

Case Study 1

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Jan 21, 2020

Case Discussion

- ▶ Data obtained from a subset of women enrolled in the CPP during pregnancy
- ▶ Data issues: uncertainty, inflation, and missingness

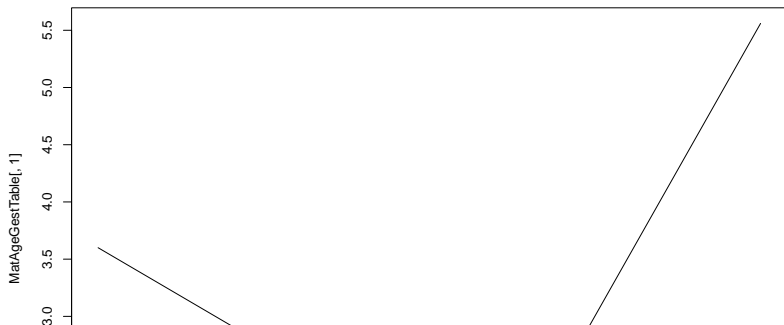
Goal: Assess how exposure to DDE and PCBs relates to the risk of premature delivery

Graph?

Exploratory Data Analysis

Analysis

- ▶ Ordinal Logistic Regression with Term, Preterm, and Severely Preterm Gest. Categories
- ▶ Keep obs with Gest. Age 44 or less
- ▶ Impute score data with MICE to check usefulness
- ▶ Remove obs with missing PCE value
- ▶ Include blood cholesterol/triglyceride levels, as well as center and SES/Lifestyle metrics



Results

- ▶ (log) DDE and PCB both significantly associated with preterm delivery likelihood even when adjusting for other factors
- ▶ Model Comparison indicated ($p=0.97$) that the first principle component of the `pcb_*` values is sufficient.

	Coef Est	2.5 %	97.5 %
log(dde)	-0.2230356	-0.4246547	-0.0216002
logPCB1	-0.0613456	-0.1175153	-0.0059303

Discussion