Cutting EPA budget puts babies at risk – and makes little economic sense

26 April 2017, by Patricia Smith

Prenatal exposure to airborne pollutants significantly raises the risk of complications like preterm birth and infant respiratory and cardiovascular illness. Credit: www.shutterstock.com

President Donald Trump recently ordered an air strike on Syria, fueled in part by moral outrage at images of babies being injured and killed by airborne toxins.

American babies are under threat as well. In this case, the culprit is the Trump administration's proposal to slash the Environmental Protection Agency's budget by 31 percent, including cuts to the enforcement division, Targeted Air Shed Grants and the Clean Power Plan.

These reductions degrade the protections needed to reduce airborne toxins and maintain the nation's air quality. Expectant mothers will face greater exposure to air pollution, which causes more preterm births, infant illnesses and deaths.

As an economist who studies the link between health and socioeconomic status, I've explored the extensive research demonstrating the importance of a clean environment to the well-being of children. By improving health outcomes, the EPA's efforts to reduce pollution reduces health care costs and can benefit the economy.

Dirty air and baby health

The link between fetal and infant health and exposure to air pollution has been well-established by many experts using a variety of methods and data sets over decades.

This large body of work clearly shows that prenatal exposure to airborne pollutants significantly raises the risk of preterm birth, low birth weight, and infant respiratory and cardiovascular illness as well as developmental problems, like autism.

Adoption of the E-Z Pass system on the New Jersey and Pennsylvania turnpikes in the late 1980s provided a natural experiment and illustrates the connection between air pollution and fetal health.

Turnpike authorities adopted E-Z Pass in order to reduce the time drivers spent in toll plazas. And it worked; traffic congestion fell by 85 percent. Because vehicles spent less time at the toll plazas, EZ Pass also reduced vehicle emissions and improved local air quality.

Economists Janet Currie and Reed Walker found that within three years of the introduction of E-Z Pass in these two states, the number of premature births and low birth weight babies born to mothers living within two kilometers of toll plazas dropped by roughly 8 percent and 10 percent, respectively.

Because babies born prematurely or with low birth weight suffer more health problems, reducing these adverse birth outcomes reduces infant illness and deaths.

The economic case

And from an economic perspective, healthy babies save money.

Currie and Walker estimate the drop in adverse birth outcomes in the neighborhoods near the toll plazas saved US$10 million to $13 million in health care costs. Generalizing their results suggests that reducing traffic congestion nationwide would reduce preterm births by 8,600 and save $444 million in health care costs annually.

Molecular epidemiologist Frederica Perera and her colleagues found that a modest reduction in the amount of toxins known as polycyclic aromatic hydrocarbons in the air in New York City would raise low-income infants' IQ, increasing their lifetime earnings by $43 million to $215 million.

And to add the national perspective, pediatrician Leonardo Transande and his research team projected that reducing air pollution nationwide would save billions of dollars in medical costs and lost economic productivity over the lifetimes of exposed infants.

A great return

Now let's consider the Clean Air Act Amendments of 1990, which garnered bipartisan support and was signed into law by President George H.W. Bush.

EPA cost-benefit analysis of this legislation indicates that it generated $4 of benefits per dollar of cost incurred, where benefits were defined as reduced health costs and greater labor productivity. That's a good return.

The EPA's nearly 25-year effort to remove lead from gasoline generated even more impressive results. This policy lowered Americans' average blood lead levels by 75 percent.

Lower lead levels in children reduced infant mortality and improved children's physical health, raised IQs and reduced aggressive behaviors. When these children matured into adults they were more economically productive and less likely to commit crimes. This policy saved an estimated $10 for every dollar spent on getting the lead out of gasoline. That's a great return.

The health and economic benefits of the Clean Air Act Amendments and the transition to unleaded gasoline show that not all environmental policies waste taxpayer money. In fact, the Republican Party 2016 platform states that "human health and safety are the proper measures of a policy's success." By that standard, the EPA's work with on the Clean Air Act Amendments and the elimination of leaded gasoline constitute great successes.

The EPA's efforts to preserve air quality protects babies (and the rest of us) from damage caused by airborne toxins. It also saves a lot of money. Whether you care about economics or children's health, cutting the EPA's budget is not a good deal in the long run.

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