

# Air pollution associated with higher rates of chronic kidney disease

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Air pollution may play a role in the development of kidney disease, according to a study that will be presented at ASN Kidney Week 2014 November 11-16 at the Pennsylvania Convention Center in Philadelphia, PA.

Provided by American Society of Nephrology

There are wide variances in the prevalence of chronic [kidney disease](#) (CKD) across the United States, only part of which is explained by differences in individuals' risk factors. To see if air quality may also play a role, Jennifer Bragg-Gresham, PhD (University of Michigan) and her colleagues looked at 2010 Medicare information on 1.1 million persons as well as air-quality data for all US counties provide by the Environmental Protection Agency.

The investigators found a link between the prevalence of CKD and the county level of particulate matter, even after taking into account patient [risk factors](#) for CKD including age, diabetes, and hypertension. An elevated prevalence of CKD was observed when particulate matter levels were as low as 8.4  $\mu\text{g}/\text{m}^3$ , which is much lower than levels typically considered unhealthy for sensitive groups such as the elderly ( $\sim 40 \mu\text{g}/\text{m}^3$ ).

"If [air pollution](#) is a risk factor for CKD, the impact is likely to be even greater in countries where pollution levels are much higher than in the U.S. Future investigations should include lab-based diagnosis of CKD, longitudinal data, measures of multiple air pollutants and individual exposure, and more extensive control of confounding factors," said Dr. Bragg-Gresham.

**More information:** Study: "County-level Air Quality and the Prevalence of Diagnosed Chronic Kidney Disease in the U.S. Medicare Population" (Abstract SA-PO802)

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