

Reducing noise pollution nationwide could reap big savings

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Reducing noise pollution in the United States wouldn't just impact hearing but could save \$3.9 billion in health care spending by lowering the prevalence of health issues associated with excess noise.

University of Michigan School of Public Health researchers have calculated that a 5-decibel reduction in excess noise could lower the prevalence of hypertension by 1.4 percent and [coronary heart disease](#) by 1.8 percent, or 1.2 million and 279,000 people, respectively.

The annual cost savings breaks down to \$2.4 billion in direct health care costs and \$1.5 billion in productivity gains, said Richard Neitzel, assistant professor of environmental health science.

"These results indicate that a greater focus on [noise reduction](#) in the U.S. could yield substantial savings in [health care costs](#) associated with [cardiovascular disease](#), in addition to reducing annoyance and preventing noise-induced hearing loss," Neitzel said.

The team's findings are reported in the *American Journal of Preventive Medicine*.

The primary culprits in [noise pollution](#) are road traffic, aircraft along with construction, industrial and recreational activities.

In guidelines that are nearly 40 years old, the Environmental Protection Agency recommended a safe noise limit of 55 A-weighted decibels

(dBA), but according to an agency study in 1981, nearly 60 percent of Americans were exposed at levels of 58 to 65 dBA.

Neitzel and the team used the EPA figures in their study, although he said it likely represents a conservative estimate of the current levels, as expanded urbanization over recent decades undoubtedly has meant increased noise pollution.

In fact, a 2013 study estimates that more than 100 million people are exposed to unhealthy levels of noise that put them at risk for hearing loss, sleep disruption, annoyance and cardiovascular disease.

In particular, noise represents an environmental stressor that impacts sleep, relaxation and concentration, which can contribute to the two forms of cardiovascular disease, the researchers wrote.

Neitzel said there are many ways to mitigate noise pollution.

"The most important one is increased focus on controlling noise exposures at their source. In other words, designing consumer products, transportation and civil infrastructure, and buildings with the goal of reducing human exposures to noise. This is a long-term effort that will result in improved health and decreased noise annoyance, both of which have substantial benefits to society," he said.

He said a side benefit could be reductions in other important environmental hazards, such as air pollutants.

"The Environmental Protection Agency has responsibility for reducing noise exposures in America, but their Office of Noise Abatement and Control has not been funded since the early 1980s," Neitzel said. "Re-funding of this agency represents an important first step toward reducing [noise](#), and subsequently reducing hearing loss and cardiovascular disease

in America."

More information: "An Economic Assessment of U.S. Environmental Noise as a Cardiovascular Health Hazard." *American Journal of Preventive Medicine*. DOI: [dx.doi.org/10.1016/j.amepre.2015.02.016](https://doi.org/10.1016/j.amepre.2015.02.016)

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