

Supplement to Incremental Propensity Score Effects for Time-Fixed Exposures

In this supplement, we present results from the AIPW, TMLE, and IPS effect estimators discussed in the main text after considering the presence of competing risks present in the nuMoM2b study. The outcome of interest in our analyses was preeclampsia, as defined in the main text. Competing risks for this outcome included stillbirth, defined as a fetal death after the 20th week of gestation, and spontaneous pregnancy loss, defined as fetal death prior to the 20th week of gestation.

Our aim in this supplement is to approximate the sub-distribution risk differences of the effect of vegetable consumption on these three outcomes. To do this, we created three separate outcome variables, which took on a value of 1 if the event occurred, and zero otherwise. For example, if the outcome variable for spontaneous pregnancy loss took a value of 1, the values for the other two outcome variables would be zero by definition.

We then conducted three separate analyses (one for each outcome variable) using the same procedures described in the main text. Results are presented below. The key takeaway of these results is that, even with an informal accounting for competing risks, the associations we observed between vegetable consumption and preeclampsia did not change enough to make a difference in our overall substantive findings.

Table 1: Average treatment effect estimates on the risk difference scale for the relation between consuming at least 1/2 a cup of vegetables per 1,000 kcals and preeclampsia, stillbirth, and spontaneous pregnancy loss risk in the Nulliparous Pregnancy Outcomes Study: monitoring mothers-to-be (nuMoM2b), 2010–2013.

	Risk Difference*	95% CI
Augmented Inverse Probability Weighting		
Preeclampsia	-3.33	-5.06, -1.61
Stillbirth	0.32	0.00, 0.50
spontaneous pregnancy loss	1.10	0.77, 1.44
Targeted Minimum Loss-Based Estimation		
Preeclampsia	-2.27	-4.00, -0.53
Stillbirth	0.17	-0.11, 0.46
spontaneous pregnancy loss	0.42	0.15, 0.69

* Expressed per 100 pregnancies in the sample.

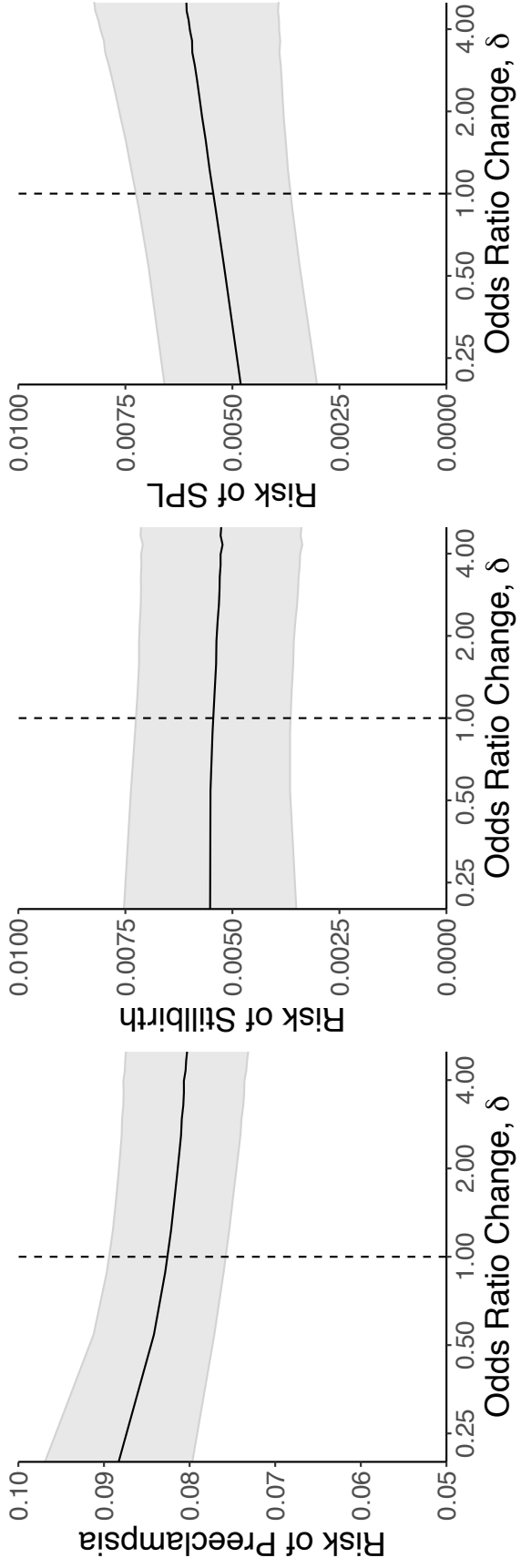


Figure 1: Risk of preeclampsia, stillbirth, and spontaneous pregnancy loss (SPL) as a function of changes in the propensity score (PS) for consuming at least 1/2 a cup of vegetables per 1,000 kcal in 8,259 women from the Nulliparous Pregnancy Outcomes Study: monitoring mothers-to-be (nuMoM2b), 2010–2013.