Supplemental Information for: Patterns, Variability, and Predictors of Urinary Bisphenol A Concentrations during Childhood

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Figure S1. Distribution of urinary creatinine concentrations (mg/dL) in HOME Study children ages 1-8 years (p-value for trend<10⁻¹⁶).

Table S1. Summary of studies investigating childhood urinary BPA concentrations.

Author, Publication Year	Region	Sample Size	Age (years)	Years of Collection	Median BPA
Current study	US	337	1-8	2004-2014	1.6-3.7 ng/mL (2.1-17.9 µg/g Cr)
Calafat et al. 2008 ¹	US	314	6-11	2003-2004	4.2 µg/g Cr
Teitelbaum et al. 2008 ²	US	35	6-10	2004	3.5 µg/g Cr
Wolff et al. 2008 ³	US	186	9	1996-1997	1.1-2.4 µg/g Cr
Becker et al. 2009 ⁴	Germany	137 145 147	3-5 6-8 9-11	2003-2006	3.5 ng/mL 2.8 µg/L ng/mL 2.1 ng/mL
Wolff et al. 2010 ⁵	US	1,151	8-9	2004-2007	2.4 µg/g Cr
Casas, et al. 2011 ⁶	Spain	30	4	2005-2006	4.2 ng/mL
Morgan et al. 2011 ⁷	US	137	2-3	2001	5.9 µg/g Cr
Nahar et al. 2012 ⁸	Egypt	57	11	2009	1.1 ng/mL
Wang et al. 2012 ⁹	China	259	8-15	2012	0.6 ng/mL
Frederiksen et al. 2013 ¹⁰	Denmark	104	6-21	2007	24 h urine: 1.4 ng/mL 1 st morning: 2.1 ng/mL 2 nd morning: 2.0 ng/mL
Hoepner et al. 2013 ¹¹	US	568	3, 5, 7	2001-2010	2.7-3.8 ng/mL
Lewis et al. 2013 ¹²	Mexico	108	8-13	2010	Boys: 1.2 ng/mL Girls: 1.1 ng/mL
Larsson et al. 2014 ¹³	Sweden	98	6-11	Not specified	1.3 ng/mL
Mendonca et al. 2014 ¹⁴	US	31	3-15 months	2006-2008	IQR 1.8 ng/mL
Wang et al. 2014 ¹⁵	China	666	9-12	2012	1.0 ng/mL
Nachman et al. 2015 ¹⁶	US	44	neonates (≤27 days)	2012-2013	Unconjugated Free BPA: <0.1 ng/mL Glucuronide Conjugated BPA: 0.3 ng/mL

Table S2. Equations for calculating creatinine excretion (CE) rates according to Mage et al. (2008).¹⁷

Age	Sex	Height (Ht) in cm	Equation ¹
<3 months	Male	50-60	$0.895 [36 + 124 (\text{age})]$
	Female	50-60	$0.828 [36 + 124 (\text{age})]$
3 mo<age<36 mo	Male	60-96	$0.895 [67 + 65.6 (\text{age} - 0.25)]$
	Female	60-96	$0.828 [67 + 65.6 (\text{age} - 0.25)]$
3 yrs<age<14 yrs	Male	90-168	$1.085 \text{ Ht} [6.265 + 0.0564 (\text{Ht} - 168)]$
		168-186	$1.085 \text{ Ht} [6.265 + 0.2550 (\text{Ht} - 168)]$
	Female	90-172	$1.008 \text{ Ht} 2.045 \exp[0.01552 (\text{Ht} - 90)]$

¹Equations are for healthy, non-obese children. Age is in years. Outcome is CE rate in mg/day. Please see Table 2 in Mage et al. (2008) for more information.

Table S3. Minimum, maximum, and percentiles of urinary BPA (ng/mL) and creatinine (mg/dL) concentrations in HOME Study children.

Child's Age (years)	N	N (%) <LOD ¹	BPA (ng/mL)					Creatinine (mg/dL)				
			Min	25 th	50 th	75 th	Max	Min	25 th	50 th	75 th	Max
1	278	9 (3%)	0.3	1.8	3.7	7.4	325	3.8	12	19	34	144
2	234	5 (2%)	0.3	1.5	2.9	7.3	616	3.4	18	33	60	201
3	236	8 (3%)	0.3	1.4	2.9	5.2	67	6.4	36	54	73	269
4	170	10 (6%)	0.3	1.1	2.1	4.2	28	7.1	34	62	85	259
5	201	6 (3%)	0.3	1.1	2.3	3.7	27	8.1	46	67	92	234
8	222	2 (1%)	0.1	1.0	1.6	3.6	72	11	64	88	117	316

¹LOD: limit of detection=0.4 ng/mL for ages 1-5 and 0.1 ng/mL for age 8.

Table S4. Minimum, maximum, and percentiles of estimated daily intakes of BPA based on urinary concentrations of HOME Study children (ng/kg body weight/day).¹

Child's Age (years)	N	Min	25th	50th	75th	95th	Max
1	276	15	107	190	367	868	8,927
2	225	17	79	127	230	800	14,135
3	187	16	48	84	135	303	1,787
4	168	16	38	60	101	264	906
5	201	15	33	55	93	269	1,307
8	221	2	25	39	59	124	2,818
Overall	1,274	2	44	83	161	551	14,135

¹The current EPA RfD for BPA is 50 µg/kg body weight/day (50,000 ng/kg body weight/day).¹⁸

Figure S1. Distribution of urinary creatinine concentrations (mg/dL) in HOME Study children from 1-8 years of ages.

*- p-value for child age trend $<10^{-16}$

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