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Supplemental Material

Developing a Health Impact Model for Adult Lead Exposure and Cardiovascular Disease Mortality

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Table S1. Summary of Population Characteristics for Studies Examining the Association between Pb Exposure and CVD Mortality.

References

Table S1. Summary of Population Characteristics for Studies Examining the Association between Pb Exposure and CVD Mortality

Study	Applicable to the General Population	Reported Average Blood Pb Levels <5 µg/dL (Mean blood Pb level unless otherwise noted)
Identified through NTP Monograph and EPA ISA		
Cocco et al. (2007) Causes of death among lead smelters in relation to the glucose-6-phosphate dehydrogenase polymorphism		^a
Khalil et al. (2009) Association of blood lead concentrations with mortality in older women: a prospective cohort study	X	(5.3 µg/dL)
Lin et al. (2011) Association of blood lead levels with mortality in patients on maintenance hemodialysis		(median: 10.4 µg/dL)
Lustberg and Silbergeld (2002) Blood lead levels and mortality	X	(14.0 µg/dL)
Menke et al. (2006) Blood lead below 0.48 µmol/l (10 µg/dL) and mortality among US adults	X	X (2.58 µg/dL)
Neuberger et al. (2009) Potential health impacts of heavy-metal exposure at the Tar Creek Superfund site, Ottawa County, Oklahoma	X	^a
Schober et al. (2006) Blood lead levels and death from all causes, CVD, and cancer: results from the NHANES III mortality study	X	X (median: 4.14 µg/dL) ^b
Weisskopf et al. (2009) A prospective study of bone lead concentration and death from all causes, CVD, and cancer in the Department of Veterans Affairs Normative Aging Study	X	(5.6 µg/dL)
Identified through supplemental literature review		
Aoki et al. (2016) Blood lead and other metal biomarkers as risk factors for cardiovascular disease mortality	X	X (1.73 µg/dL)
Bertke et al. (2016) Mortality of lead smelter workers: A follow-up study with exposure assessment		^a
Lanphear et al. (2018) Low-level lead exposure and mortality in US adults: a population-based cohort study	X	2.71 µg/dL
McElvenny et al. (2015) Mortality of a cohort of workers in Great Britain with blood lead measurements		(44.3 µg/dL)
Ruiz-Hernandez et al. (2017) Declining exposures to lead and cadmium contribute to explaining the reduction of cardiovascular mortality in the US population, 1988-2004	X	NHANES III: 3.2 µg/dL 1999-2004: 1.9 µg/dL

Study	Applicable to the General Population	Reported Average Blood Pb Levels <5 µg/dL (Mean blood Pb level unless otherwise noted)
Wang et al. (2011) Long-term heavy metal pollution and mortality in a Chinese population: an ecologic study		(17.8 µg/dL) ^a
Weisskopf et al. (2015) Biased exposure–health effect estimates from selection in cohort studies: are environmental studies at particular risk?	X	(5.5 µg/dL)

Note: This table provides additional details on the literature review, comparing all 15 identified studies against the criteria laid out in Step 3 of the methods. The four studies bolded in the table (Aoki et al. 2016; Lanphear et al. 2018; Menke et al. 2006; Ruiz-Hernandez et al. 2017) fit the criteria of having blood Pb levels, on average, less than 5 µg/dL and being applicable to the general population.

^a No blood Pb data were presented for this study.

^b No overall mean or median blood Pb level was presented. This value is a calculated weighted mean blood Pb level based on the cohort population characteristics presented in Table 1 of Schober et al. (2006) and Table 2 of Wang et al. (2011), respectively.

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