

Doubly Robust Estimators for Causal Parameters in the Exposed

Tosiya Sato and Yasutaka Chiba

*Department of Biostatistics, Kyoto University School of Public Health, Kyoto, Japan*

Marginal structural model is a newly developed causal model which gives the Inverse Probability of Treatment Weighted (IPTW) estimators. The IPTW estimators are interpreted as nonparametric standardized estimators for causal parameters in the total population. Different weights give standardized estimators in different target populations.

When we are not sure of the correct specification of either the propensity score (probability of treatment) model or the outcome regression model, one may use the doubly robust estimator. The doubly robust estimator is the estimator for the causal parameter of interest which is consistent when either the parametric outcome regression model or the propensity score model is correct.

We develop the doubly robust estimators for causal parameters in the exposed population. Its Augmented Inverse Probability Weighted estimator will be given.