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Supplemental Material

Mercury Exposure, Blood Pressure, and Hypertension: A Systematic Review and Dose–response Meta-analysis

Xue Feng Hu, Kavita Singh, and Hing Man Chan

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(Mercury[MH] OR Mercury Poisoning[MH] OR mercury[title] OR Hg[title] OR "mercuric" OR methylmercury OR "methyl mercury" OR "quicksilver" OR "quecksilber" OR "mercurio" OR "liquid silver" OR "mercure" OR "kwik" OR "hydrargyrum" OR "colloidal mercury" OR dimethylmercury OR "dimethyl mercury" OR "7439-97-6" OR "22967-92-6" OR "593-74-8") AND (Cardiovascular Diseases[MH] OR "cardiovascular"[tiab] OR CVD[tiab] OR Heart OR Mortality OR "death" OR "deaths" OR Myocardial Infarction OR "myocardial infarctions" OR Stroke OR "strokes" OR Cerebrovascular Disorders OR "cerebrovascular" OR Peripheral Arterial Disease OR "peripheral arterial diseases" OR Peripheral Vascular Disease OR "peripheral vascular diseases" OR Hypertension OR Systolic OR "systole" OR "systoles" OR Diastolic OR "diastole" OR "diastoles" OR Atherosclerosis OR Arteriosclerosis OR Electrocardiography OR Heart Rate OR "heart rates" OR "heart rate variability" OR Ventricular Hypertrophy OR "ventricular mass" OR Heart Failure OR "heart failures" OR Cardiovascular Physiological Phenomena[MH] OR "cardiovascular system" OR Blood Circulation OR Hemodynamics OR Blood Pressure OR "pulse"[tiab] OR "pulse pressure" OR "Tunica Intima"[MH] OR "intima media thickness" or "arterial wall thickness" OR (coronary AND calcification)) NOT ("animals"[MH] NOT ("humans"[MH] AND "animals"[MH]))

Figure captions

For Figure S2 to S9, the area of each square is proportional to the inverse of the variance of the estimated mean difference in systolic/diastolic blood pressure. Black diamonds represent point estimates of mean difference and horizontal lines represent 95% CIs. Arrowheads indicate that the upper limit of the 95% CI in that study exceed the range specified. The open diamonds represent the combined mean difference for each subgroup and the overall mean difference for all studies. The solid line represents mean difference = 0. The dash line represents the point estimate of overall mean difference for all studies. The "metan" package in Stata only outputs p value up to 3 digit numbers for the heterogeneity tests. We reported in the text "$p < 0.0001$" when the figures showed "$p = 0.000$". CI, confidence interval; SBP, systolic blood pressure; DBP, diastolic blood pressure; * indicates mercury form was not described in the methods section and was assumed by authors of the present review.

Figure S10, Evaluation of dose response for mercury exposure and hypertension. Black symbols indicate studies conducted in populations with low to moderate mercury exposure (hair mercury concentration < 2 μg/g in the highest exposure category); blue symbols indicate studies conducted in populations with high mercury exposure (hair mercury concentration ≥ 2 μg/g in the highest exposure category). The size of each data point is inversely weighted based on the inverse of the variance of the estimated log OR.

Figure S11, Evaluation of dose response for mercury exposure and mean difference in systolic blood pressure. Data were modeled with fixed-effects restricted cubic spline models with 3 knots (at 15th, 50th, and 85th percentile) using (Crippa and Orsini 2016) method. The solid line represents the predicted nonlinear trend. Confidence intervals (not shown) were not reliable due to lack of data.

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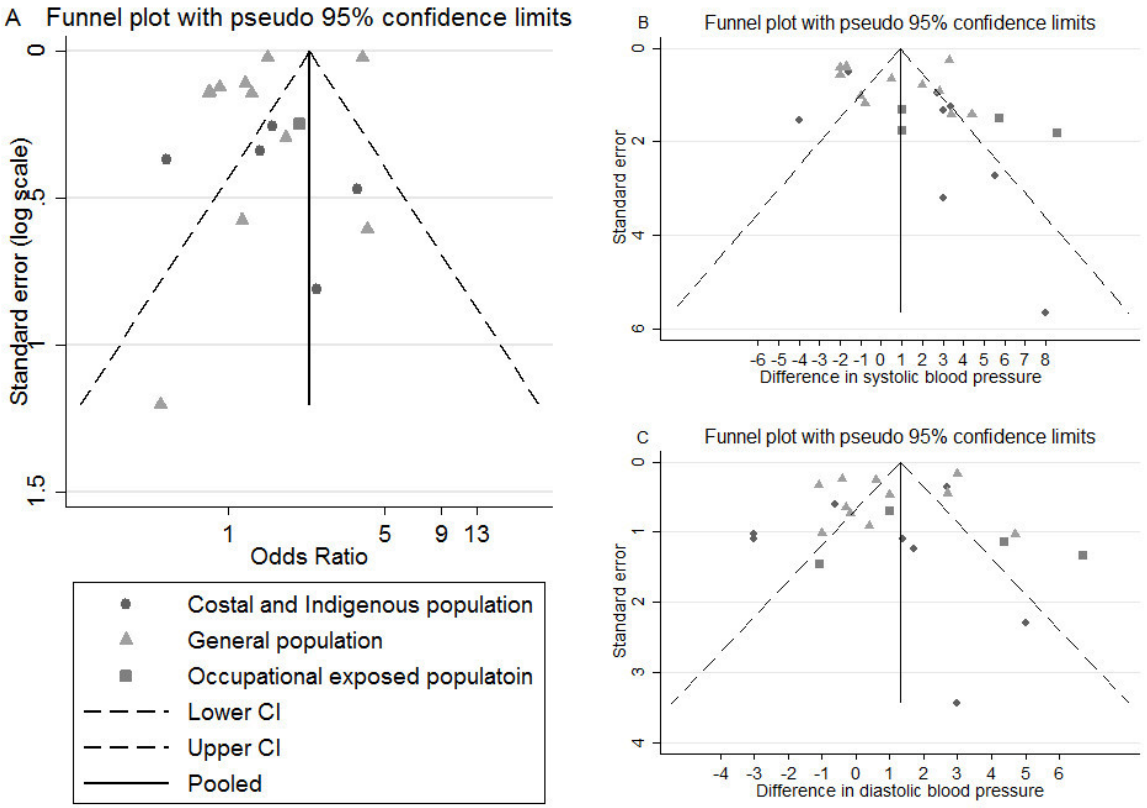

Figure S1 Funnel plots

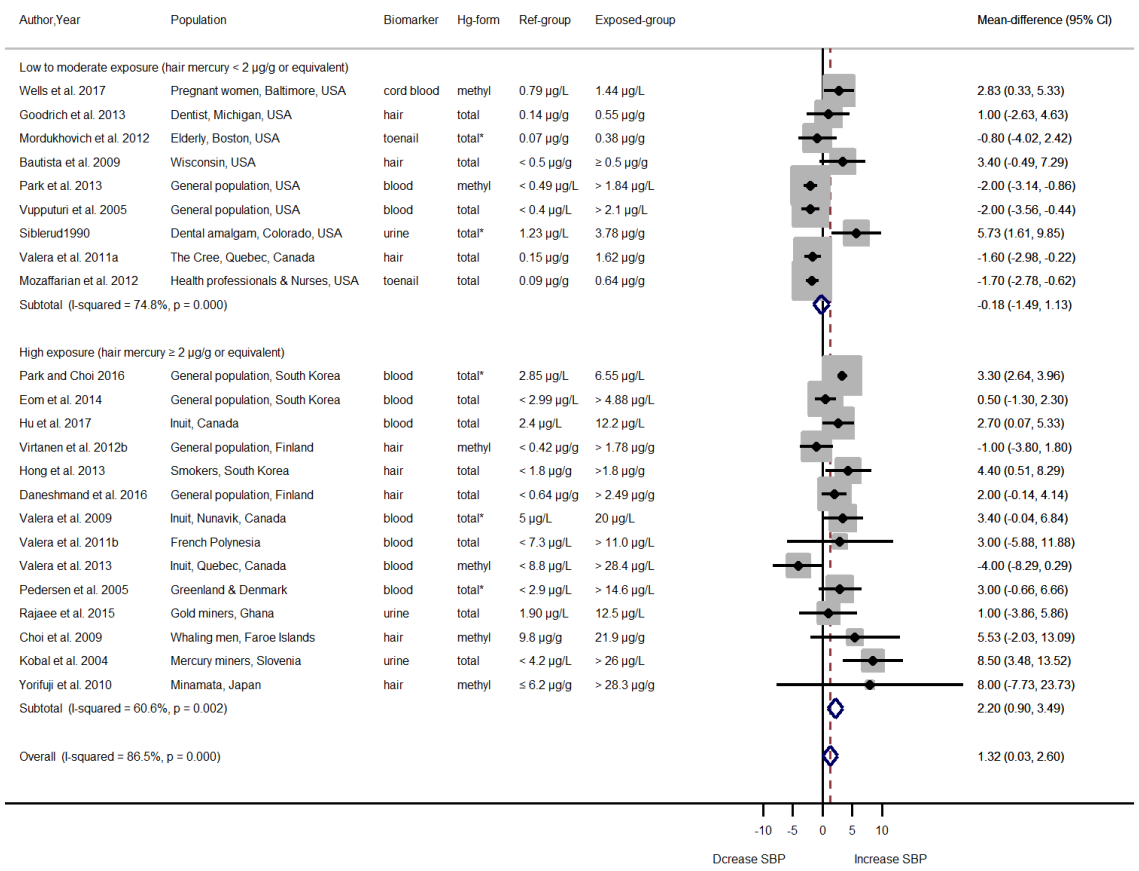

Figure S2. Mercury exposure and systolic blood pressure, by mercury exposure level

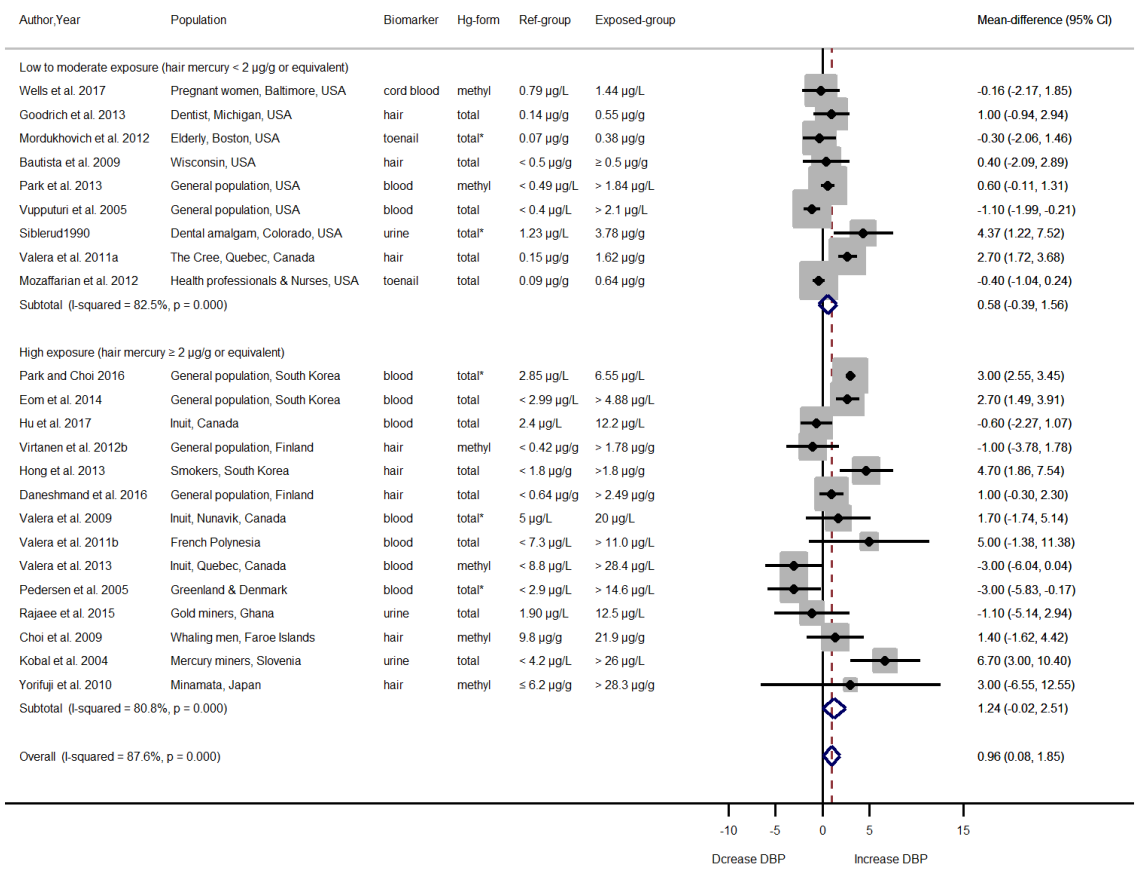

Figure S3. Mercury exposure and diastolic blood pressure, by mercury exposure level

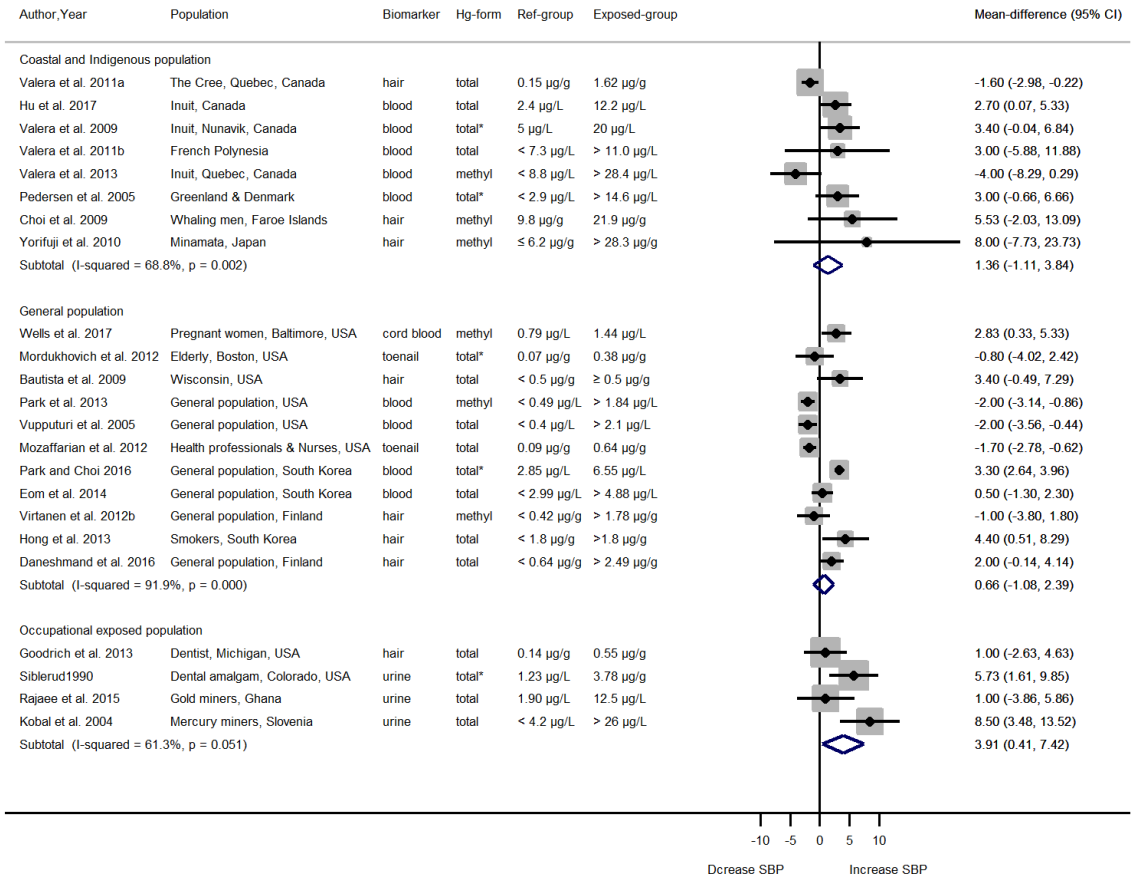

Figure S4. Mercury exposure and systolic blood pressure, by exposure group

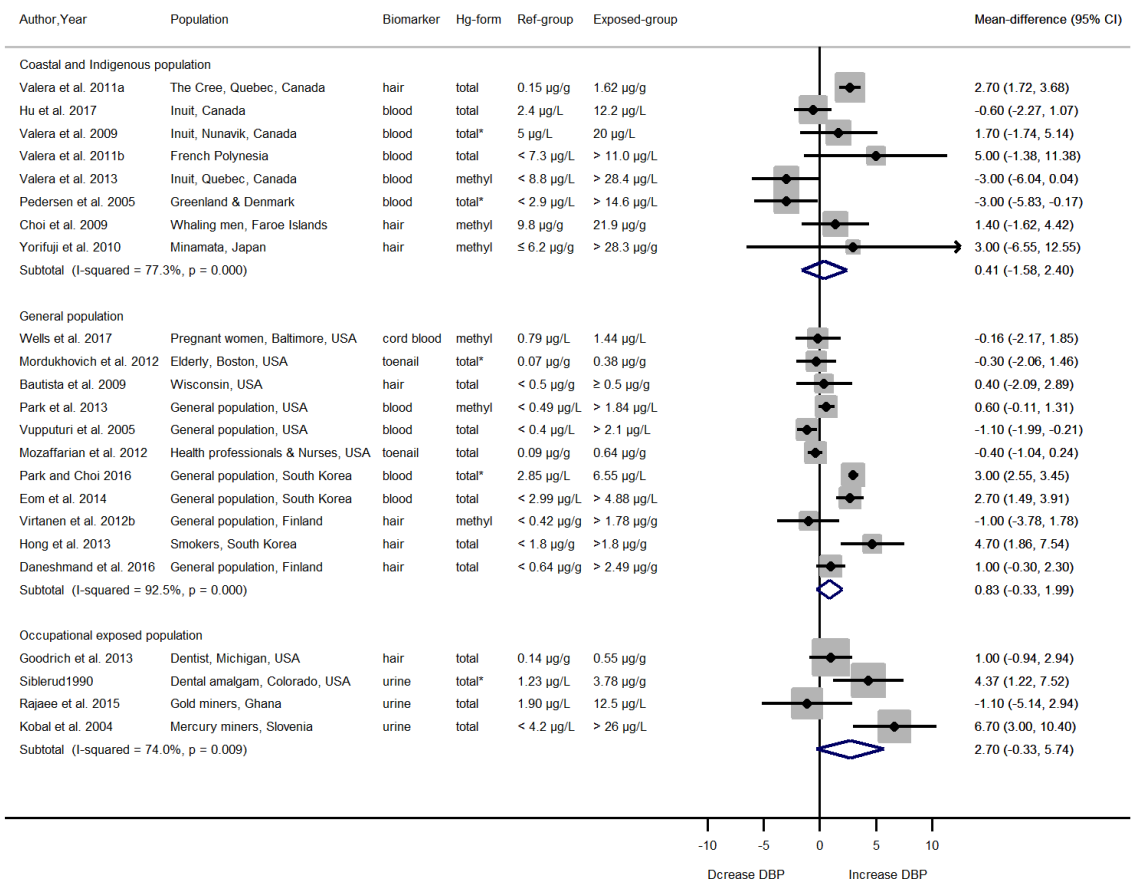

Figure S5. Mercury exposure and diastolic blood pressure, by exposure group

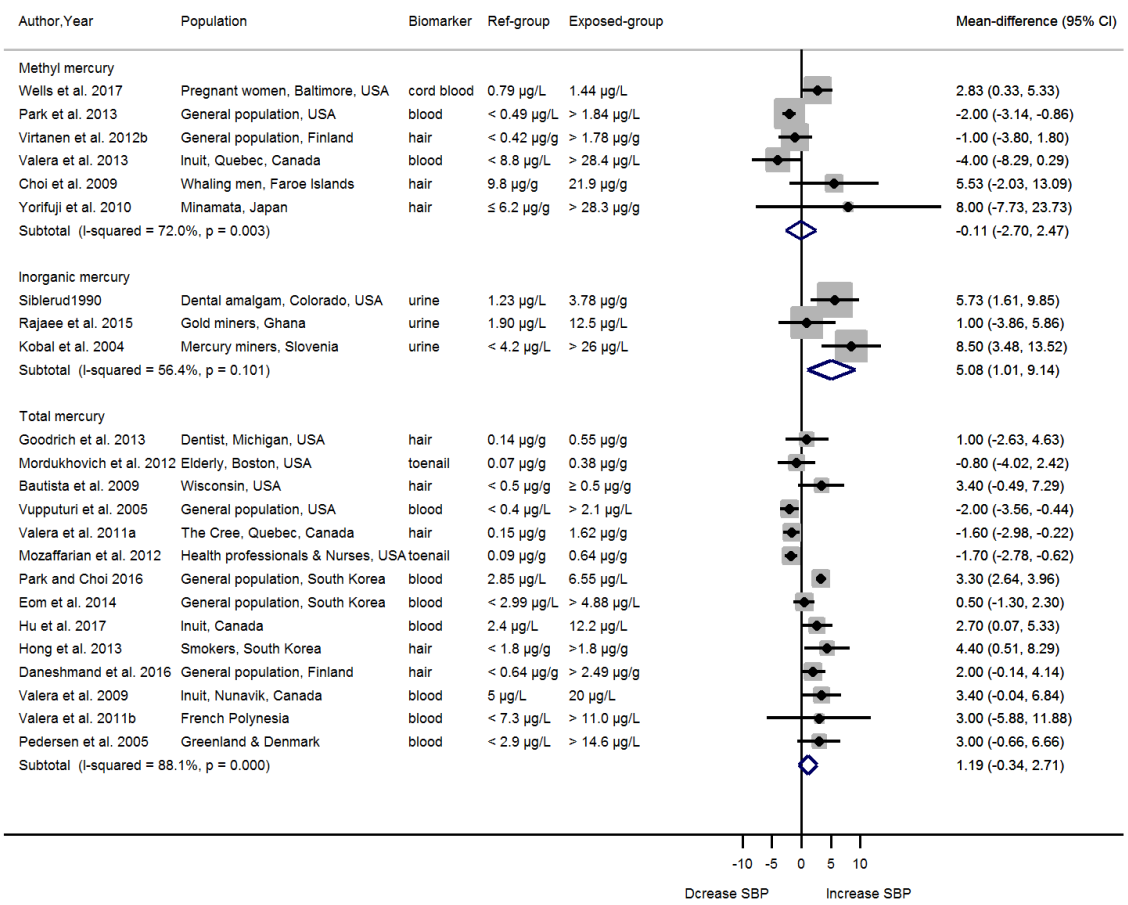

Figure S6. Mercury exposure and systolic blood pressure, by mercury species

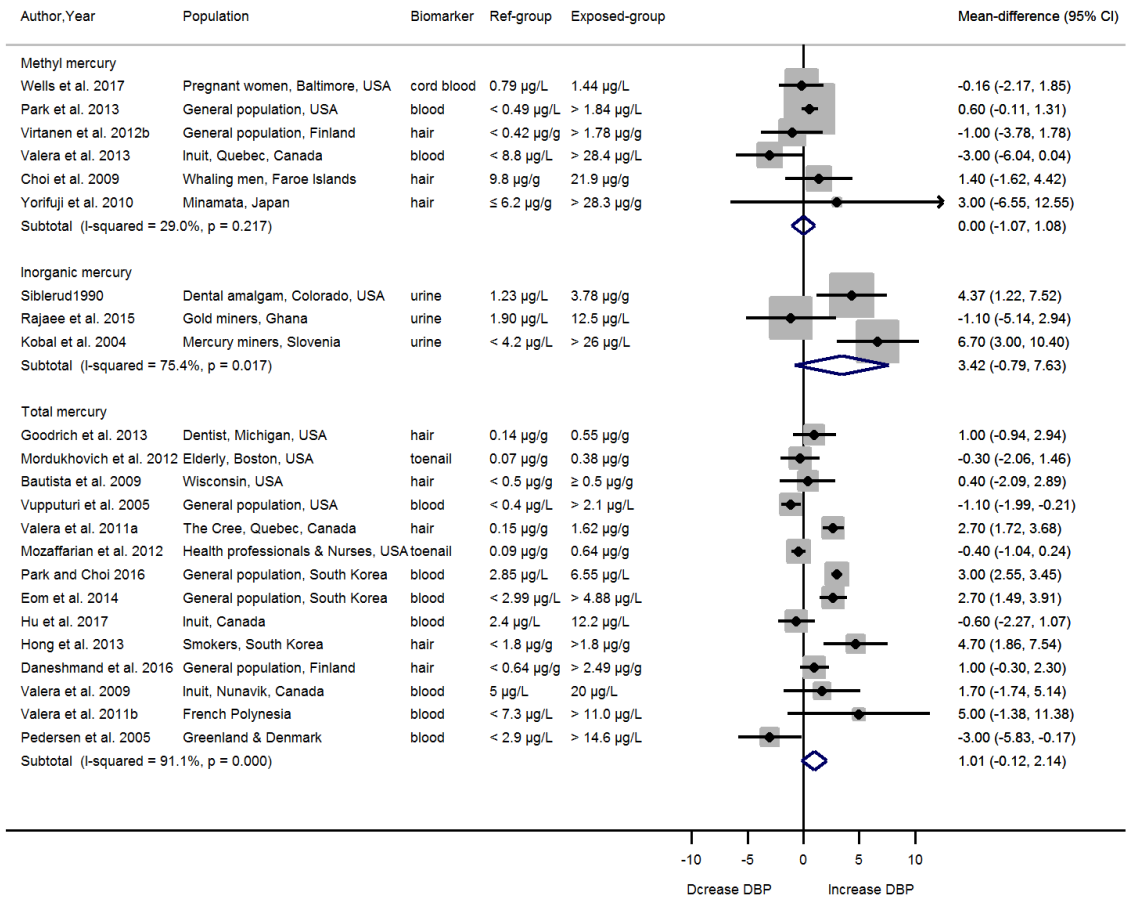

Figure S7. Mercury exposure and diastolic blood pressure, by mercury species

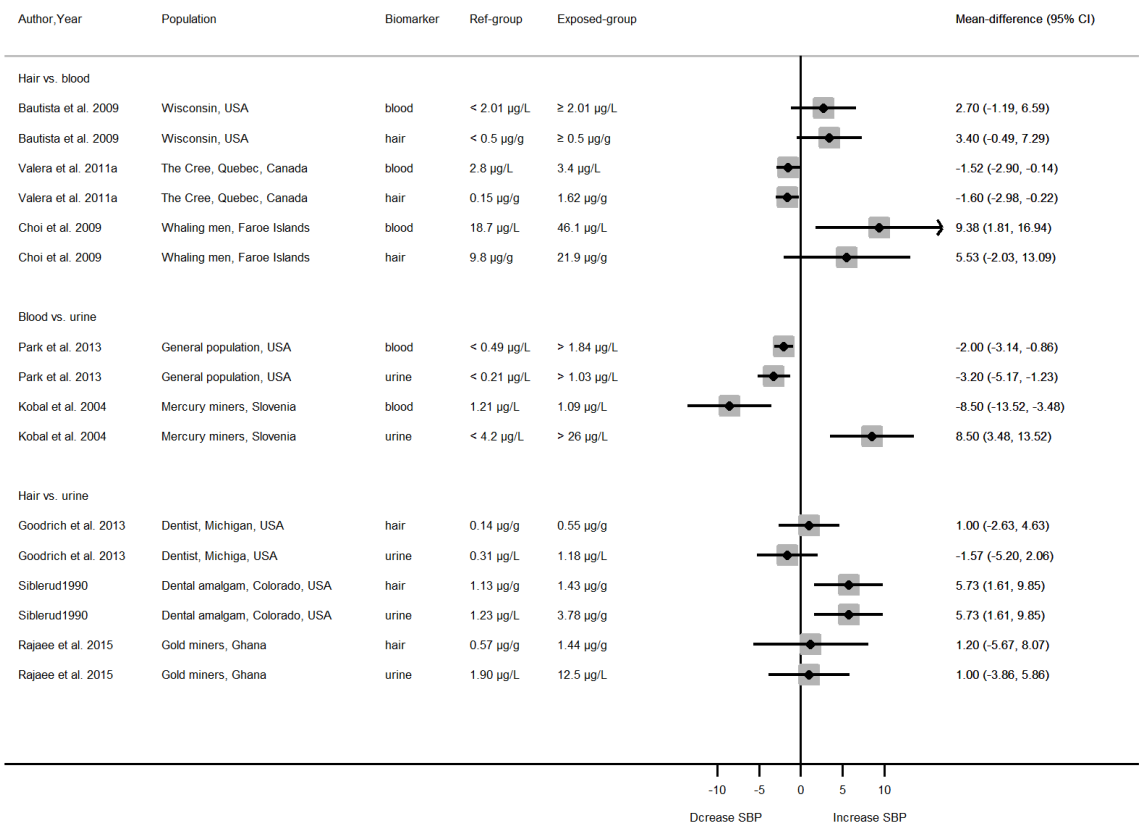

Figure S8. Mercury exposure and systolic blood pressure, by exposure biomarker

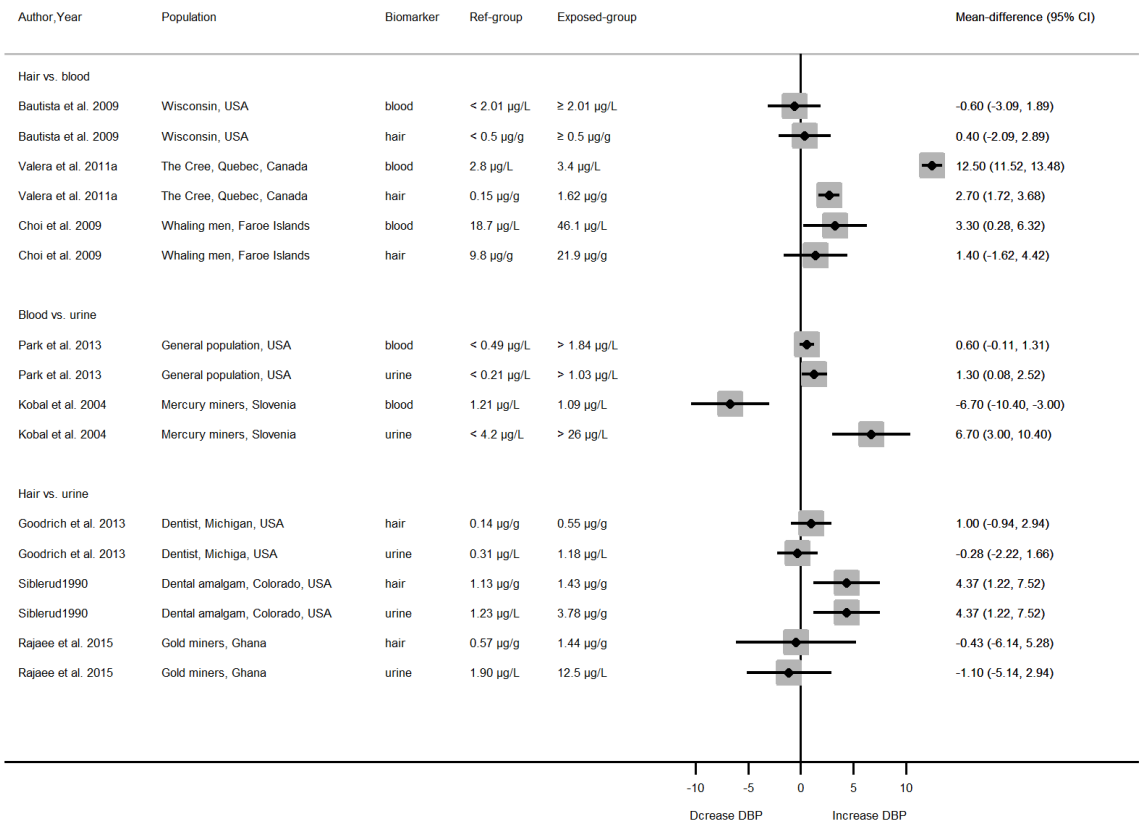

Figure S9. Mercury exposure and diastolic blood pressure, by exposure biomarker

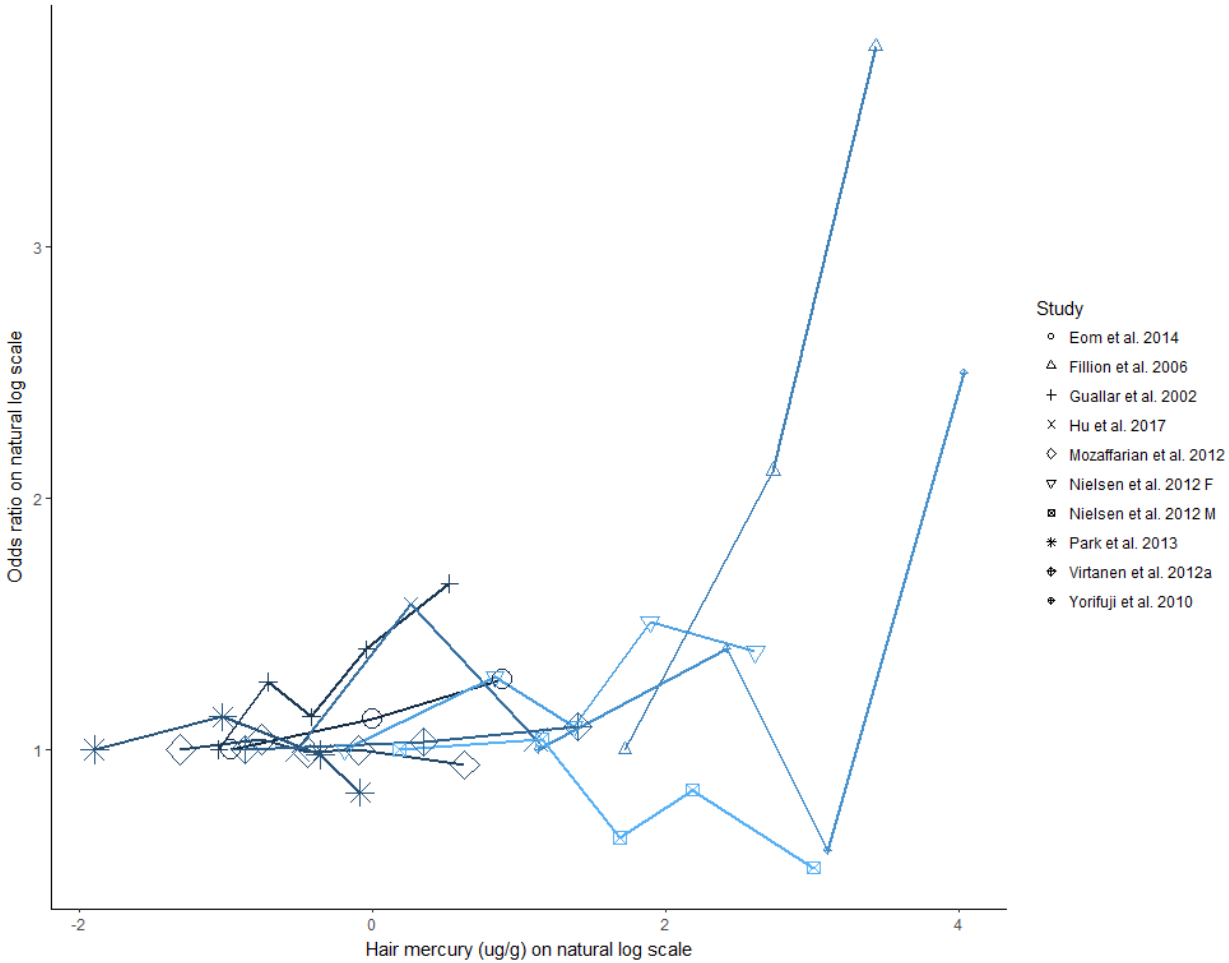

Figure S10. Evaluation of dose response for mercury exposure and hypertension

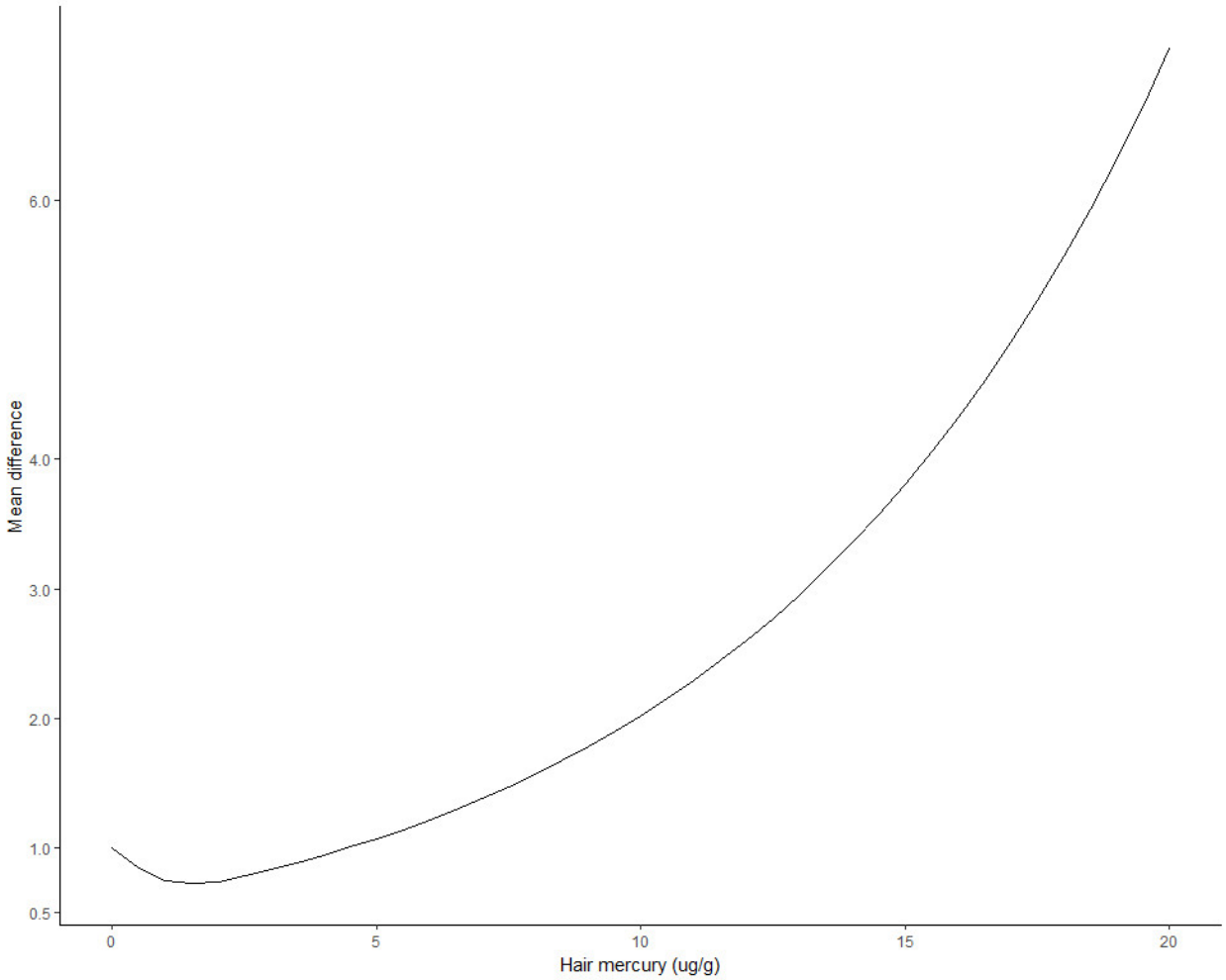

Figure S11 Evaluation of dose response for mercury exposure and systolic blood pressure

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