SIGNIFICANCE STATEMENT

Exposure to fine particulate matter air pollution ($<2.5\mu$m) is associated with increased risk of cardiovascular disease and death, but its impact on CKD and ESRD is not known. Analyses of data from a large cohort of United States Veterans demonstrate a linear relationship between exposure to fine particulate matter air pollution and risk of incident CKD or progression to ESRD. The study provides a quantitative assessment of the US burden of CKD and ESRD attributable to air pollution and establishes air pollution as an important risk factor. The findings contribute to understanding the geographic variation in burden of CKD in the US and globally. Further study is needed to understand the mechanisms by which small particulate air-borne pollutants effect the progression of CKD.