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Supplemental Material

Estimating Time-Varying PCB Exposures Using Person-Specific Predictions to Supplement Measured Values: A Comparison of Observed and Predicted Values in Two Cohorts of Norwegian Women

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Table S1: Agreements of predictions for PCB-153 concentrations with measurements in separate simulations in which individual information was disregarded for one or several variables. Dietary intake input parameters were replaced by group medians and other parameters were replaced with zero for all individuals. In simulations including individual parameterisation of all variables the rank correlation was 0.40 and 0.13, and median discrepancy was +4.8 and -3.3 for MISA and NOWAC women, respectively,

Table S2: Summary of predicted concentrations of 3 PCBs from the mechanistic model CoZMoMAN and their comparisons those measured in MISA and NOWAC women. Pearson's correlation was calculated based on log-transformed concentrations.

Figure S1: Measured serum concentrations (in ng/g lipid) of PCBs 118, 138 and 180 along with those predicted obtained from CoZMoMAN for the MISA (orange dots, $n=310$) and NOWAC (green squares, $n=244$) study subjects.

Table S3: Predictors of discrepancy between measured and predicted concentrations of PCB-153 for MISA and NOWAC women in linear regression models^a. Models accounted for 50% and 56% of variations in model discrepancies for the MISA and NOWAC women, respectively.

Figure S2: Measured serum concentrations of PCB-153 along with those predicted (both in ng/g lipid) obtained from CoZMoMAN when assuming median daily intakes of fish, meat and dairy products for all individuals for the MISA (orange dots, n=310) and NOWAC (green squares, n=244) study subjects.

Table S4: Predictors of measured PCB-153 concentrations in linear regression models^a of the MISA and NOWAC study subjects. The models for the MISA and NOWAC women accounted for 36% and 22% of variations in concentrations, respectively.

Figure S3: Measured serum concentrations of PCB-153 along with those predicted (both in ng/g lipid) from statistical linear regression models for MISA (orange dots, n=310) and NOWAC (green squares, n=233) study subjects.

Table S5: Rank correlation r_s between person-specific predictions of concentrations experienced in the past and at sampling time with the measured concentrations. The number of included women was 310 and 233 from the MISA and NOWAC studies, respectively.

Figure S4: Predicted serum concentrations of PCB-153 at sampling time along with those predicted (both in ng/g lipid) at birth, at age 10, cumulated during puberty (ng/g lipid*years) and at age of first child birth for MISA (orange dots, n=310) and NOWAC (green squares, n=244) women. Correlations are presented in Table S5.