

Table S3. Comparison of model performance metrics for an illustrative model¹ based on the original super learner (SL) library and an expanded library²

	<u>Original SL library</u>	<u>Expanded SL library</u>
Statistical power	43.6	39.8
Proportional regret	0.3	0.4
Lower bound coverage of attained marginal improvement	97.8	96.6
Average lower bound around estimated marginal improvement	0.0	0.0
Full coverage for attained marginal improvement	88.8	88.2

¹Model parameters: 30% outcome prevalence, 5% optimal marginal improvement (OMI), dense signal, n = 300 patients per arm, 20 noise variables

²The expanded library includes two additional neural networks, size 5 and 10, each paired separately with the randomForest and corP screening algorithms (i.e., a total of four learners)