# Minutes of OHDSI workgroup in Population Level Estimation

February 1, 2018

Present: Andrew Williams, Akihiko Nishimura, Anthony M., Chris Knoll, Jamie Weaver, Vojtech Huser, Patrick Ryan, Erica Voss, Anthony Senna, Yuxi Tian, Martijn Schuemie

Martijn presents on “Reinventing the study protocol”, suggesting the protocol should include full study diagnostics such as propensity score distribution, covariate balance, and negative control estimates. This basically means the full study needs to be implemented.

Chris: Is it really necessary to have the full study if the goal is to have study diagnostics? We could just implement the part needed to get to the diagnostics. Martijn: Having the full implementation ready is also a way to fully specify the study. Also, when you’re running negative controls, you’re not far away from running the study itself.

Jamie: Isn’t rephrasing the question based on the diagnostics bad? Martijn: If we adjust the question to something the data can answer, then that is a good thing. If we keep adapting the study design until we get good study diagnostics we do run the risk of ‘overfitting’ on the diagnostics, but that is a second order issue, certainly nowhere near as bad as adapting the study design until we get the answer we want (= p-hacking),

Vojtech: Where to register protocols?

Andrew: You should state power explicitly (beta at a given alpha), in addition to the MDRR.

Erica: When there are many cohort definitions using the same concept sets, how do we keep them consistent? Perhaps we can use code to generate cohort definitions from a template? Chris: I’ve created a CohortManager package in the past for this purpose. I do not recommend using it as is. Will share with the folks on the call.

Vojtech: I’m missing an assessment of database and data quality. What bias is inherent to the database? (e.g. all rich folks, all elderly).

Erica: It might be helpful to perform feasibility assessment before writing a full protocol. Perform incidence rate computations in R.

Chris: You don’t want to compute IRs in T and C separately, as that might lead people to (erroneously) infer a relative risk. Only compute IR in the union of T and C. Maybe also not just post index?

Vojtech: Some checks on the exposures and outcomes would be helpful. Is overal prevalence in line with expectations? Check 'maps to' relationship? Fitness for purpose.