Supplementary Table 11. Sensitivity of the THB–outcome association to center (site) effects

Center-effect analysis	Sites	Number	THB OR per SD (95% CI)	ICC
Primary logistic (no center term)	16	6,124	1.19 (1.11–1.27)	-
GEE, cluster-robust by site	16	6,124	1.17 (1.10–1.25)	-
Mixed-effects GLMM, site random intercept	16	6,124	1.18 (1.11–1.26)	0.054
Leave-one-site-out (each of 13 stable sites)	13	-	1.14–1.21 (range)	-
Stable sites only (n≥100)	13	6,073	1.19 (1.11–1.27)	-

Odds ratios are per 1 SD of THB for 3-month poor outcome, adjusted for the same clinical covariates. GEE uses an exchangeable working correlation clustered on site; the mixed-effects model uses a site random intercept (Bayesian variational fit). Leave-one-site-out reports the range of ORs across removal of each stable site.

THB, total hemorrhagic burden; OR, odds ratio; SD, standard deviation; ICC, intraclass correlation coefficient; GEE, generalized estimating equations; GLMM, generalized linear mixed model.