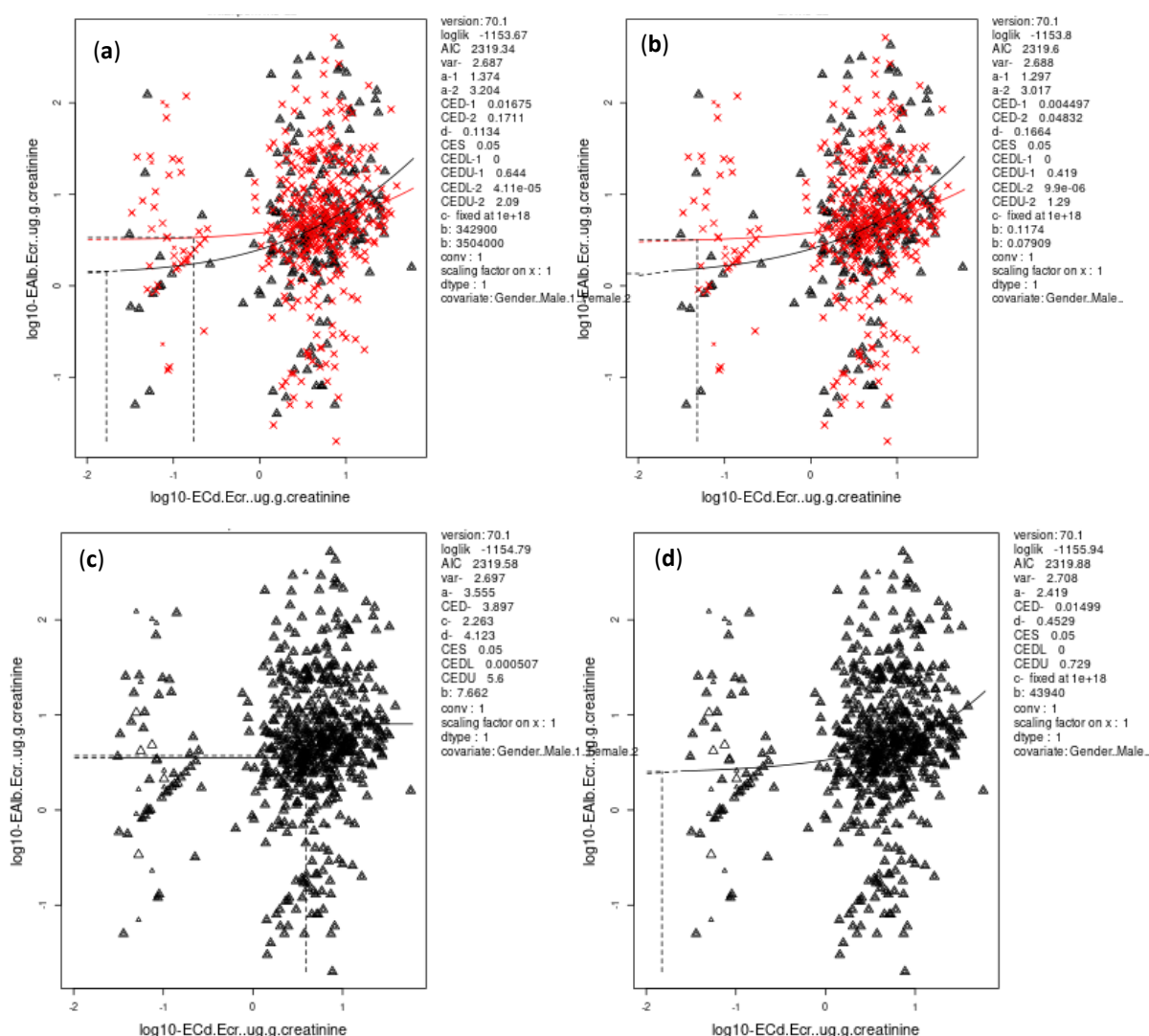


Supplemental Material: Health Risk in a Geographic Area of Thailand with Endemic Cadmium Contamination: Focus on Albuminuria

Soisungwan Satarug, David A. Vesey, Glenda C. Gobe, Supabhorn Yimthiang and Aleksandra Buha Đorđević

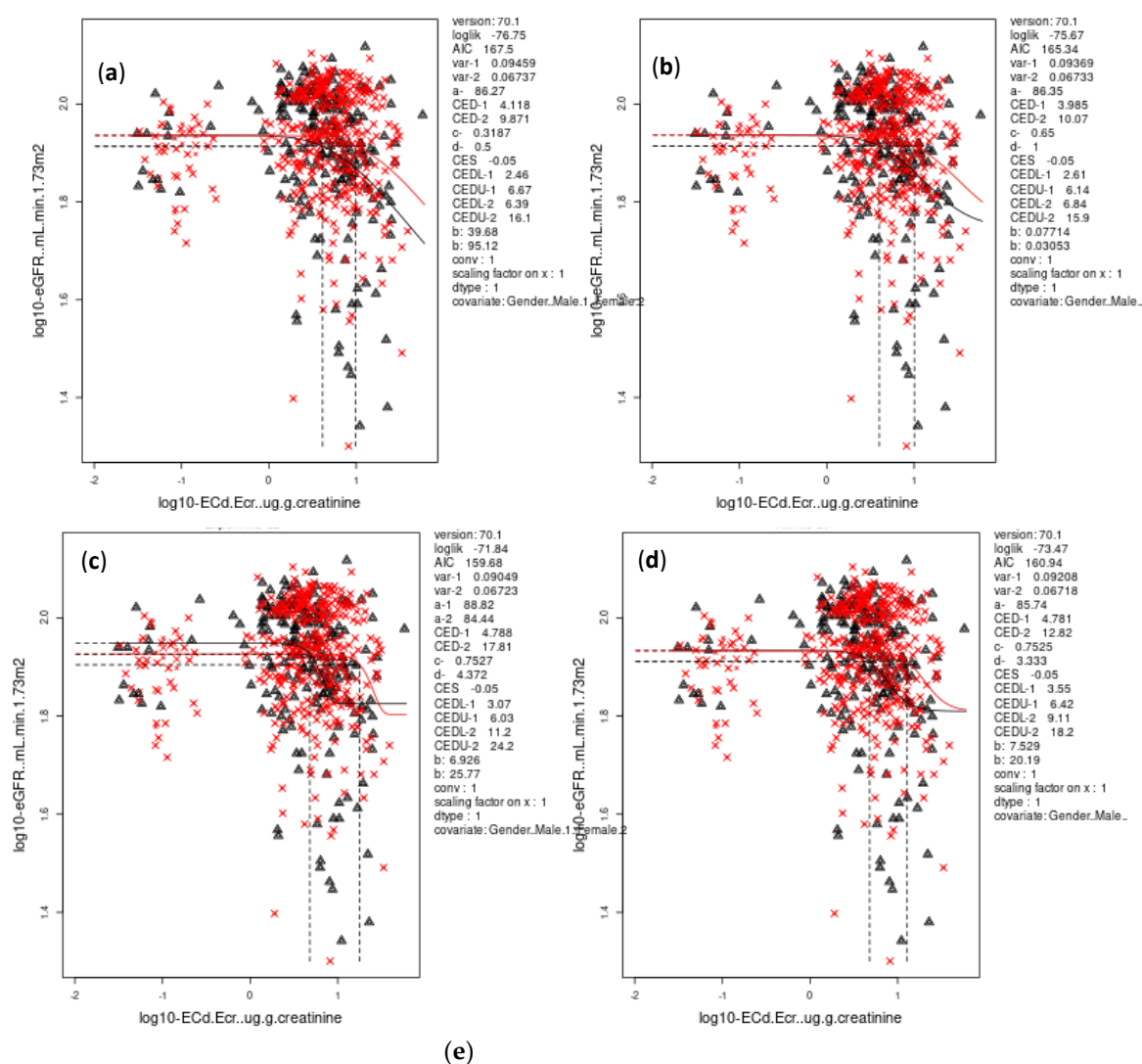


(e)

5% Increase of Ealb/ECr	BMDL		U/L
	BMDU		
Men	4.16×10^{-6}	2.29	5.5×10^5
Women	3.89×10^{-4}	3.41	8.8×10^3

BMDL and BMDU values of ECd/ECr were in $\mu\text{g/g}$ creatinine. CI, confidence; U/L, BMDU/BMDL ratio.

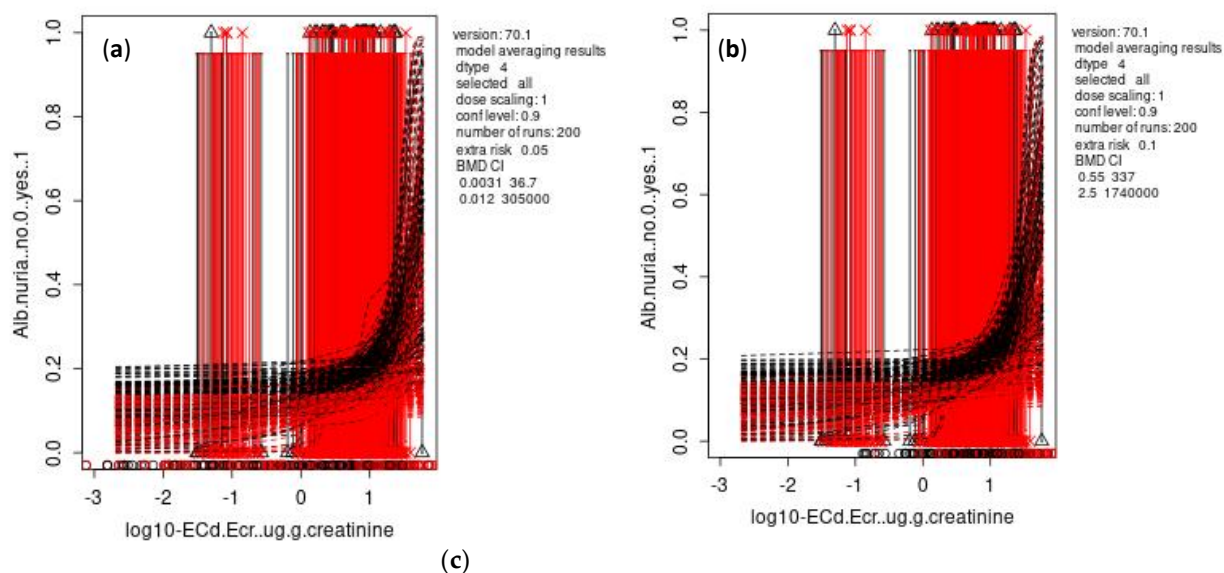
Figure S1. Dose-effect relationship of ECd/ECr and Ealb/ECr . Data were fitted to 4 dose-response models; (a) an inverse exponential model; (b) a natural logarithmic model; (c) an exponential model; and (d) Hill model. The BMDL/BMDU values of ECd/ECr corresponded to a 5% increase in Ealb/ECr in men and women (e).



5% Decrease of eGFR	BMDL		U/L
	BMDU		
Men	2.07	6.93	3.35
Women	6.82	21.7	3.81

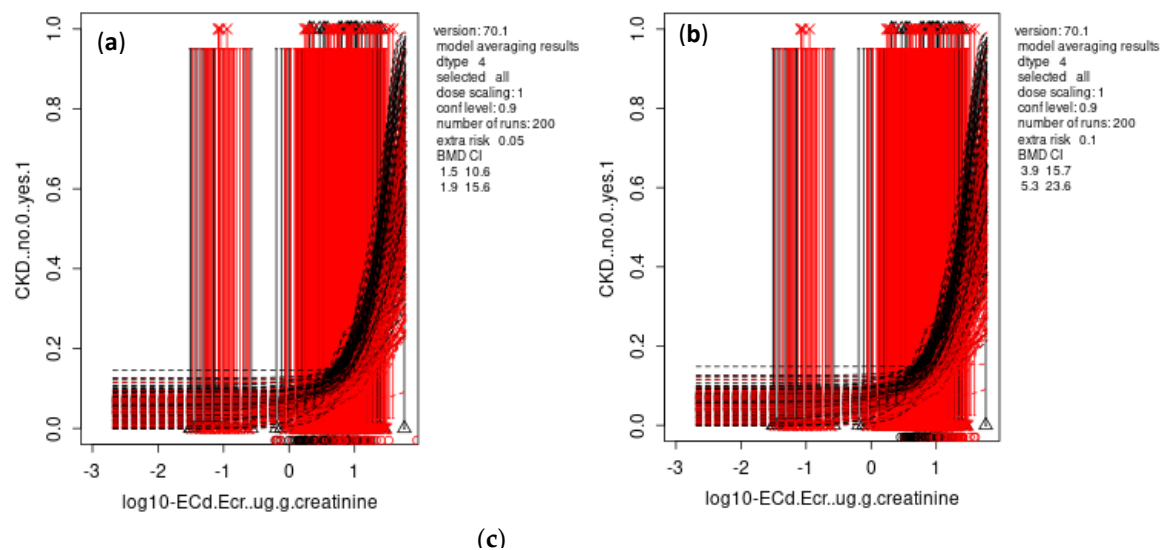
BMDL and BMDU values of E_{Cd}/E_{Cr} were in $\mu\text{g/g}$ creatinine.
 CI, confidence interval; U/L, BMDU/BMDL ratio.

Figure S2. Dose-effect relationship of E_{Cd}/E_{Cr} and eGFR. Data were fitted to 4 dose-response models; (a) an inverse exponential model; (b) a natural logarithmic model; (c) an exponential model; and (d) Hill model. The BMDL/BMDU values of E_{Cd}/E_{Cr} corresponded to a 5% decrease of eGFR (e).



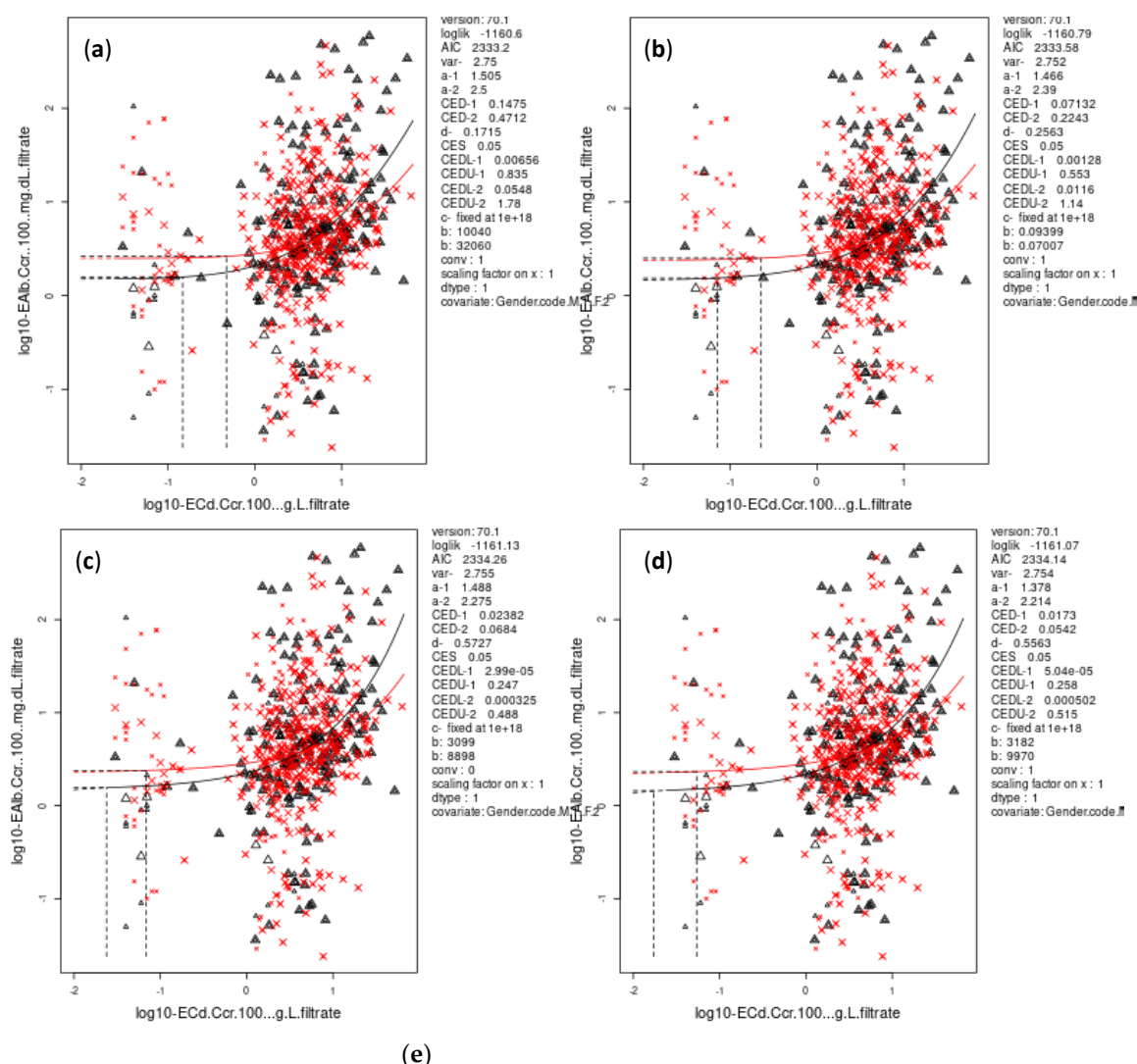
BMDL and BMDU values of \log_{10} -ECd/ECr were in $\mu\text{g/g}$ creatinine. CI, confidence interval; U/L, BMDU/BMDL ratio. Albuminuria was defined as urinary albumin-to-creatinine ratios $\geq 20 \text{ mg/g}$ for men, and $\geq 30 \text{ mg/g}$ for women.

Figure S3. Dose-effect relationship of \log_{10} -ECd/ECr and albuminuria prevalence. Bootstrap model averaging of \log_{10} -ECd/ECr values corresponded to an increase of albuminuria prevalence by 5% (a) and 10% (b). BMDL/BMDU values of \log_{10} -ECd/ECr corresponded with 5% and 10% increases in prevalence of albuminuria (c).



BMDL and BMDU values of E_{cd}/E_{cr} were in $\mu\text{g/g}$ creatinine. CI, confidence interval; U/L, BMDU/BMDL ratio. Reduced eGFR was defined as $\text{eGFR} \leq 60 \text{ mL/min/1.73 m}^2$.

Figure S4. Dose-effect relationship of E_{cd}/E_{cr} and prevalence of reduced eGFR. Bootstrap model averaging of E_{cd}/E_{cr} values corresponded to an increase of albuminuria prevalence by 5% (a) and 10% (b). The BMDL/BMDU values of E_{cd}/E_{cr} corresponded with 5% and 10% increases in prevalence of albuminuria (c).

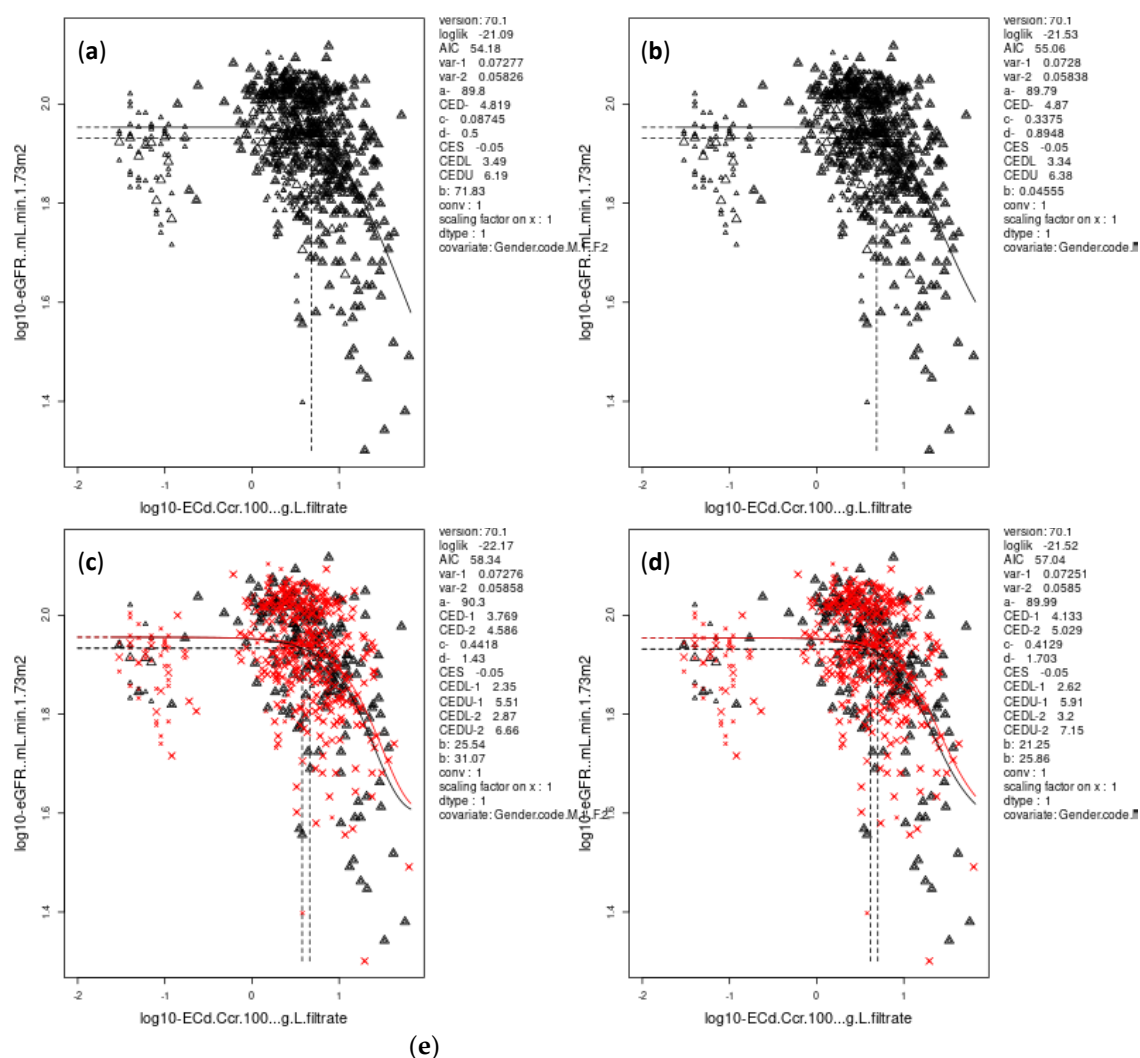


(e)

	5% Increase of E_{alb}/C_{cr}	BMDL	BMDU	U/L
Men		0.00053	1.11	2,094
Women		0.00357	2.09	585

BMDL and BMDU values of $E_{Cd}/C_{cr} \times 100$ were in $\mu\text{g/L}$ filtrate.

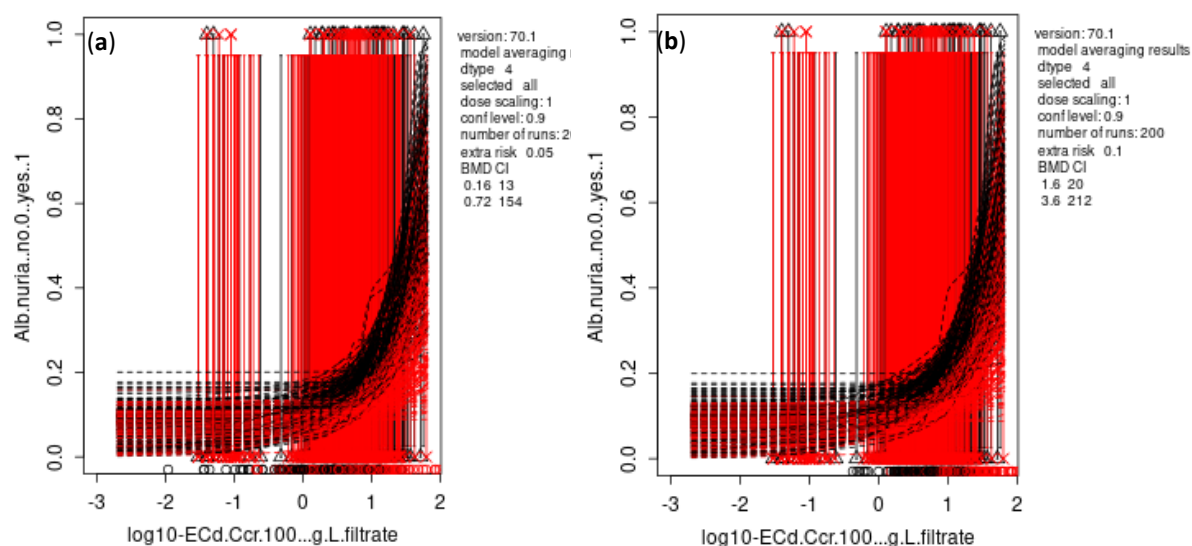
Figure S5. Dose-effect relationship of E_{Cd}/C_{cr} and E_{alb}/C_{cr} . Data were fitted to 4 dose-response models; (a) an inverse exponential model; (b) a natural logarithmic model; (c) an exponential model; and (d) Hill model. The BMDL/BMDU values of E_{Cd}/C_{cr} corresponded with a 5% increase in E_{alb}/C_{cr} (e).



5% Decrease of eGFR	BMDL BMDU		U/L
Men	2.15	6.71	3.12
Women	2.15	6.56	3.05

BMDL and BMDU values of $E_{cd}/C_{cr} \times 100$ were in $\mu\text{g}/\text{L}$ filtrate.
CI, confidence interval; U/L, BMDU/BMDL ratio.

Figure S6. Dose-effect relationship of E_{cd}/C_{cr} and eGFR. Data were fitted to 4 dose-response models; (a) an inverse exponential model; (b) a natural logarithmic model; (c) an exponential model; and (d) Hill model. The BMDL/BMDU values of E_{cd}/C_{cr} corresponded to a 5% decrease of eGFR (e).



(c)

Endpoint	BMDL	BMDU	U/L
5% Prevalence of albuminuria			
Men	0.163	13	80
Women	0.718	154	214
10% Prevalence of albuminuria			
Men	1.65	20	12
Women	3.55	212	60

BMDL and BMDU values of E_{Cd}/C_{Cr} were in $\mu\text{g/L}$ filtrate. CI, confidence interval; U/L, BMDU/BMDL ratio. Albuminuria was defined as $E_{alb}/C_{Cr} \times 100 \geq 20$ mg/L filtrate for men, and ≥ 30 mg/L for women.

Figure S7. Dose-effect relationship of E_{Cd}/C_{Cr} and albuminuria prevalence. Bootstrap curves for BMD model averaging of E_{Cd}/C_{Cr} values corresponded to an increase of albuminuria prevalence by 5% (a) and 10% (b). BMDL/BMDU values of E_{Cd}/C_{Cr} corresponded with 5% and 10% increases in prevalence of albuminuria (e).

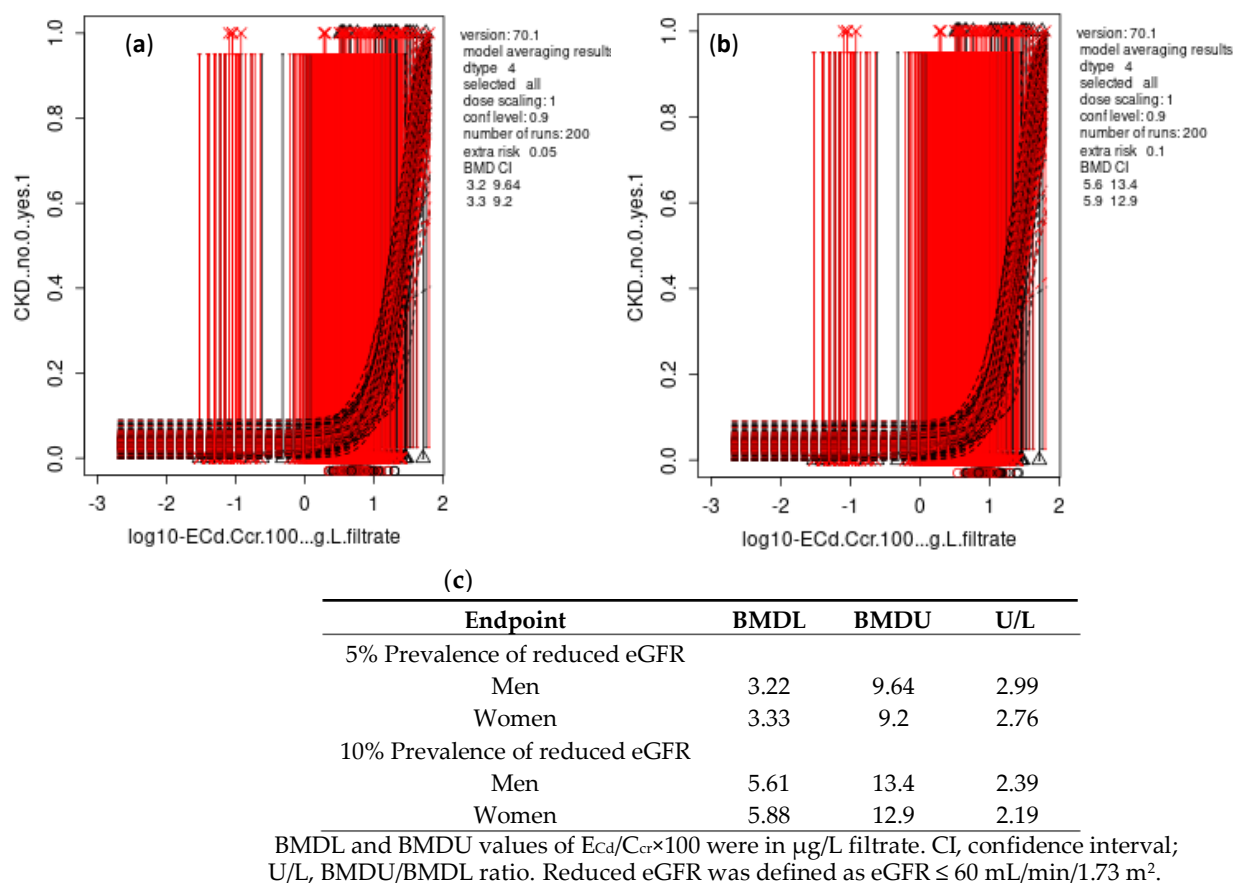


Figure S8. Dose-effect relationship of E_{Cd}/C_{Cr} and prevalence of reduced eGFR. Bootstrap curves for model averaging of E_{Cd}/C_{Cr} values corresponded to an increase of prevalence of reduced eGFR by 5% (a) and 10% (b). The BMDL/BMDU values of E_{Cd}/C_{Cr} corresponded with 5% and 10% increases in prevalence of reduced eGFR (c).