

For cross-validations, we stratify the data by both racial groups and disease outcomes.

Low dimensional setting: 6 predictors including the variable for racial groups; data are generated from GLM, and we fit a GLM for prediction

Proportion_White	Prob_Case	num_folds
0.5	0.2	5

Coverage probability of 95% CI:

- Calibration intercept:

W0_byAvg	W1_byAvg	W0_byAgt	W1_byAgt	W0_ext	W1_ext
1.000	1.000	1.000	1.000	0.849	0.818

- Calibration slope:

W0_byAvg	W1_byAvg	W0_byAgt	W1_byAgt	W0_ext	W1_ext
0.997	0.999	0.997	1.000	0.897	0.887

High dimensional setting: 51 predictors including the variable for racial groups and 13 non-zero predictors; data are generated from GLM, and we fit a GLM and lasso model for prediction, respectively

num_folds
5

Coverage probability of 95% CI - GLM:

- Calibration intercept:

W0_byAvg	W1_byAvg	W0_byAgt	W1_byAgt	W0_ext	W1_ext
0.984	1.000	0.984	1.000	0.908	0.846

- Calibration slope:

W0_byAvg	W1_byAvg	W0_byAgt	W1_byAgt	W0_ext	W1_ext
0.682	0.084	0.632	0.046	0.719	0.338

The coverage rate is significantly lower than 95% because the estimated calibration slope is far below 1.

W0_cali_slp_byAvg	W1_cali_slp_byAvg	W0_cali_slp_byAgt	W1_cali_slp_byAgt	W0_cali_slp_ext	W1_cali_slp_ext
0.644	0.681	0.613	0.657	0.702	0.724

Coverage probability of 95% CI - lasso:

- Calibration intercept:

W0_byAvg	W1_byAvg	W0_byAgt	W1_byAgt	W0_ext	W1_ext
0.997	1.000	0.997	1.000	0.902	0.849

- Calibration slope:

W0_byAvg	W1_byAvg	W0_byAgt	W1_byAgt	W0_ext	W1_ext
0.741	0.536	0.731	0.544	0.753	0.565

The coverage rate is also significantly lower than 95% because the estimated calibration slope is a little below 1.

W0_cali_slp_ byAvg	W1_cali_slp_ byAvg	W0_cali_slp_ byAgt	W1_cali_slp_ byAgt	W0_cali_sl p_ext	W1_cali_sl p_ext
0.985	0.950	0.817	0.882	0.953	0.987