



On the association of chemical pollutant exposures and disordered sleep outcomes

To the Editor:

COI disclosures

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I read with great interest the systematic review by Wallace et al. [1] of the evidence proposing associations of chemical pollutant exposures and disordered sleep outcomes. I have had a particular interest in investigating the association of the poorly characterized occupational exposures [2,3] at the World Trade Center (WTC) disaster site in 2001–2002 with obstructive sleep apnea [4,5]. Wallace et al. correctly indicate the inevitable screening bias inherent to the early and over-detection of obstructive sleep apnea in the open WTC occupational cohorts on longitudinal surveillance, paired with generous and consequently hypervigilant clinical investigation. I would add that the very substantial higher prevalence of both overweight and obesity, and marked male sex predominance in the WTC occupational cohorts [6,7] compared to the general U.S. population [8,9], are likely contributors to that detection bias. Detection bias may also be introduced by the high prevalence in this population of chronic rhinosinusitis [10,11], of which snoring is a very frequent symptom, and which may in turn prompt investigation of sleep apnea [12]. Lastly, after the passing of the 9/11 Health and Compensation Act of 2010 [13], obstructive sleep apnea became for the first time a financially compensable diagnosis by the September 11th Victim Compensation Fund of the United States Department of Justice (awards-and-certified-conditions-factsheet" title="https://www.vcf.gov/resources/non-economic-loss-awards-and-certified-conditions-factsheet">https://www.vcf.gov/resources/non-economic-loss-awards-and-certified-conditions-factsheet), and a disease approved for medical coverage without co-payment or coinsurance by the WTC Health Program [13], both of which are undoubtedly additional incentives to its detection among cohort members. Given the evidence reviewed by Wallace et al., the essentially presumptive nature of the federally funded benefit and coverage system is quite similar to that of the Gulf War Illness (<https://www.va.gov/disability/eligibility/hazardous-materials-exposure/gulf-war-illness-southwest-asia/>). All of these factors, not mentioned in the review, add confounding

that studies do not (and perhaps can not easily) control for in their design.

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