

Supplemental Table 1. Multivariable regression analyses models between urinary phthalate and ED^B in total population and stratified by race-ethnicity in NHANES 2001-2004

Mono-n-butyl phthalate (MBP)	Median (25 th and 75 th percentile) for continuous variable and range for quartiles	ED+/ED-	OR	95% CI	<i>P</i> -value [†]	<i>P</i> -trend [†]
Continuous Quartiles	13.38(8.63-22.43)	356/993	1.04	0.86-1.26	0.673	
1 st Quartile	0.01-8.63	78/260	-Ref-			
2 nd Quartile	8.64-13.38	88/249	1.26	0.79-2.01	0.324	
3 rd Quartile	13.39-22.42	82/255	1.09	0.67-1.76	0.725	0.43
4 th Quartile	22.44-4150	108/229	1.31	0.78-2.21	0.299	
Mexican Americans						
Continuous Quartiles	14.18(9.24-22.38)	70/197	0.45	0.31-0.66	<0.001	
1 st Quartile	0.17-9.25	21/46	-Ref-			
2 nd Quartile	9.26-14.18	21/46	0.71	0.33-1.50	0.35	0.002
3 rd Quartile	14.23-22.38	12/55	0.35	0.11-1.09	0.07	
4 th Quartile	22.44-229.63	16/50	0.26	0.12-0.54	0.001	
Non-Hispanic Whites						
Continuous Quartiles	15.43(10.66-22.82)	205/522	1.00	0.83-1.20	0.993	
1 st Quartile	0.52-8.26	43/139	-Ref-			
2 nd Quartile	8.31-12.72	47/135	1.31	0.72-2.42	0.37	0.715
3 rd Quartile	12.75-21.91	50/132	1.06	0.51-2.19	0.87	
4 th Quartile	21.93-4150	65/116	1.21	0.65-2.26	0.53	
Non-Hispanic Blacks						
Continuous Quartiles	14.29(7.62-23.85)	57/207	1.43	0.90-2.27	0.129	
1 st Quartile	0.09-9.32	10/56	-Ref-			
2 nd Quartile	9.34-13.77	13/53	1.96	0.44-8.77	0.36	0.21
3 rd Quartile	13.79-24.49	15/51	1.61	0.51-5.10	0.40	
4 th Quartile	24.58-1563.28	19/47	2.25	0.71-7.16	0.16	
Mono-cyclohexyl phthalate (MCHP)						
Continuous Quartiles	0.26(0.18-0.44)	356/993	0.98	0.57-1.67	0.936	
1 st Quartile	0.04-0.18	65/275	-Ref-			
2 nd Quartile	0.19-0.26	75/262	1.32	0.76-2.29	0.314	0.74
3 rd Quartile	0.27-0.44	108/227	1.06	0.58-1.94	0.833	
4 th Quartile	0.45-18.93	108/229	0.93	0.45-1.94	0.846	
Mexican Americans						
Continuous Quartiles	0.28(0.19-0.44)	70/197	1.22	0.29-5.08	0.777	
1 st Quartile	0.04-0.18	17/52	-Ref-			
2 nd Quartile	0.19-0.28	11/56	0.42	0.14-1.27	0.119	0.99
3 rd Quartile	0.29-0.43	18/47	0.78	0.22-2.80	0.695	
4 th Quartile	0.44-3.72	24/42	0.98	0.18-5.20	0.982	
Non-Hispanic Whites						

Continuous Quartiles	0.30(0.20-0.46)	205/522	1.02	0.44-2.35	0.963	
1 st Quartile	0.05-0.19	41/142	-Ref-			
2 nd Quartile	0.20-0.28	46/135	1.09	0.61-1.95	0.771	0.93
3 rd Quartile	0.29-0.47	66/118	1.11	0.56-2.18	0.759	
4 th Quartile	0.48-4.73	52/127	1.02	0.32-3.26	0.969	
Non-Hispanic Blacks						
Continuous Quartiles	0.33(0.19-0.50)	57/207	1.39	0.35-5.50	0.63	
1 st Quartile	0.04-0.14	10/56	-Ref-			
2 nd Quartile	0.15-0.20	9/58	0.44	0.07-2.61	0.35	0.80
3 rd Quartile	0.21-0.33	13/52	0.99	0.13-7.55	0.99	
4 th Quartile	0.34-18.93	25/41	1.08	0.07-16.37	0.954	
Mono-ethyl phthalate (MEP)						
Continuous Quartiles	107.14(39.6-310.2)	356/993	1.08	0.91-1.30	0.366	
1 st Quartile	0.25-39.6	89/249	-Ref-			
2 nd Quartile	39.7-107.1	80/257	0.90	0.50-1.61	0.712	0.239
3 rd Quartile	107.7-310.2	90/247	1.11	0.64-1.90	0.705	
4 th Quartile	310.8-20316.25	97/240	1.46	0.70-3.06	0.302	
Mexican Americans						
Continuous Quartiles	138.12(51.91-370.39)	70/197	0.90	0.70-1.16	0.397	
1 st Quartile	1.81-51.90	17/50	-Ref-			
2 nd Quartile	52.8-138.12	18/49	1.26	0.35-4.54	0.709	0.671
3 rd Quartile	145.93-370.93	19/48	1.16	0.38-3.45	0.785	
4 th Quartile	376.10-20136.25	16/50	0.78	0.23-2.73	0.692	
Non-Hispanic Whites						
Continuous Quartiles	89.57(34.76-269.10)	205/522	1.09	0.87-1.35	0.441	
1 st Quartile	0.41-34.76	48/134	-Ref-			
2 nd Quartile	34.91-89.57	41/141	0.74	0.34-1.60	0.431	0.231
3 rd Quartile	90.83-269.10	58/124	1.16	0.64-2.13	0.614	
4 th Quartile	273.07-14319.41	58/123	1.38	0.62-3.07	0.414	
Non-Hispanic Blacks						
Continuous Quartiles	127.52(58.16-359.79)	57/207	0.94	0.65-1.36	0.718	
1 st Quartile	0.25-57.51	15/51	-Ref-			
2 nd Quartile	58.81-126.78	15/51	1.59	0.43-5.91	0.472	0.432
3 rd Quartile	128.33-351.06	12/54	1.40	0.38-5.14	0.600	
4 th Quartile	368.50-9921.51	15/51	0.58	0.12-2.69	0.468	
Mono-(2-ethyl)-hexyl phthalate (MEHP)						
Continuous Quartiles	2.35(1.06-5.38)	356/993	1.07	0.88-1.31	0.478	
1 st Quartile	0.09-1.06	107/231	-Ref-			
2 nd Quartile	1.07-2.36	95/242	0.80	0.44-1.45	0.452	0.879
3 rd Quartile	2.37-5.38	79/258	0.81	0.48-1.38	0.429	
4 th Quartile	5.40-527.94	75/262	0.98	0.58-1.66	0.936	

Mexican Americans						
Continuous Quartiles	2.63(0.98-5.48)	70/197	0.75	0.49-1.14	0.172	
1 st Quartile	0.23-0.98	23/44	-Ref-			
2 nd Quartile	1.00-2.63	16/51	0.52	0.12-2.25	0.37	0.337
3 rd Quartile	2.65-5.48	17/50	0.55	0.14-2.10	0.37	
4 th Quartile	5.50-84.81	14/52	0.54	0.17-1.77	0.30	
Non-Hispanic Whites						
Continuous Quartiles	2.07(1.04-5.00)	205/522	1.10	0.87-1.40	0.413	
1 st Quartile	0.22-1.04	57/126	-Ref-			
2 nd Quartile	1.05-2.06	61/120	0.87	0.40-1.86	0.701	0.856
3 rd Quartile	2.07-5.00	45/139	0.78	0.37-1.66	0.512	
4 th Quartile	5.05-214.31	42/137	1.15	0.54-2.43	0.712	
Non-Hispanic Blacks						
Continuous Quartiles	2.80(1.28-6.57)	57/207	0.74	0.55-0.98	0.041	
1 st Quartile	0.09-1.27	18/48	-Ref-			
2 nd Quartile	1.28-2.78	15/51	0.82	0.15-4.41	0.815	0.053
3 rd Quartile	2.8-6.53	15/51	0.78	0.30-2.04	0.598	
4 th Quartile	6.60-230.37	9/57	0.29	0.06-1.38	0.115	
Mono-isononyl phthalate (MiNP)						
Continuous Quartiles	0.71(0.50-1.10)	356/993	1.80	0.77-4.24	0.169	
1 st Quartile	0.12-0.49	54/287	Ref			
2 nd Quartile	0.50-0.71	87/248	1.10	0.67-1.80	0.701	0.591
3 rd Quartile	0.71-1.10	109/229	1.65	0.82-3.33	0.155	
4 th Quartile	1.11-9.68	106/229	0.92	0.35-2.40	0.859	
Mexican Americans						
Continuous Quartiles	0.76(0.54-1.08)	70/197	0.66	(0.10-4.60)	0.664	
1 st Quartile	0.16-0.54	8/59	-Ref-			
2 nd Quartile	0.55-0.75	20/48	1.75	0.57-5.35	0.315	0.516
3 rd Quartile	0.76-1.08	17/49	0.59	0.18-2.00	0.386	
4 th Quartile	1.09-9.47	25/41	1.00	0.18-5.40	0.997	
Non-Hispanic Whites						
Continuous Quartiles	0.75(0.53-1.21)	205/522	1.97	0.57-6.51	0.281	
1 st Quartile	0.20-0.52	30/153	-Ref-			
2 nd Quartile	0.53-0.74	52/129	1.32	0.71-2.45	0.368	0.171
3 rd Quartile	0.75-1.21	69/114	2.70	1.24-5.92	0.015	
4 th Quartile	1.22-9.68	54/126	1.41	0.44-4.47	0.551	
Non-Hispanic Blacks						
Continuous Quartiles	0.54(0.38-0.83)	57/207	1.27	0.29-5.59	0.744	
1 st Quartile	0.12-0.37	7/59	-Ref-			
2 nd Quartile	0.38-0.54	13/53	1.82	0.20-16.50	0.580	0.931
3 rd Quartile	0.55-0.83	18/49	1.94	0.21-17.58	0.541	

4 th Quartile	0.84-6.05	19/46	0.73	0.09-5.88	0.763	
Mono-benzyl phthalate (MBzP)						
Continuous Quartiles	7.25(4.10-13.16)	356/993	1.00	0.99-1.01	0.790	
1 st Quartile	0.02-4.09	101/237	-Ref-			0.076
2 nd Quartile	4.10-7.25	88/249	0.85	0.53-1.36	0.476	
3 rd Quartile	7.28-13.16	76/261	0.59	0.34-1.02	0.060	
4 th Quartile	13.17-303.32	91/246	0.68	0.41-1.13	0.129	
Mexican Americans						
Continuous Quartiles	7.20(3.83-12.75)	70/197	0.97	0.93-1.01	0.140	
1 st Quartile	0.04-3.83	21/46	-Ref-			0.029
2 nd Quartile	3.86-7.2	16/52	0.58	0.18-1.85	0.345	
3 rd Quartile	7.3-12.74	19/47	0.63	0.18-2.16	0.450	
4 th Quartile	12.94-160.35	14/52	0.28	0.09-0.70	0.010	
Non-Hispanic Whites						
Continuous Quartiles	7.06(3.90-13.58)	205/522	1.00	0.99-1.02	0.567	
1 st Quartile	0.10-3.89	64/118	-Ref-			0.182
2 nd Quartile	3.90-7.05	48/134	0.76	0.44-1.30	0.304	
3 rd Quartile	7.06-13.57	41/141	0.55	0.27-1.10	0.087	
4 th Quartile	13.62-181.72	52/129	0.74	0.42-1.32	0.300	
Non-Hispanic Blacks						
Continuous Quartiles	8.07(4.69-14.77)	57/207	0.98	0.97-1.01	0.158	
1 st Quartile	0.02-4.65	10/56	-Ref-			0.196
2 nd Quartile	4.72-7.98	18/48	1.56	0.57-4.31	0.376	
3 rd Quartile	8.15-14.77	13/53	0.33	0.09-1.29	0.106	
4 th Quartile	14.78-303.32	16/50	0.76	0.28-2.05	0.572	
Mono-n-methyl phthalate (MMP)						
Continuous Quartiles	1.27(0.57-2.50)	356/993	1.00	0.99-1.02	0.574	
1 st Quartile	0.04-0.56	83/257	-Ref-			0.126
2 nd Quartile	0.57-1.27	76/259	0.73	0.44-1.22	0.224	
3 rd Quartile	1.28-2.50	84/253	0.93	0.55-1.57	0.769	
4 th Quartile	2.51-741.61	113/224	1.30	0.84-2.00	0.224	
Mexican Americans						
Continuous Quartiles	1.28(0.56-2.77)	70/197	1.00	0.99-1.01	0.654	
1 st Quartile	0.04-0.55	20/47	-Ref-			0.085
2 nd Quartile	0.56-1.27	16/51	0.31	0.09-1.10	0.070	
3 rd Quartile	1.28-2.77	15/52	0.40	0.16-1.01	0.052	
4 th Quartile	2.78-400.16	19/47	0.34	0.11-1.03	0.056	
Non-Hispanic Whites						
Continuous Quartiles	1.25(0.57-2.45)	205/522	1.03	1.00-1.06	0.040	
1 st Quartile	0.05-0.56	46/136	-Ref-			0.243
2 nd Quartile	0.57-1.25	44/138	0.67	0.35-1.27	0.208	

3 rd Quartile	1.27-2.45	47/135	0.57	0.30-1.06	0.075	
4 th Quartile	2.46-236.77	68/113	1.38	0.81-2.35	0.221	
Non-Hispanic Blacks						
Continuous Quartiles	1.27(0.58-2.50)	57/207	1.00	0.99-1.00	0.005	
1 st Quartile	0.05-0.58	13/53	-Ref-			0.329
2 nd Quartile	0.59-1.26	13/53	0.99	0.18-5.36	0.993	
3 rd Quartile	1.28-2.45	10/56	0.93	0.25-3.37	0.903	
4 th Quartile	2.55-741.61	21/45	1.83	0.54-6.18	0.315	
Mono-(3-carboxypropyl) phthalate (MCP)						
Continuous Quartiles	2.02(1.31-3.13)	356/993	1.00	0.98-1.02	0.878	
1 st Quartile	0.09-1.31	87/252	-Ref-			0.610
2 nd Quartile	1.32-2.02	70/266	0.56	0.33-0.93	0.028	
3 rd Quartile	2.03-3.12	87/250	0.73	0.45-1.19	0.194	
4 th Quartile	3.14-273.21	112/225	0.81	0.48-1.36	0.407	
Mexican Americans						
Continuous Quartiles	1.93(1.26-2.97)	70/197	0.96	0.82-1.14	0.648	
1 st Quartile	0.12-1.26	23/44	-Ref-			0.189
2 nd Quartile	1.27-1.91	12/56	0.29	0.09-0.96	0.043	
3 rd Quartile	1.93-2.97	15/51	0.51	0.15-1.77	0.275	
4 th Quartile	3.01-69.90	20/46	0.45	0.15-1.33	0.142	
Non-Hispanic Whites						
Continuous Quartiles	2.19(1.44-3.38)	205/522	1.00	0.98-1.02	0.729	
1 st Quartile	0.08-1.43	44/138	-Ref-			0.780
2 nd Quartile	1.44-2.19	40/142	0.65	0.35-1.21	0.168	
3 rd Quartile	2.20-3.37	52/130	0.87	0.44-1.75	0.695	
4 th Quartile	3.38-273.20	69/112	1.03	0.48-2.21	0.934	
Non-Hispanic Blacks						
Continuous Quartiles	1.72(1.05-2.81)	57/207	1.00	0.97-1.04	0.936	
1 st Quartile	0.11-1.04	15/51	-Ref-			0.955
2 nd Quartile	1.05-1.71	11/55	0.73	0.11-4.67	0.732	
3 rd Quartile	1.72-2.80	14/52	0.64	0.23-1.77	0.377	
4 th Quartile	2.81-88.03	17/49	1.09	0.42-2.81	0.855	
Mono-(2-ethyl-5-hydroxyhexyl) phthalate (MEHP)						
Continuous Quartiles	13.86(8.38-26.67)	356/993	1.00	0.99-1.00	0.816	
1 st Quartile	0.07-8.38	93/245	-Ref-			0.931
2 nd Quartile	8.39-13.86	86/251	0.71	0.39-1.29	0.251	
3 rd Quartile	13.87-26.67	94/244	0.89	0.57-1.38	0.580	
4 th Quartile	26.79-1578.59	83/253	0.92	0.56-1.51	0.732	
Mexican Americans						

Continuous Quartiles	13.13(8.26-22.14)	70/197	1.00	0.99-1.01	0.581	
1 st Quartile	0.13-8.25	14/53	-Ref-			
2 nd Quartile	8.44-13.13	17/50	1.42	0.48-4.18	0.507	0.639
3 rd Quartile	13.24-22.14	19/48	1.20	0.60-2.38	0.590	
4 th Quartile	22.19-663.83	20/46	0.82	0.34-1.95	0.638	
Non-Hispanic Whites						
Continuous Quartiles	13.56(8.59-27.20)	205/522	1.00	0.99-1.00	0.644	
1 st Quartile	0.22-8.59	53/129	-Ref-			
2 nd Quartile	8.6-13.55	48/134	0.66	0.32-1.34	0.236	0.880
3 rd Quartile	13.57-27.2	56/126	0.93	0.51-1.70	0.804	
4 th Quartile	27.59-1578.59	48/133	0.95	0.47-1.94	0.891	
Non-Hispanic Blacks						
Continuous Quartiles	14.87(7.69-13.24)	57/207	0.99	0.98-1.00	0.204	
1 st Quartile	0.07-7.62	21/45	-Ref-			
2 nd Quartile	7.76-14.83	15/51	0.58	0.24-1.44	0.231	0.018
3 rd Quartile	14.91-31.14	13/53	0.44	0.14-1.35	0.144	
4 th Quartile	31.33-1212.02	8/58	0.29	0.11-0.75	0.013	
Mono-(2-ethyl-5-oxohexyl) phthalate (MEOHP)						
Continuous Quartiles	9.10(5.48-17.01)	356/993	1.00	0.99-1.00	0.948	
1 st Quartile	0.11-5.47	85/253	-Ref-			
2 nd Quartile	5.48-9.10	88/249	0.98	0.61-1.60	0.959	0.925
3 rd Quartile	9.11-17.00	89/248	0.89	0.55-1.46	0.639	
4 th Quartile	17.10-1028.15	94/243	1.06	0.70-1.62	0.774	
Mexican Americans						
Continuous Quartiles	8.67(5.59-14.36)	70/197	1.00	0.99-1.01	0.742	
1 st Quartile	0.22-5.60	15/52	-Ref-			
2 nd Quartile	5.61-8.69	15/52	0.85	0.36-1.99	0.695	0.940
3 rd Quartile	8.73-14.35	19/48	1.51	0.71-3.19	0.268	
4 th Quartile	14.36-489.04	21/45	0.82	0.33-2.03	0.664	
Non-Hispanic Whites						
Continuous Quartiles	9.18(5.58-17.91)	205/522	1.00	0.99-1.00	0.536	
1 st Quartile	0.21-5.56	46/136	-Ref-			
2 nd Quartile	5.58-9.17	52/130	0.91	0.49-1.68	0.756	0.852
3 rd Quartile	9.20-17.91	56/126	0.89	0.47-1.71	0.727	
4 th Quartile	17.92-1028.15	51/130	1.01	0.55-2.12	0.823	
Non-Hispanic Blacks						
Continuous Quartiles	9.35(4.98-17.91)	57/207	0.99	0.98-1.00	0.140	
1 st Quartile	0.11-4.97	18/48	-Ref-			
2 nd Quartile	5.00-9.31	17/49	1.26	0.42-3.78	0.673	0.082
3 rd Quartile	9.39-17.69	11/55	0.45	0.11-1.92	0.272	

4 th Quartile	18.12-293.53	11/55	0.53	0.20-1.43	0.201	
Mono-isobutyl phthalate (MiBP)						
Continuous Quartiles	2.47(1.41-4.33)	356/993	1.00	0.99-1.01	0.722	
1 st Quartile	0.06-1.41	82/258	-Ref-			0.898
2 nd Quartile	1.42-2.47	92/243	1.11	0.60-2.05	0.724	
3 rd Quartile	2.48-4.33	87/250	1.00	0.59-1.69	0.997	
4 th Quartile	4.34-123.93	95/242	1.03	0.69-1.54	0.868	
Mexican Americans						
Continuous Quartiles	2.98(1.52-5.30)	70/197	1.02	0.97-1.06	0.437	
1 st Quartile	0.13-1.52	18/49	-Ref-			0.112
2 nd Quartile	1.53-2.98	21/46	0.99	0.35-2.87	0.992	
3 rd Quartile	3.00-5.30	15/52	0.66	0.27-1.63	0.354	
4 th Quartile	5.34-123.93	16/50	0.51	0.16-1.57	0.228	
Non-Hispanic Whites						
Continuous Quartiles	2.11(1.23-3.53)	205/522	1.00	0.97-1.02	0.720	
1 st Quartile	0.12-1.22	50/132	-Ref-			0.660
2 nd Quartile	1.23-2.10	51/132	1.23	0.70-2.15	0.454	
3 rd Quartile	2.11-3.53	48/133	1.16	0.56-2.42	0.679	
4 th Quartile	3.54-103.62	56/125	0.89	0.58-1.35	0.564	
Non-Hispanic Blacks						
Continuous Quartiles	2.98(1.78-5.02)	57/207	1.06	0.99-1.15	0.109	
1 st Quartile	0.06-1.76	14/52	-Ref-			0.150
2 nd Quartile	1.80-2.95	11/55	0.42	0.10-1.77	0.229	
3 rd Quartile	3.00-5.00	14/52	1.83	0.47-7.06	0.368	
4 th Quartile	5.04-61.66	18/48	2.16	0.47-10.02	0.312	
Mono-2-ethyl-5-carboxypentyl phthalate (MECPP) (NHANES 03-04)						
Continuous Quartiles	21.95(13.39-43)	182/451	1.00	0.99-1.00	0.896	
1 st Quartile	0.06-13.38	37/122	-Ref-			0.974
2 nd Quartile	13.44-21.95	44/114	1.15	0.54-2.48	0.700	
3 rd Quartile	22.04-43.00	51/107	0.89	0.50-1.59	0.682	
4 th Quartile	43.50-1303.78	50/108	1.09	0.54-2.21	0.791	
Mexican Americans						
Continuous Quartiles	22.48(14.47-35.35)	35/90	1.00	0.99-1.01	0.812	
1 st Quartile	1.01-14.46	7/25	-Ref-			0.580
2 nd Quartile	14.51-22.48	6/25	0.91	0.30-2.76		
3 rd Quartile	23.20-35.35	9/22	1.26	0.28-5.73		
4 th Quartile	35.45-1119.5	13/18	1.65	0.19-14.57		
Non-Hispanic Whites						
Continuous	22.55(14.81-47.05)	112/232	1.00	0.99-1.00	0.360	

Quartiles						
1 st Quartile	1.86-14.80	21/65	-Ref-			
2 nd Quartile	14.81-22.50	28/58	0.96	0.30-3.06	0.935	0.549
3 rd Quartile	22.59-46.82	33/53	0.80	0.37-1.71	0.536	
4 th Quartile	47.28-1030.78	30/56	0.76	0.20-2.91	0.667	
Non-Hispanic Blacks						
Continuous	19.30(10.10-37.03)	26/94	1.00	0.98-1.01	0.573	
Quartiles						
1 st Quartile	0.06-9.96	9/21	-Ref-			
2 nd Quartile	10.22-19.28	8/22	3.42	0.11-109.8	0.460	0.352
3 rd Quartile	19.31-36.62	6/24	0.16	0.00-5.35	0.280	
4 th Quartile	37.43-502.18	3/27	1.83	0.16-21.07	0.604	

^bErectile dysfunction was defined as “sometimes” or “never” able to maintain an erection for satisfactory sexual intercourse.

[†]Adjusted for age, race/ethnicity (only in total population), physical activity (vigorous and moderate), smoking status, education, obesity, diabetes and urinary creatinine.