

**Supplemental Table S1.** Baseline demographics, with and without imputation (n=1614)

<b>Characteristic</b>	<b>Study population without imputation</b>	<b>Study population with imputation<sup>1</sup></b>
<b>Age at enrollment</b>		
Mean (SD) age (years)	31.8 (5.2)	31.8 (5.2)
<25 years	153 (9.5)	153 (9.5)
25 - <30 years	348 (21.6)	348 (21.6)
30 - <35 years	665 (41.2)	665 (41.2)
≥ 35 years	448 (27.8)	448 (27.8)
<b>Year of enrollment</b>		
1999	405 (25.1)	405 (25.1)
2000	597 (37.0)	597 (37.0)
2001	559 (34.6)	559 (34.6)
2002	53 (3.3)	53 (3.3)
<b>Pre-pregnancy BMI</b>		
Median (IQR) BMI (kg/m <sup>2</sup> )	23.6 (21.2 – 27.5)	23.6 (21.2 - 27.5)
<25.0 kg/m <sup>2</sup>	985 (61.5)	993 (61.5)
25.0 - <30.0 kg/m <sup>2</sup>	357 (22.3)	359 (22.3)
≥ 30.0 kg/m <sup>2</sup>	260 (16.2)	262 (16.2)
<b>Race/ethnicity</b>		
White	1094 (68.6)	1104 (68.4)
Black	250 (15.7)	254 (15.7)
Other	252 (15.8)	256 (15.8)
<b>Parity</b>		
0	794 (49.2)	794 (49.2)
1	559 (34.6)	559 (34.6)
>1	261 (16.2)	261 (16.2)
<b>Education</b>		
< College graduate	566 (35.5)	574 (35.6)
College graduate or more	1030 (64.5)	1040 (64.4)
<b>Married or cohabitating</b>		
No	141 (8.8)	143 (8.9)
Yes	1454 (91.2)	1471 (91.1)
<b>Smoking status</b>		
Smoked during pregnancy	210 (13.1)	212 (13.2)
Former	298 (18.6)	300 (18.6)
Never	1091 (68.2)	1101 (68.2)
<b>Annual household income</b>		
≤ \$70,000/year	569 (39.7)	687 (42.5)
>\$70,000/year	863 (60.3)	927 (57.5)

<sup>1</sup>Calculated from all imputations and rounded Ns to the nearest integer; values may not sum to

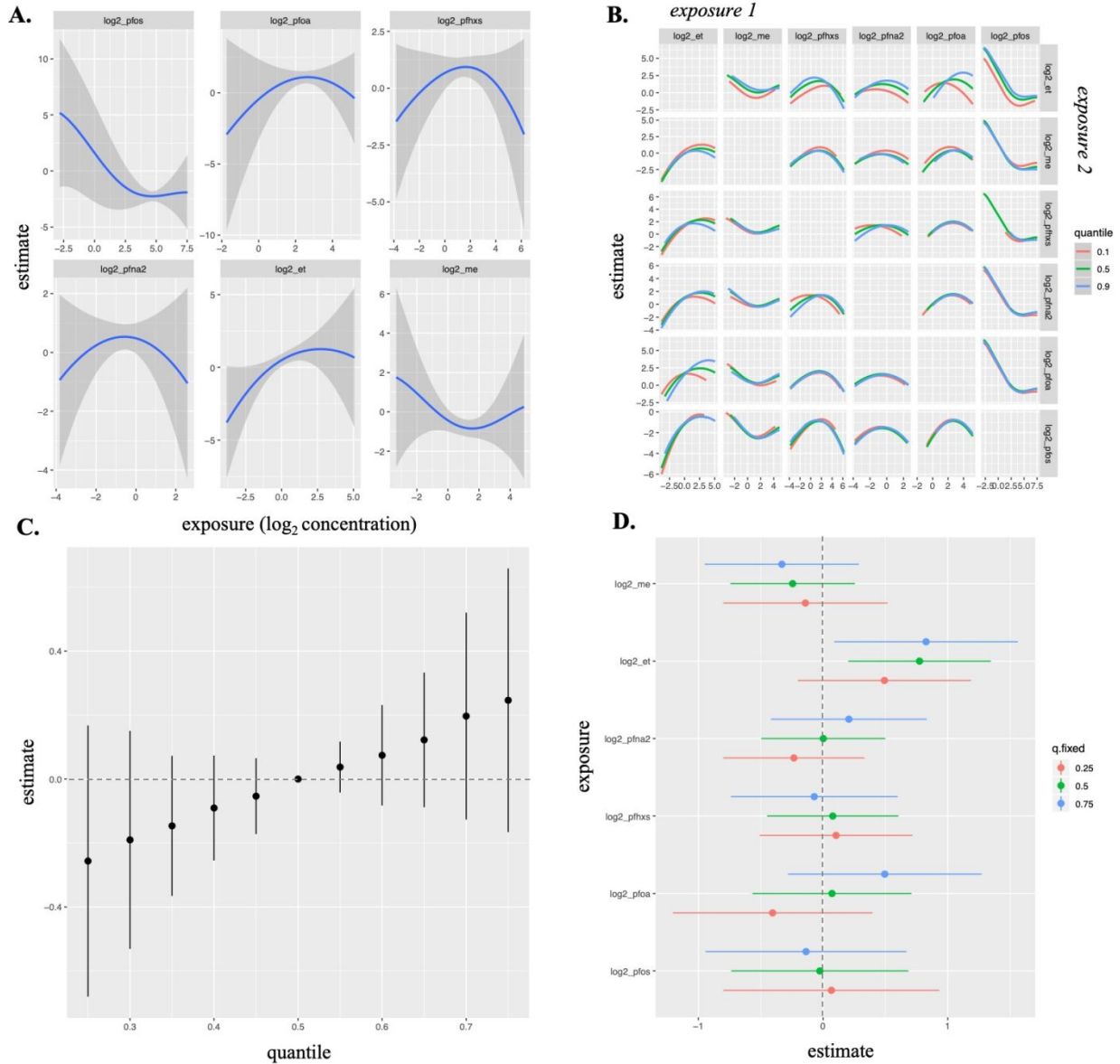
1614.

**Supplemental Table S2.** Change in gestational weight gain by trimester, per doubling of plasma PFAS concentration (ng/mL)

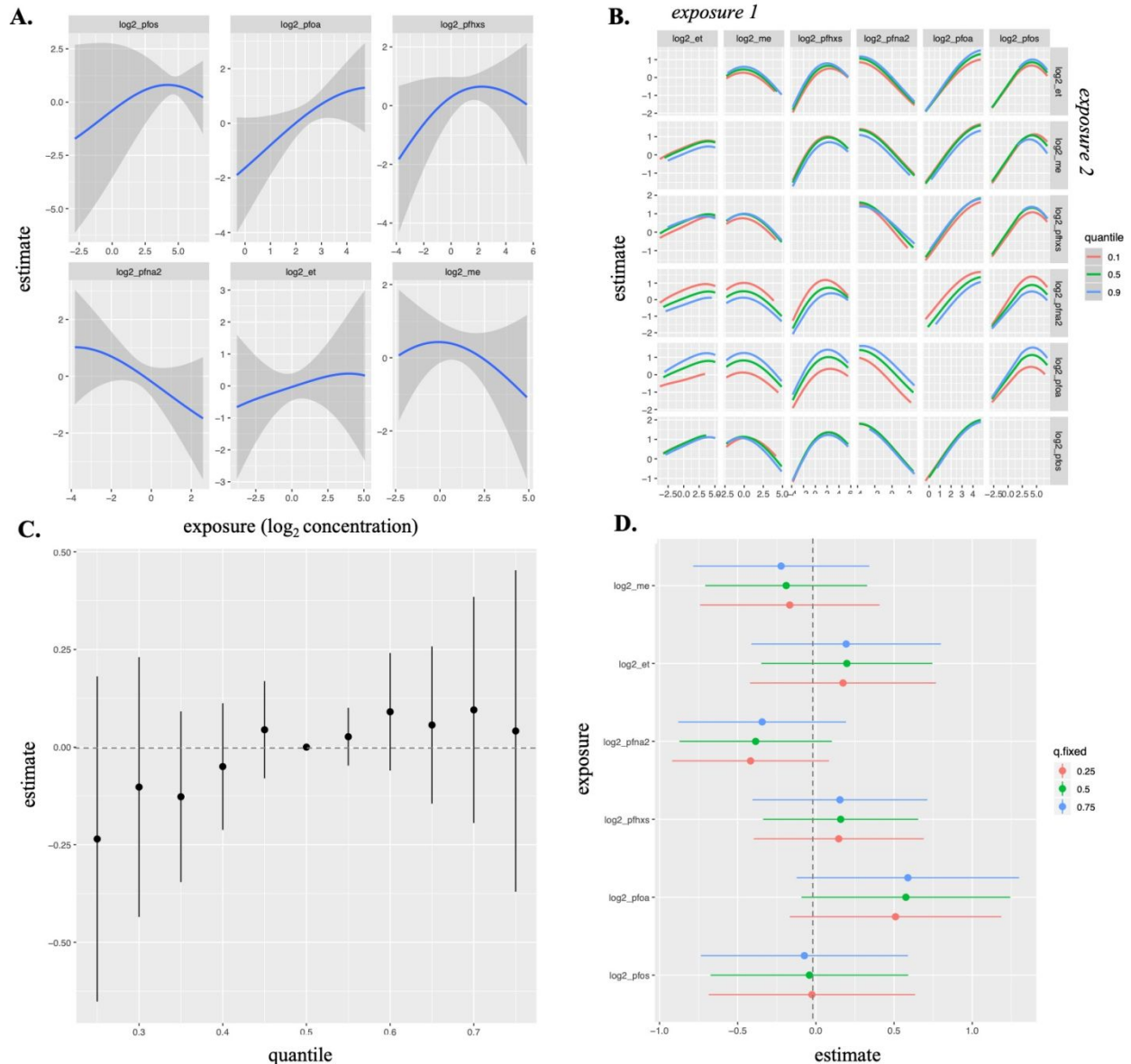
PFAS	1 <sup>st</sup> trimester (kg/wk)	2 <sup>nd</sup> trimester (kg/wk)	3 <sup>rd</sup> trimester (kg/wk)
	$\beta$ (95% CI) (n=1598)	$\beta$ (95% CI) (n=1594)	$\beta$ (95% CI) (n=1568)
<b>PFOS</b>	0.00 (-0.01, 0.02)	0.00 (-0.01, 0.01)	-0.00 (-0.01, 0.01)
<b>PFOA</b>	0.01 (-0.01, 0.02)	0.01 (-0.01, 0.02)	0.00 (-0.01, 0.02)
<b>PFHxS</b>	0.01 (-0.00, 0.02)	0.00 (-0.01, 0.01)	-0.01 (-0.02, 0.00)
<b>PFNA</b>	0.01 (-0.01, 0.02)	0.00 (-0.01, 0.01)	-0.00 (-0.02, 0.01)
<b>EtFOSAA</b>	0.00 (-0.01, 0.01)	0.02 (0.01, 0.02)**	0.01 (0.00, 0.02)*
<b>MeFOSAA</b>	-0.01 (-0.02, 0.01)	0.01 (-0.00, 0.02)	-0.00 (-0.01, 0.01)

\*  $P < 0.05$ ; \*\* $P < 0.01$ ; models adjusted for age, pre-pregnancy BMI, marital status,

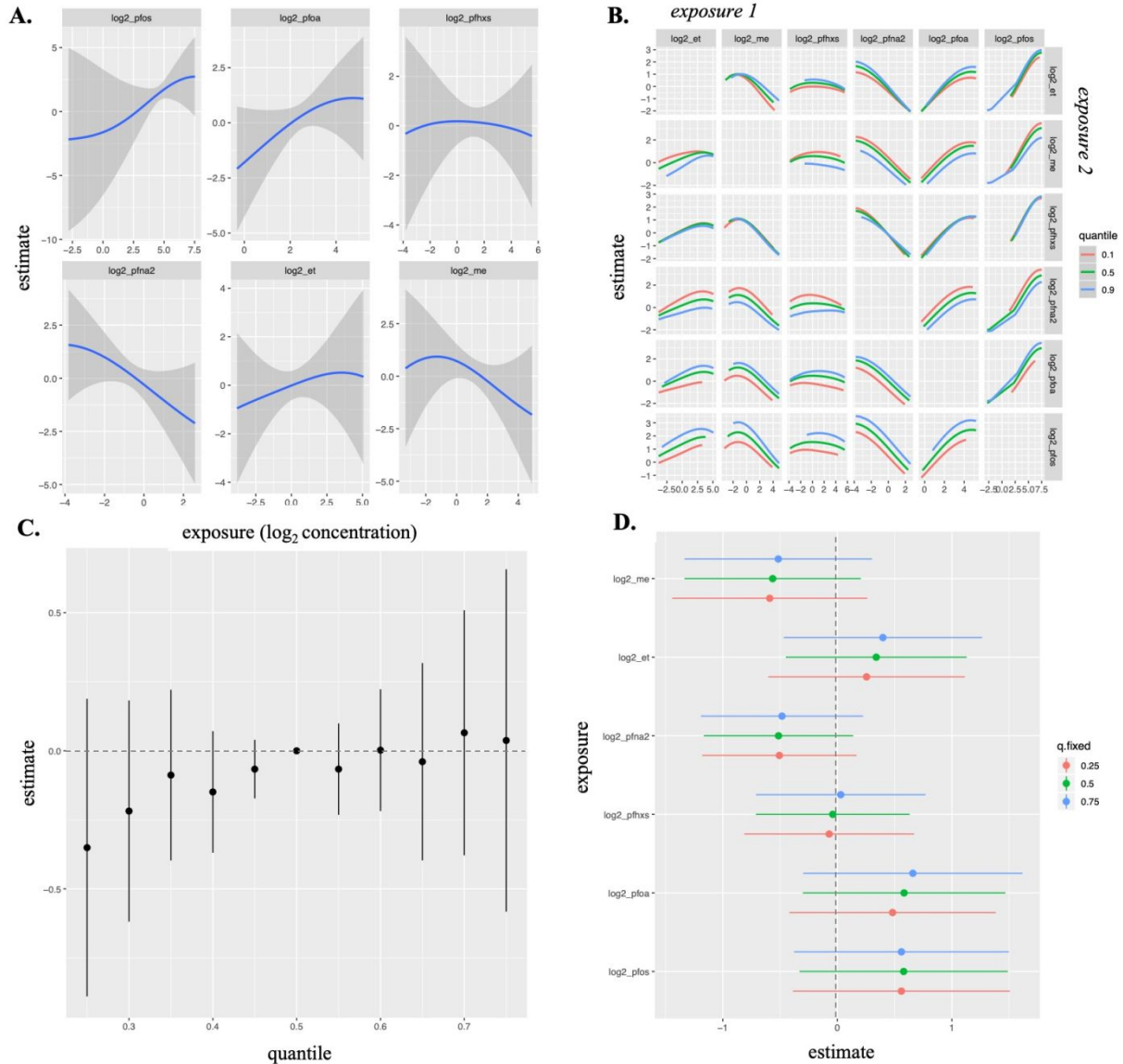
race/ethnicity, education, income, smoking, and parity; Models include all women including preterm births.



**Supplemental Figure S1.** Joint effect of the mixture of PFAS chemicals on gestational weight gain. Models adjusted for age, pre-pregnancy BMI, marital status, race/ethnicity, education, income, smoking, and parity. **Part (A)** shows the association and 95% credible intervals between each PFAS and gestational weight gain, holding all other PFASs fixed at the median. **Part (B)** shows bivariate relationships. In each rectangle, the three lines show the varying shape of the association between one PFAS (labeled along the top axis) and gestational weight gain, when another PFAS (labeled along right-hand axis) is fixed at the 10<sup>th</sup>, 50<sup>th</sup>, or 90<sup>th</sup> percentiles, to illustrate potential interactions. **Part (C)** shows the overall effect of exposure to the PFAS mixture on gestational weight gain, comparing the effect when all PFAS are set to a certain quantile compared to when all are set at their median value (50<sup>th</sup> percentile). **Part (D)** compares gestational weight gain when each PFAS is at its 75<sup>th</sup> versus its 25<sup>th</sup> percentile, and other PFAS are held at their 25<sup>th</sup>, 50<sup>th</sup>, or 75<sup>th</sup> percentiles.



**Supplemental Figure S2.** Joint effect of the mixture of PFAS chemicals on 1-year postpartum weight retention. Models adjusted for age, pre-pregnancy BMI, marital status, race/ethnicity, education, income, smoking, and parity. **Part (A)** shows the association and 95% credible intervals between each PFAS and 1-year postpartum weight retention, holding all other PFAS fixed at the median. **Part (B)** shows bivariate relationships. In each rectangle, the three lines show the varying shape of the association between one PFAS (labeled along the top axis) and 1-year postpartum weight retention, when another PFAS (labeled along right-hand axis) is fixed at the 10<sup>th</sup>, 50<sup>th</sup>, or 90<sup>th</sup> percentiles, to illustrate potential interactions. **Part (C)** shows the overall effect of exposure to the PFAS mixture on 1-year postpartum weight retention, comparing the effect when all PFAS are set at a certain percentile compared to when all are set at their median value (50<sup>th</sup> percentile). **Part (D)** compares 1-year postpartum weight retention when each PFAS is at its 75<sup>th</sup> versus its 25<sup>th</sup> percentile, and other PFAS are held at their 25<sup>th</sup>, 50<sup>th</sup>, or 75<sup>th</sup> percentiles.



**Supplemental Figure S3.** Joint effect of the mixture of PFAS chemicals on 3-year postpartum weight change. Models adjusted for age, pre-pregnancy BMI, marital status, race/ethnicity, education, income, smoking, and parity. **Part (A)** shows the association and 95% credible intervals between each PFAS and 3-year postpartum weight change, holding all other PFAS fixed at the median. **Part (B)** shows bivariate relationships. In each rectangle, the three lines show the varying shape of the association between one PFAS (labeled along the top axis) and 3-year postpartum weight change, when another PFAS (labeled along right-hand axis) is fixed at the 10<sup>th</sup>, 50<sup>th</sup>, or 90<sup>th</sup> percentiles, to illustrate potential interactions. **Part (C)** shows the overall effect of exposure to the PFAS mixture on 3-year postpartum weight change, comparing the effect when all PFAS are held at a certain percentile compared to when all are held at their median value (50<sup>th</sup> percentile). **Part (D)** compares 3-year postpartum weight change when each PFAS is at its 75<sup>th</sup> versus its 25<sup>th</sup> percentile, and other PFAS are held at their 25<sup>th</sup>, 50<sup>th</sup>, or 75<sup>th</sup> percentiles.