Homework 5

EPID 799B – R for Epidemiologists

The accompanying R script includes the solutions for exercises up to this point in the class. Starting from the data prepared from this code, answer the following questions about the births 2012 dataset:

**Dataset name:** *births*

**Main exposure:** Inadequate prenatal care (*kotel* 1)

**Outcome:** Preterm birth (*wksgest* < 37)

**Potential confounders:** maternal smoking (*cigdur* Y vs. N/U), maternal age (mage>27)

1. Estimate the crude risk ratio (and 95% confidence interval) of preterm birth between adequate and inadequate prenatal care.
2. Calculate the same measure, adjusted maternal smoking and maternal age.
3. Compare the estimates from the crude and adjusted models. You want to make a decision about whether to report the crude or adjusted result but have reservations about using a p-value threshold as a decision criteria. Assuming that you think a 15% change in the estimate on the log scale is enough to warrant inclusion of covariates in the final model (yet find *this* arbitrary choice of threshold unproblematic), would you report the crude or the adjusted estimate? [You can consider the effect of these covariates together instead of treating them separately].

2.