



ADDITIONAL MATERIALS AVAILABLE ON THE HEI WEB SITE

Special Report 19

Diesel Emissions and Lung Cancer: An Evaluation of Recent Epidemiological Evidence for Quantitative Risk Assessment

HEI Diesel Epidemiology Panel

Additional Materials 1. Graphs of Cox Regression Analyses with Penalized Splines from Garshick et al. 2012

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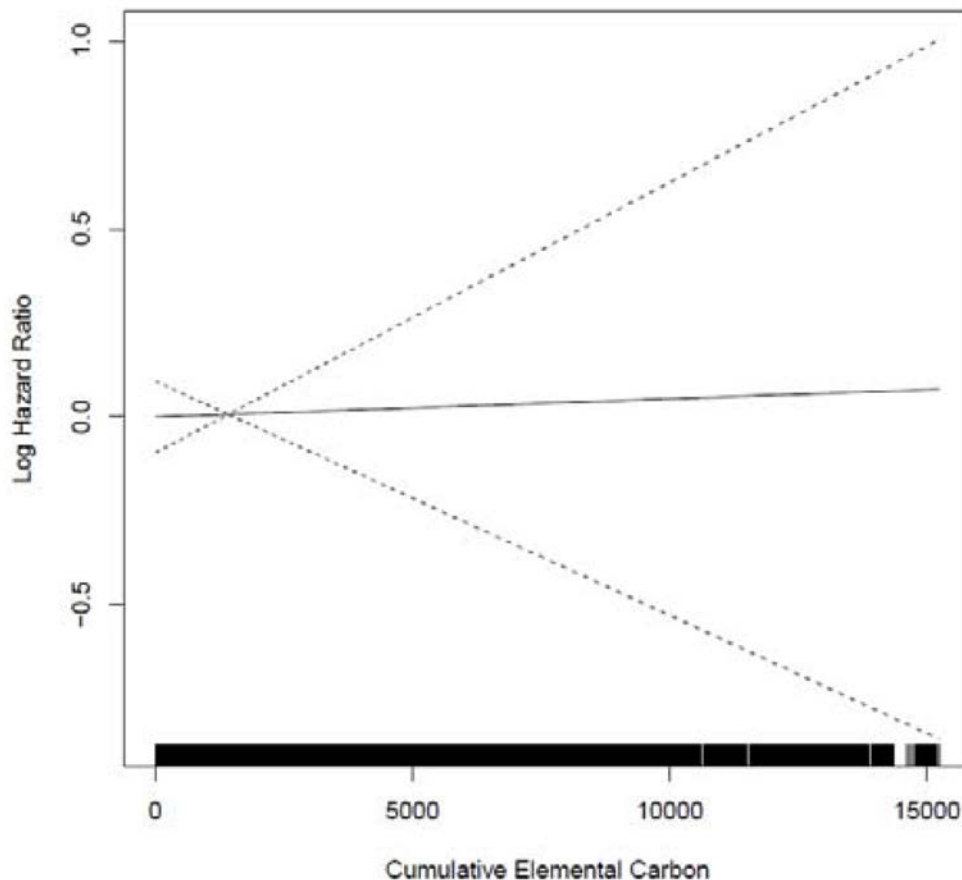
This document was reviewed by the HEI Diesel Epidemiology Panel but did not undergo the HEI scientific editing and production process.

Additional Materials 1: Graphs of Cox Regression Analyses with Penalized Splines (Garshick, E. Personal Communication 2013)

The Panel had requested the data “not shown” in the paper by Garshick et al. 2012* demonstrating that the natural log of lung cancer increased with increasing cumulative EC did not depart from linearity. The author wrote:

“We used EC as a continuous covariate in the analyses that generated the results presented in the Table 5 of the paper to assess the effects of EC on lung cancer mortality with no lag, a 5-year lag, and a 10-year lag, excluding mechanics. We used penalized splines incorporated into Cox regression models to assess possible nonlinearity in mortality risk. Analyses were performed in R for Unix. We found that the relationship between the natural log of lung cancer risk increased with increasing cumulative EC and did not statistically significantly depart from linearity.”

The graphs provided by Garshick for cumulative EC (submicron elemental carbon) for the 3 lags are shown below:



*Garshick E, Laden F, Hart JE, Davis ME, Eisen EA, Smith TJ. 2012. Lung cancer and elemental carbon exposure in trucking industry workers. *Environ Health Perspect* 120:1301–1306.

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