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Supplemental Material

Ambient Fine Particulate Matter Air Pollution and Risk of Weight Gain and Obesity in United States Veterans: An Observational Cohort Study

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Figure S4. Association of PM_{2.5} exposure with risk of obesity and gain in weight based on the optimal model in a national cohort of United States Veterans selected from July 1, 2010 through June 31, 2011 and followed until December 31, 2018 (n=3 902 440). (A) Obesity, (B) 10 lbs. gain in weight. A Shape Constrained Health Impact Function (SCHIF) modeling approach was used. Models were adjusted for height, weight, and/or BMI, State of residence, age, race, sex, smoking status, Area Deprivation Index, normalized difference vegetation index, county-level % rural residency, population density, % limited access to healthy food, % access to exercise opportunities, and % of adults reporting excessive alcohol consumption. Lines represent the estimated difference in risk associated with a given PM_{2.5} concentration compared to with the reference concentration of 1 µg/m³ (in consideration of the log-linear form). Bands represent the 95% confidence interval. 2.205 pounds = 1 kilogram. Model parameters of the optimal model are reported in Table S3.

Figure S5. Association of PM_{2.5} exposure with intra-individual change in BMI and weight in a national cohort of United States Veterans selected from July 1, 2010 through June 31, 2011 and followed until December 31, 2018 (n=3 902 440). (A) BMI, (B) weight. Change is reported as change per year. Linear mixed models were used to obtain rates of change in outcomes associated with PM_{2.5}, where PM_{2.5} was treated as a restricted cubic spline. Models were adjusted for height, weight, and/or BMI, State of residence, age, race, sex, Area Deprivation Index, normalized difference vegetation index, county-level % rural residency, population density, % limited access to healthy food, % access to exercise opportunities, % of adults reporting excessive alcohol consumption and smoking status. There was no missing data, so no imputation was used. Bands represent the 95% confidence interval. 2.205 pounds = 1 kilogram. Values were excluded below the 1st and above the 99th percentiles of the PM_{2.5} distribution, and the 1st percentile serves as the reference value.

References