populations are likely to be affected the most. People working with chemicals in industrial settings will also be affected, as will people who live in areas with high concentrations of power plants such as the Ohio River Valley from Indiana to Pennsylvania, and in the southeast from Alabama and Georgia to Maryland.

One could debate the merits of these tradeoffs if there were a large number of people who would benefit economically from these changes. In practice, however, any economic benefits are not likely to accrue to those most in need. Employment is down in many fossil fuel industries because technology has made workers less necessary for production, not because of environmental regulations. And even if a large number of coal jobs were restored, it would come at the expense of employment in new industries such as wind and solar, which are already being hurt by the Trump administration policies. Not having to comply with environmental rules will increase corporate profits, but not worker bank accounts.

Overall, the ultimate effects of the Trump administration’s policies seem clear, even through the haze they will create. ■

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