# Minutes of the Population-Level Estimation Workgroup

April 20, 2016, Eastern Hemisphere meeting

Present: Dukyong Yoon, Jenna Reps, Peter Rijnbeek, Ian Wong, Nicole Pratt, Martijn Schuemie

Martijn presented his slides on the OHDSI Methods Library, showing that currently four designs are implemented as open source R package:

* New-user cohort method using propensity scores
* Self-Controlled Case Series
* Self-Controlled Cohort
* IC Temporal Pattern Discovery

# Validation

We are currently using unit tests and simulations to validate these packages.

Both Peter and Ian noted that double coding can be helpful in understanding limitations of the specifications. Martijn identified the issue that currently the method packages do not have specifications.

Ian further noted that he often uses double coding for educational purposes (for his PhD students), but wonders whether it is realistic to apply at the scale proposed here.

Dukyong brought up the topic of code review. Members of the OHDSI community could review code, which would not only serve the purpose of validating the code, but would also help other people understand the code. Peter volunteered to do code review on the PatientLevelPrediction package. Martijn will inquire on the OHDSI Forums whether others would like to contribute as well.

No-one believes we need both unit tests and double coding. All agree there needs to be at least some validation. This will be added to the ‘best practices’ document:

<http://www.ohdsi.org/web/wiki/doku.php?id=development:best_practices_estimation>

## Choice of methods

Peter mentioned that the case-control design is currently used a lot in European studies. Martijn expresses his distaste for the case-control design (it implicitly compares an exposed population to a healthy population), but concedes we maybe should reconsider including it in the library.

Nicole expresses interest in methods that can deal with time-varying exposure, specifically for studying the effects of long-term exposure. Especially with the coming of biologics, we’d need to understand the implications of long-term exposure. Methods that come to mind are the Weighted Cumulative Exposure (WCE) and the Extended SCCS (by Martijn and colleagues). We will need to find some ways to deal with the time varying confounding.

When asked about the case-crossover design, Nicole mentioned that a strength is its simplicity, but that a major weakness is the sensitivity to choice of control period, which depends heavily on the type of drug and outcome.

## Next meeting

Martijn asked what people would like to see in the next meeting. Both Peter and Nicole expressed a preference for discussing the CohortMethod package in detail, so this will be discussed at the next Eastern Hemisphere meeting (May 4).