**Appendix 11.** Logistic LASSO second abbreviated models’ parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| SF-36 PCS | | | | |
| Intercept | -0.63 | | | |
| Feature | Imputed mean | Standardized mean | Standardized scale | Coefficient |
| Baseline SF-36 PCS | 33.90 | 33.45 | 11.07 | 0.58 |
| Baseline SF-36 MCS | 51.16 | 53.46 | 17.64 | -0.72 |
| Baseline HOOS JR or KOOS JR score | 50.37 | 50.01 | 16.65 | 0.19 |
| Knee patient (not hip patient) | - | - | - | 0.72 |
| SF-36 MCS | | | | |
| Intercept | 0.00 | | | |
| Feature | Imputed mean | Standardized mean | Standardized scale | Coefficient |
| Baseline SF-36 MCS | 51.16 | 53.46 | 17.64 | 1.00 |
| HOOS JR | | | | |
| Intercept | -0.38 | | | |
| Feature | Imputed mean | Standardized mean | Standardized scale | Coefficient |
| Baseline SF-36 PCS | 33.55 | 33.55 | 10.57 | -0.44 |
| Baseline SF-36 MCS | 50.49 | 51.93 | 17.95 | -0.70 |
| Baseline HOOS JR score | 50.31 | 49.86 | 15.60 | 1.22 |
| KOOS JR | | | | |
| Intercept | -0.18 | | | |
| Feature | Imputed mean | Standardized mean | Standardized scale | Coefficient |
| Baseline SF-36 PCS | 33.80 | 33.80 | 9.78 | -0.25 |
| Baseline SF-36 MCS | 51.48 | 52.59 | 16.35 | -0.47 |
| Baseline KOOS JR score | 49.24 | 50.01 | 14.86 | 1.16 |

Outcomes were coded so that 0 = (achieve MCID) and 1 = (did not achieve MCID); coefficients are the typical logistic coefficient estimates; all continuous features were imputed (if missing) and then standardized: first, if missing, the continuous variable was assigned the value in imputed mean; next, all continuous variables were standardized by subtracting the value in standardized mean and then dividing by the value in standardized scale; note that these values were derived from the original 80% training set; standardization scale was based on the 25th and 75th quantiles; LASSO = least absolute shrinkage and selection operator; MCID = minimally clinically important difference; PCS = physical component score; MCS = mental component score; HOOS JR = hip disability and osteoarthritis outcome score for joint replacement; KOOS JR = knee disability and osteoarthritis outcome score for joint replacement.