Environmental Exposure

Many criminal justice interventions focus on ensuring that those who engage in criminal activity do not commit additional crimes. But it is not necessary to wait until someone is arrested or convicted to try to put them on a better path. There is much that can be done to improve public safety by intervening early to change an individual's life trajectory and help prevent them from committing crime in the first place.

There is now extensive evidence that early-childhood exposure to lead increases violent behavior later in life. There is also developing evidence that exposure to air pollutants increases real-time violent behavior. In light of this evidence, interventions that minimize exposure to toxins and pollutants that harm brain development — such as lead abatement and air filtration — have the potential to reduce criminal behavior and warrant further investigation and testing.

WHAT WE KNOW ABOUT ENVIRONMENTAL FACTORS THAT INCREASE CRIME

- **Lead exposure:** Lead exposure at a young age has significant, harmful effects on life outcomes due to its negative impact on neurological development, impacting both impulse control and educational attainment. This includes increasing crime.[1] While there have been improvements in lead abatement since exposure peaked in the late 1970s, substantial work remains to reduce the prevalence and harm of exposure.
- **Air pollution:** Exposure to air pollution has both contemporaneous and delayed effects on violent crime. When pollution exposure in a neighborhood increases (due to changes in wind direction, for example), violent crime increases.[2] How adaptive measures such as air filtration impact criminal behavior is understudied, but some studies show promise: for instance, research finds that improved air filtration in schools increases test scores.[3]
- **Additional benefits:** Toxin remediation likely has many other benefits beyond crime control, including increases in cognitive function[4] and academic achievement,[5] reductions in mortality,[6] and increases in fertility.[7]
- **Cost effectiveness:** Lead remediation and pollution reduction are likely highly cost-effective crime reduction strategies that could yield additional savings from improved health and academic outcomes.[8]

WHAT POLICYMAKERS SHOULD FOCUS ON

- Partnering with researchers to test the impact of promising interventions that address the deleterious impacts of environmental toxins. The Centers for Disease Control and Prevention recommends testing blood for lead exposure and provides recommended actions based on an individual's blood lead level.[9] State policymakers can also help prevent adverse impacts of lead exposure by supporting efforts to test water supplies, replace lead pipes, inspect and remediate homes, and provide case management and treatment for impacted families.
- Mitigating exposure to polluted air (for instance, through better air filtration in homes, schools, prisons, and other congregate settings) could produce meaningful crime reduction benefits among high-risk groups, and merits testing and evaluation.

ENDNOTES

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