

SUPPLEMENTARY FIGURES

FOR

ASSOCIATION OF URINARY PHTHALATES WITH SELF-REPORTED EYE AFFLICTION/RETINOPATHY IN INDIVIDUALS WITH DIABETES: NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY, 2001-2010

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This file shows the effect of transformation on the distribution of urinary phthalate metabolites. For each metabolite, we first show the effect of correction for dilution (panels titled “Corrected for dilution”) and then of inverse-normalization (panels titled “Inverse-normalized”). For details of transformation methods, please see Methods section in main text.

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Figure S1: Mono-n-butyl phthalate (MBP)

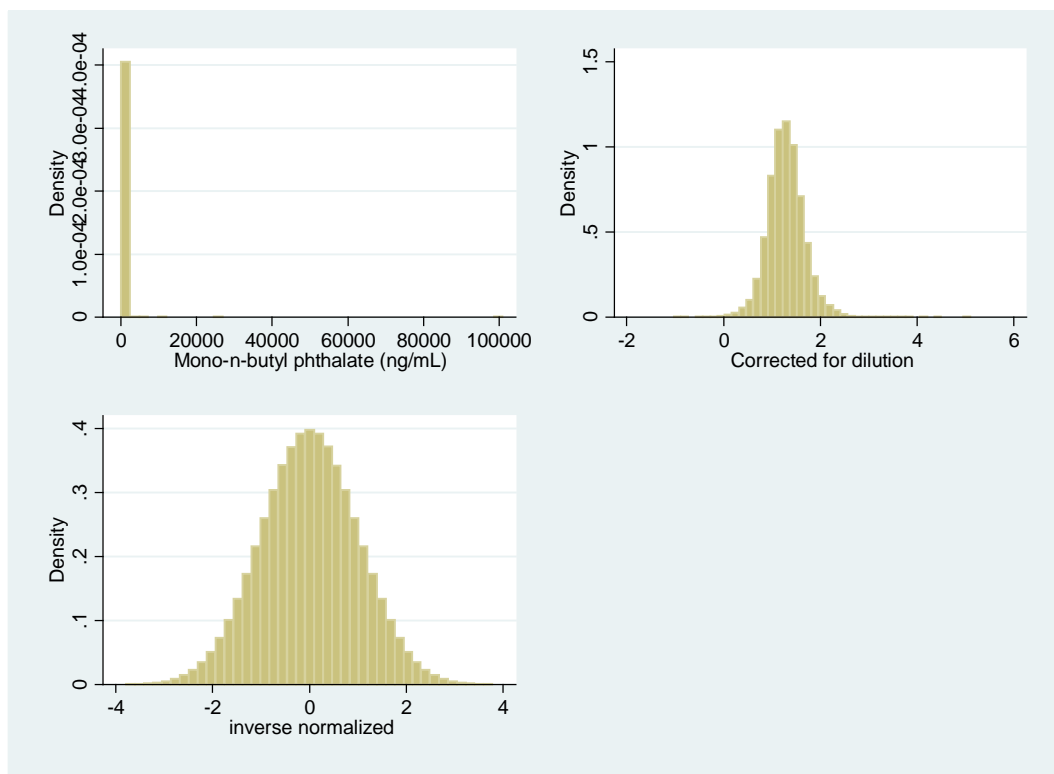


Figure S2: Mono-cyclohexyl phthalate (MCP)

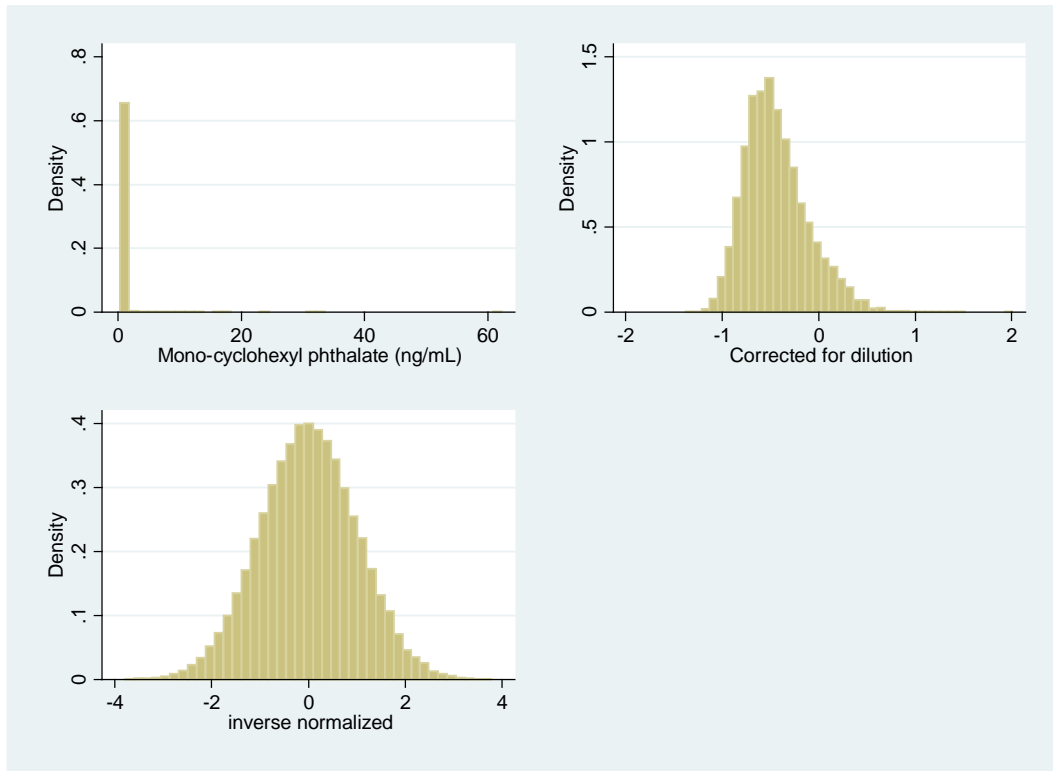


Figure S3: Mono-ethyl phthalate (MEP)

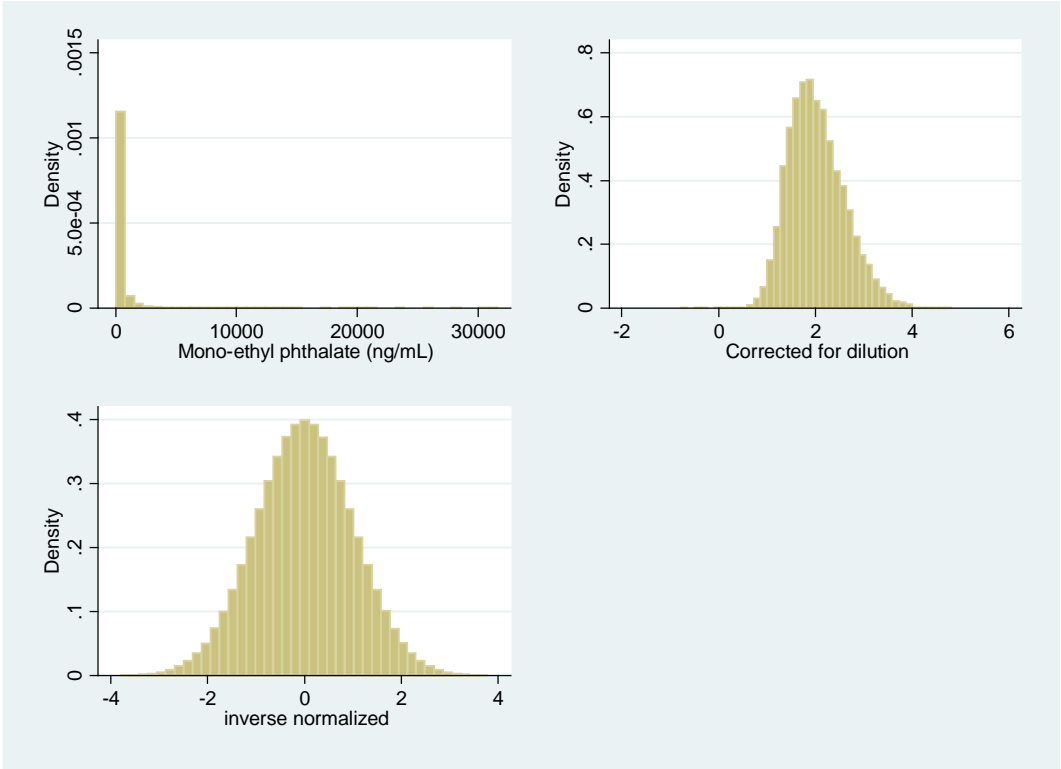


Figure S4: Mono-(2-ethyl)-hexyl phthalate (MEHP)

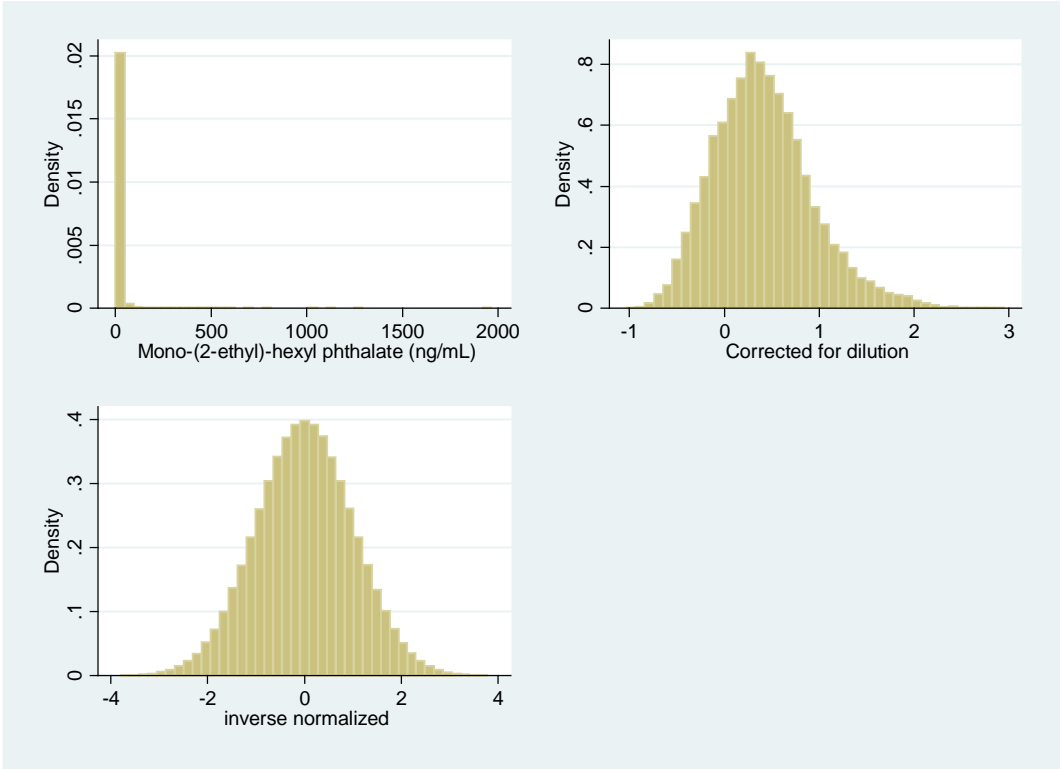


Figure S5: Mono-isononyl phthalate (MNP)

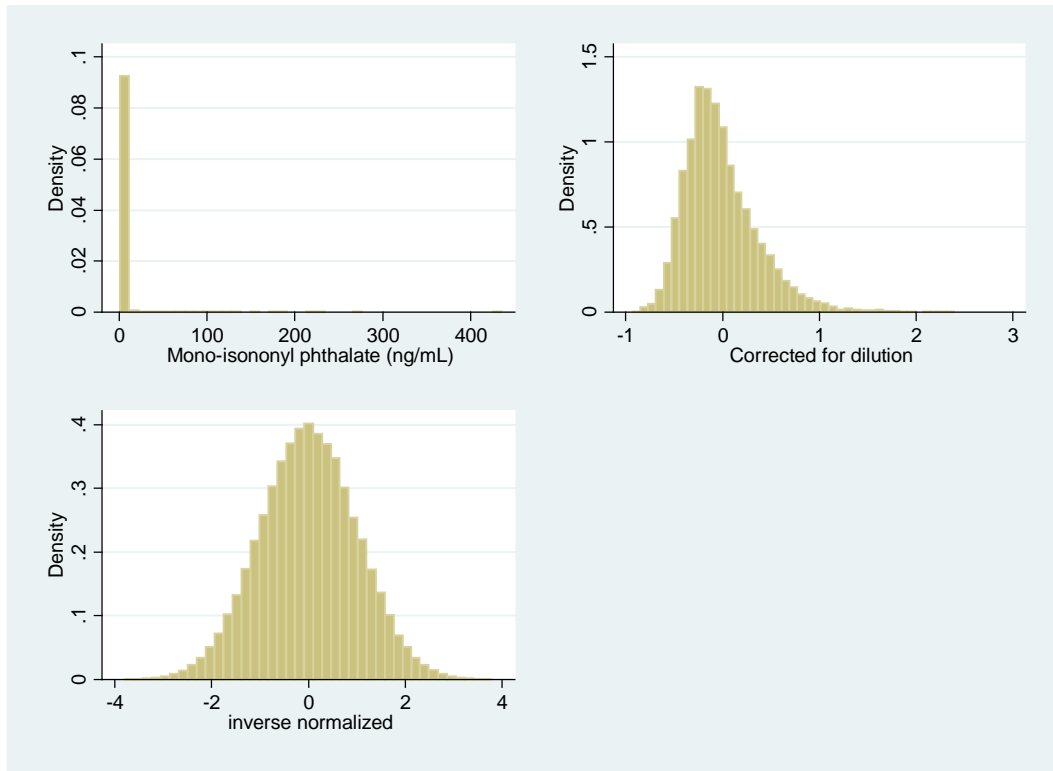


Figure S6: Mono-n-octyl phthalate (MOP)

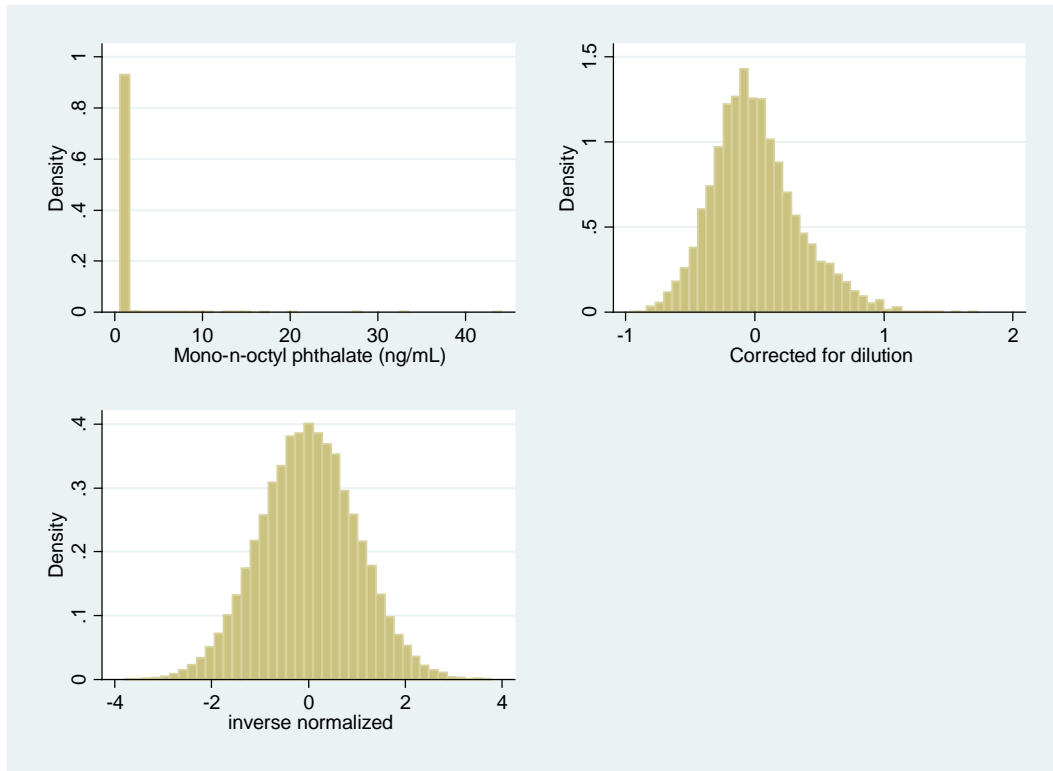


Figure S7: Mono-benzyl phthalate (MBzP)

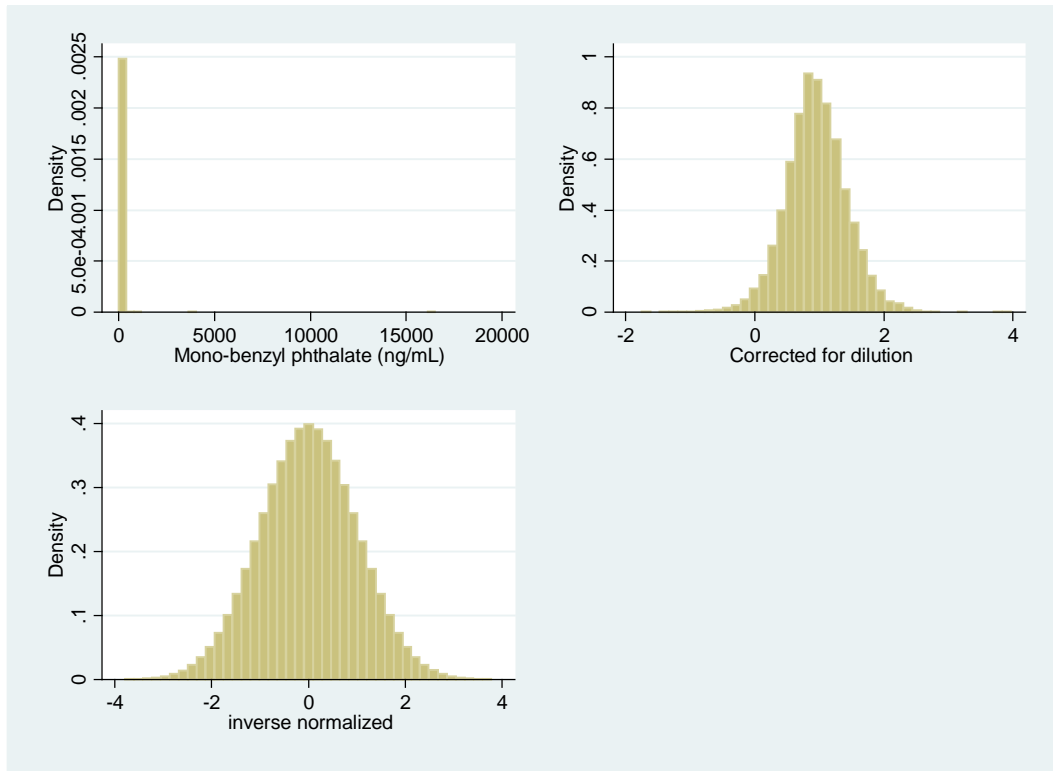


Figure S8: Mono-n-methyl phthalate (MNM)

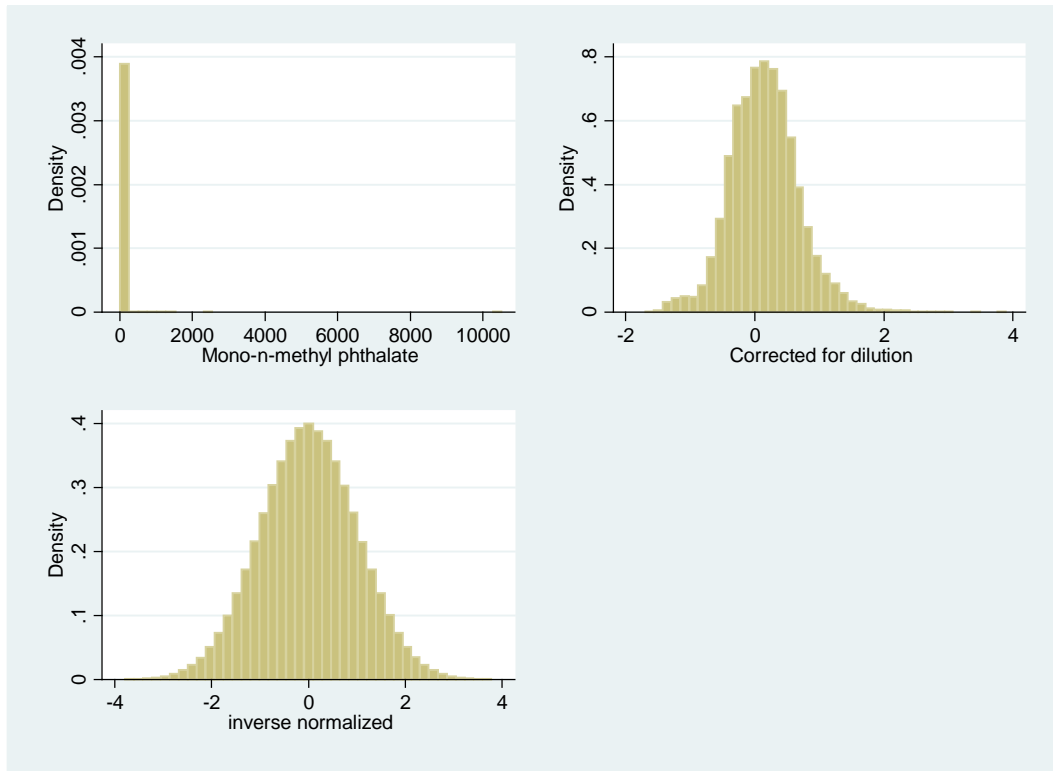


Figure S9: Mono-(3-carboxypropyl) phthalate (MCP)

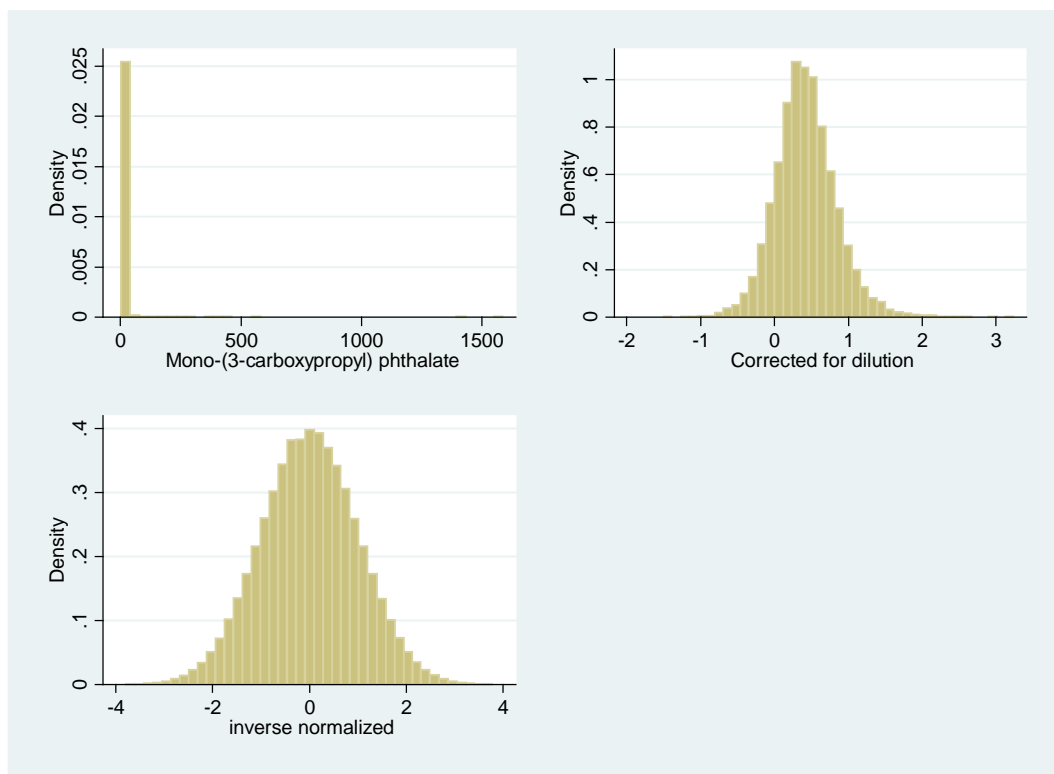


Figure S10: Mono-(2-ethyl-5-hydroxyhexyl) phthalate (MEHHP)

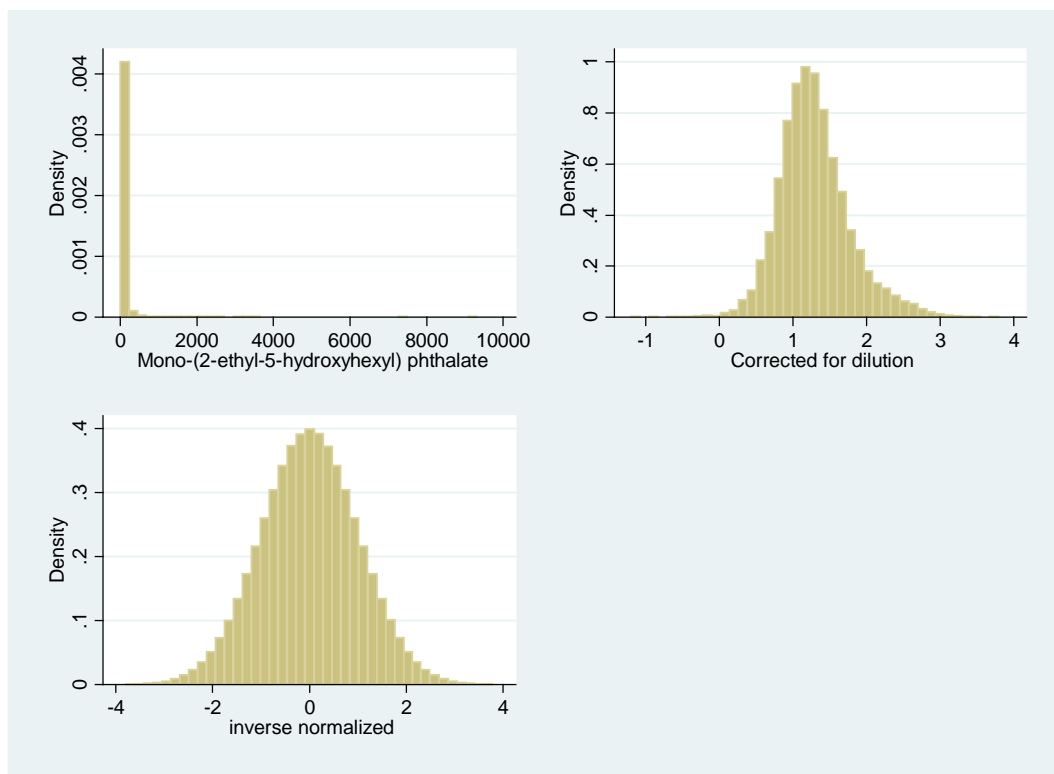


Figure S11: Mono-(2-ethyl-5-oxohexyl) phthalate (MEOHP)

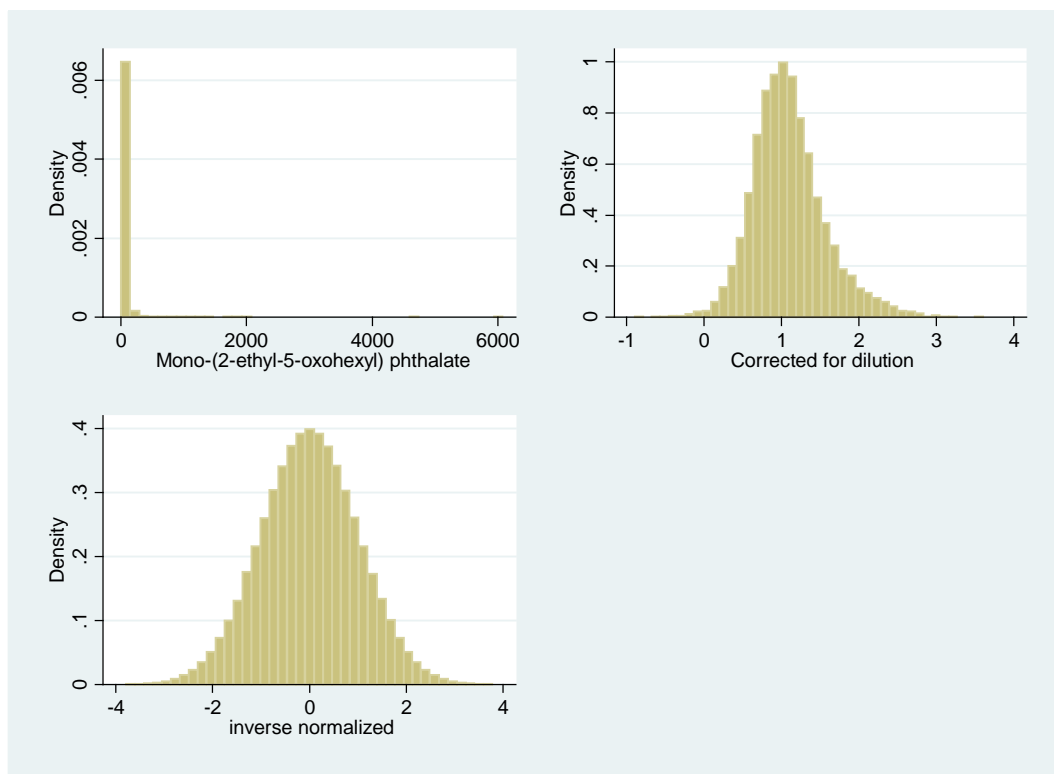


Figure S12: Mono-isobutyl phthalate (MiBP)

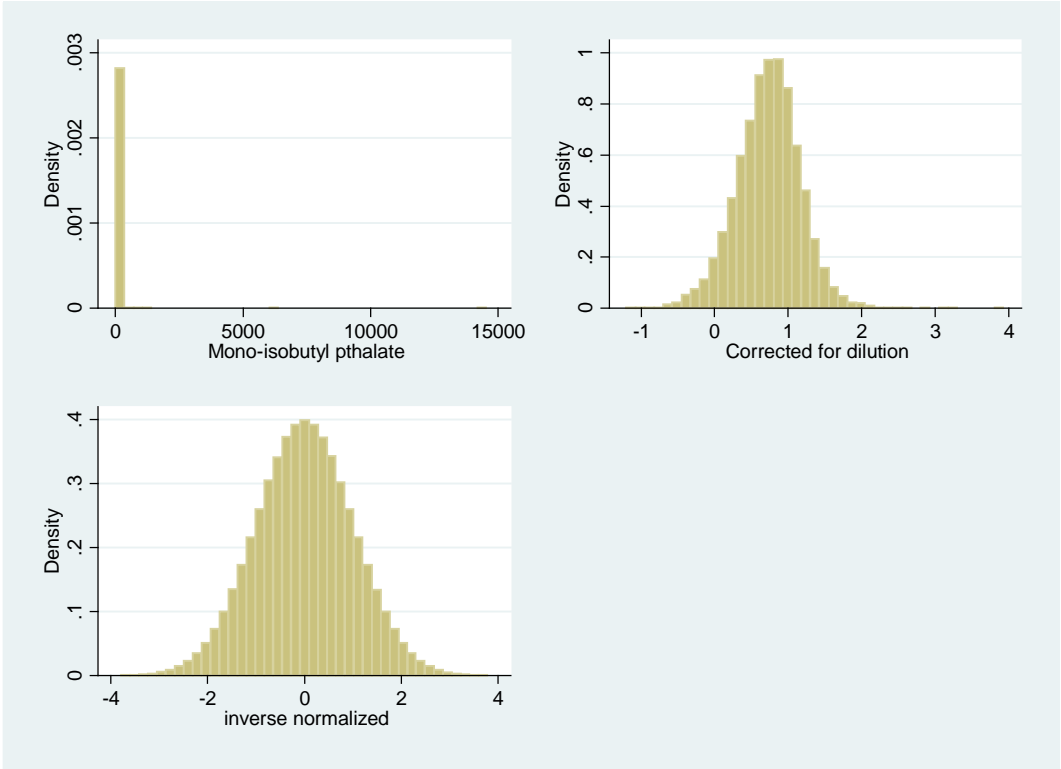


Figure S13: Mono-2-ethyl-5-carboxypentyl phthalate (MECPP)

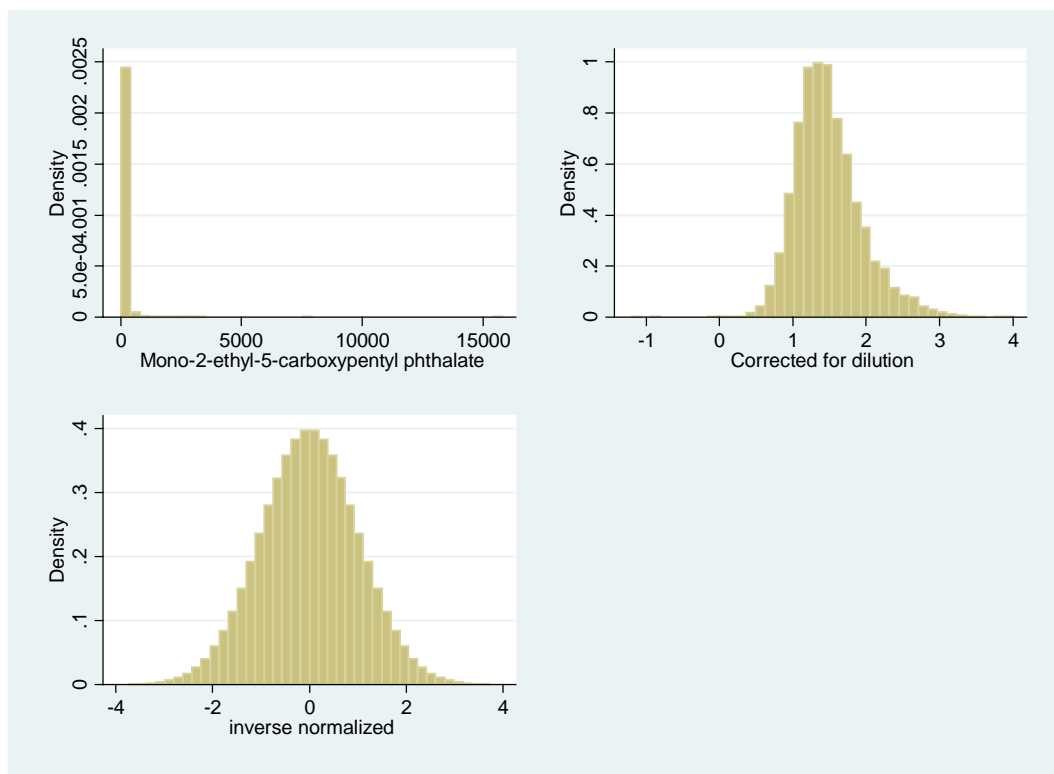


Figure S14: Mono-(carboxynonyl) phthalate (MCNP)

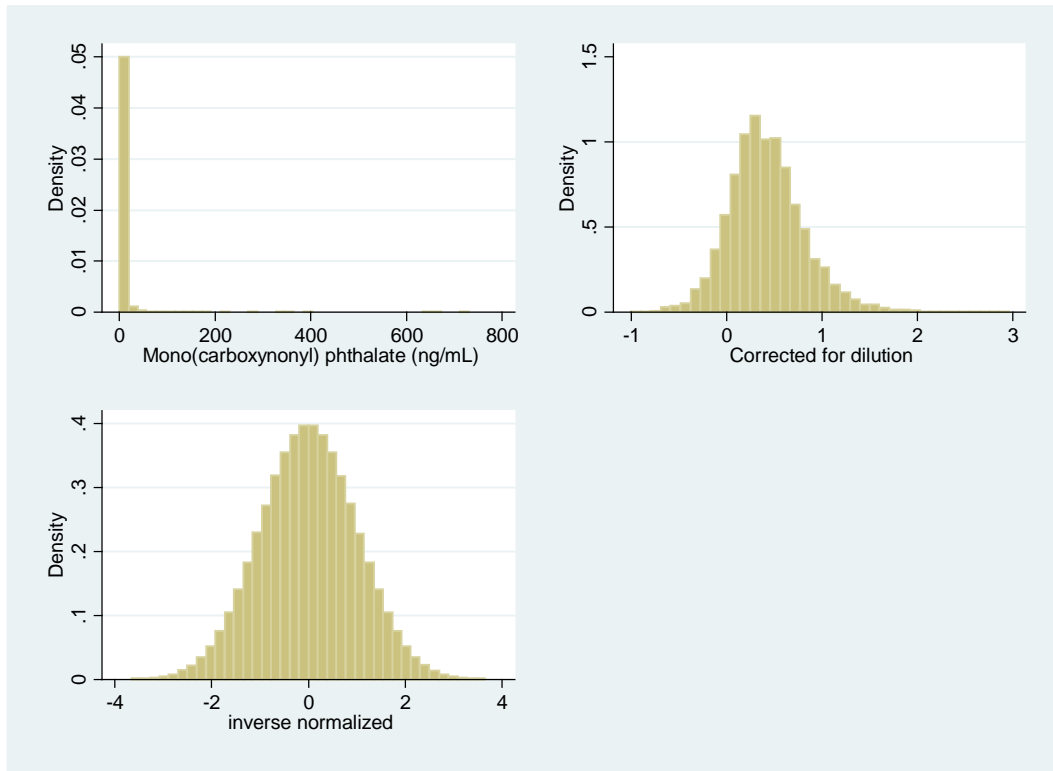


Figure S15: Mono-(carboxyoctyl) phthalate (MCOP)

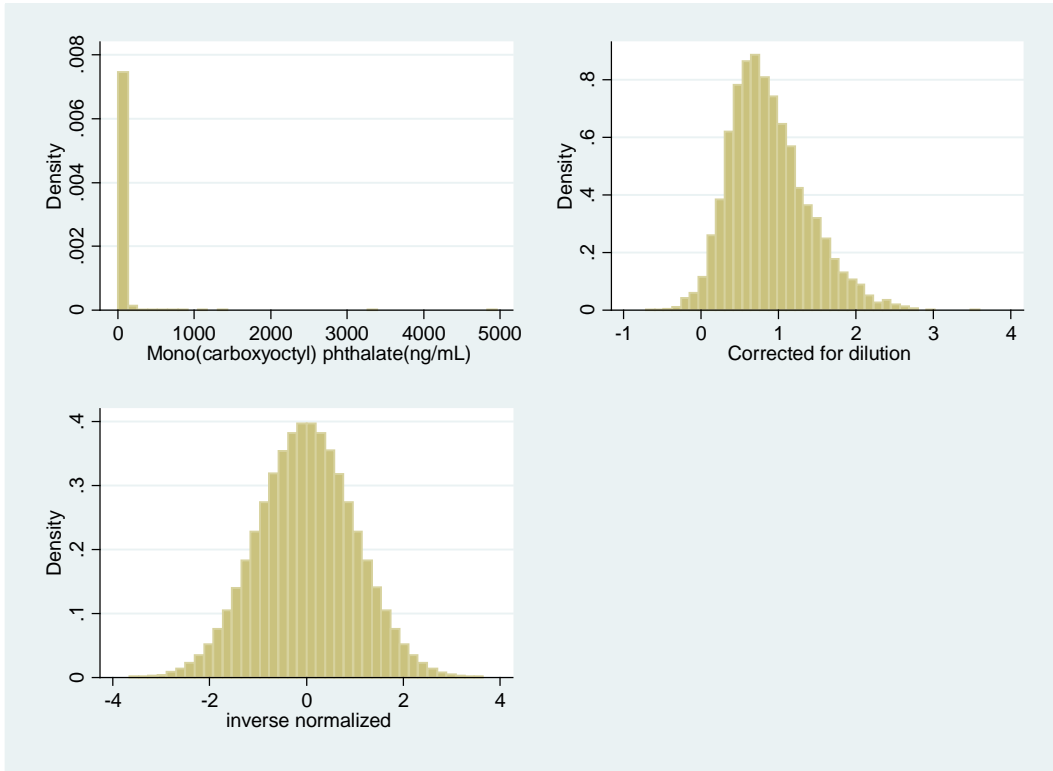


Figure S16: Stata program listing for Monte Carlo simulation of the association of MOP with diabetic retinopathy based on misclassification rates observed in the validation sample

```

program misclasssens
    tempname sim
    postfile `sim' m1 m2 rep coeff secoeff using "misclass.dta", replace
    forvalues m1 = .1120/.1120 { //Misclassification of cases based on validation
        forvalues m2 = 0.0492/0.0492 { //Misclassification of controls based on validation
            display `m1' `", "' `m2'
            forvalues i = 1/5000 { //Begin replicates
                quietly {
                    gen rnddm = runiform()
                    gen tempretinofinal1 = retinofinal if retinofinal==1
                    gen tempretinofinal0 = retinofinal if retinofinal==0
                    replace tempretinofinal1 = 0 if tempretinofinal1!=. & rnddm < `m1'
                    replace tempretinofinal0 = 1 if tempretinofinal0!=. & rnddm < `m2'
                    gen tempretinofinal = tempretinofinal1
                    replace tempretinofinal = tempretinofinal0 if tempretinofinal0!=.
                    //Run full logistic regression model
                    svy: logistic tempretinofinal iph1 iph2 iph3 iph4 iph5 iph6 iph7 iph8 iph9
                    iph10 iph11 iph12 ridageyr male hispmex married dmdeduc2 pir padmetcat alc
                    hichol lowhdl hitg ht diabdurcat caloriecat obesity
                    mat b = e(b)
                    mat v = e(V)
                    local c = b[1,6]
                    local se = sqrt(v[6,6])
                    post `sim' (`m1') (`m2') (`i') (`c') (`se')
                    drop rnddm tempre*
                }
            }
        }
    }
    postclose `sim'
end

```

SUPPLEMENTARY TABLES

FOR

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Table S1. Correlations among urinary phthalate metabolites. Each pairwise correlation is shown as Pearson's correlation coefficient and its significance value.

	MBP	MCP	MEP	MEHP	MNP	MOP	MBzP	MNM	MCPP	MEHHP	MEOHP
MCP	0.0401										
	0.2041										
MEP	0.1694	0.0833									
	<0.0001	0.0083									
MEHP	0.2131	0.3328	0.0996								
	<0.0001	<0.0001	0.0016								
MNP	0.0313	0.7089	0.0655	0.3526							
	0.321	<0.0001	0.0379	<0.0001							
MOP	0.0554	0.8826	0.0877	0.3524	0.7447						
	0.0796	<0.0001	0.0054	<0.0001	<0.0001						
MBzP	0.4808	-0.0347	0.0963	0.1648	-0.0164	-0.0422					
	<0.0001	0.2714	0.0023	<0.0001	0.604	0.1816					
MNM	0.1633	0.272	0.1715	0.0991	0.2574	0.2735	0.0881				
	<0.0001	<0.0001	<0.0001	0.0017	<0.0001	<0.0001	0.0052				
MCPP	0.3436	-0.0023	0.0046	0.1477	0.2213	-0.0013	0.2653	0.0866			
	<0.0001	0.9411	0.8839	<0.0001	<0.0001	0.9671	<0.0001	0.006			
MEHHP	0.3868	0.0553	0.0889	0.5927	0.1055	0.1031	0.3461	0.0823	0.3194		
	<0.0001	0.0796	0.0048	<0.0001	0.0008	0.0011	<0.0001	0.0091	<0.0001		
MEOHP	0.3844	0.0429	0.0938	0.5936	0.1017	0.0965	0.3428	0.0786	0.3265	0.9598	
	<0.0001	0.1748	0.0029	<0.0001	0.0013	0.0022	<0.0001	0.0127	<0.0001	<0.0001	
MiBP	0.3916	-0.0577	0.1025	0.0154	-0.0506	-0.1385	0.2071	0.1067	0.1643	0.2081	0.1781
	<0.0001	0.0678	0.0011	0.6268	0.1092	<0.0001	<0.0001	0.0007	<0.0001	<0.0001	<0.0001

Table S2. Results of final logistic regression model (Model 16 in Table 3)

Covariate	OR	95% CI	P
Mono-n-butyl (MBP)	0.96	0.75 - 1.23	0.753
Mono-cyclohexyl (MCP)	0.80	0.45 - 1.41	0.440
Mono-ethyl (MEP)	1.00	0.77 - 1.29	0.992
Mono-(2-ethyl)-hexyl (MEHP)	0.78	0.57 - 1.06	0.110
Mono-isononyl (MNP)	0.82	0.42 - 1.61	0.565
Mono-n-octyl (MOP)	2.02	1.22 - 3.35	0.007
Mono-benzyl (MBzP)	1.13	0.84 - 1.52	0.401
Mono-n-methyl (MNM)	0.81	0.60 - 1.09	0.170
Mono-(3-carboxypropyl) (MCP)	0.93	0.71 - 1.21	0.579
Mono-(2-ethyl-5-hydroxyhexyl) (MEHHP)	0.78	0.32 - 1.90	0.579
Mono-(2-ethyl-5-oxohexyl) (MEOHP)	1.82	0.72 - 4.60	0.201
Mono-isobutyl (MiBP)	1.18	0.88 - 1.59	0.264
Age	1.00	0.98 - 1.02	0.645
Male sex	1.13	0.60 - 2.12	0.696
Hispanic/Mexican race	0.87	0.53 - 1.43	0.590
Marital status	1.05	0.65 - 1.67	0.851
Educational attainment	0.86	0.69 - 1.08	0.200
Poverty income ratio	1.06	0.88 - 1.27	0.552
Categories of physical activity score	0.81	0.55 - 1.20	0.290
Strata based on glycated hemoglobin	1.08	0.79 - 1.49	0.612
High total serum cholesterol	0.87	0.43 - 1.78	0.703
Low HDL cholesterol	0.54	0.33 - 0.89	0.017
High serum triglycerides	0.99	0.70 - 1.40	0.947
Hypertension	1.09	0.75 - 1.60	0.641
Categories of duration of diabetes	1.95	1.62 - 2.33	0.000
Categories of total calorie intake	0.84	0.68 - 1.05	0.130
Obesity	0.96	0.59 - 1.55	0.854