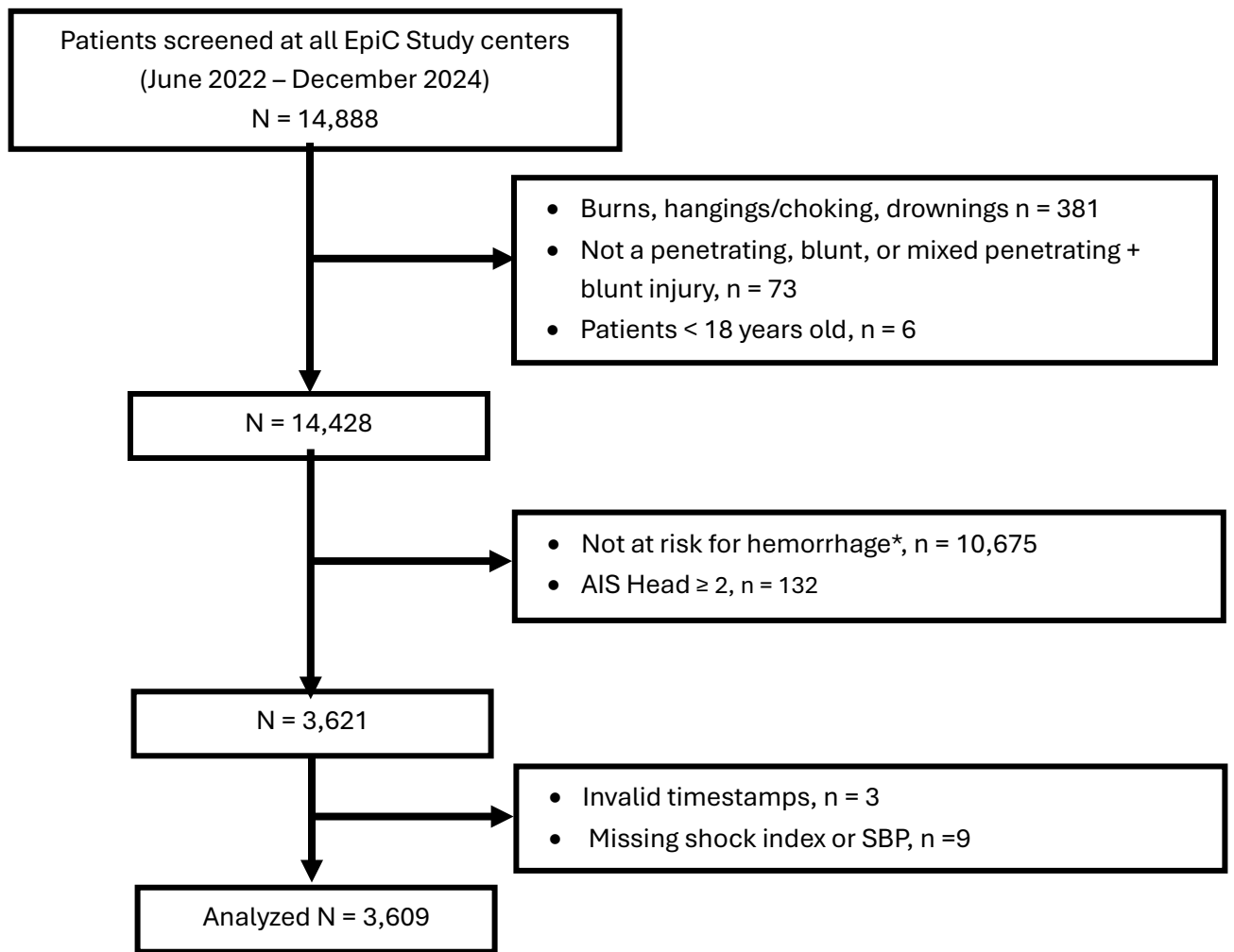
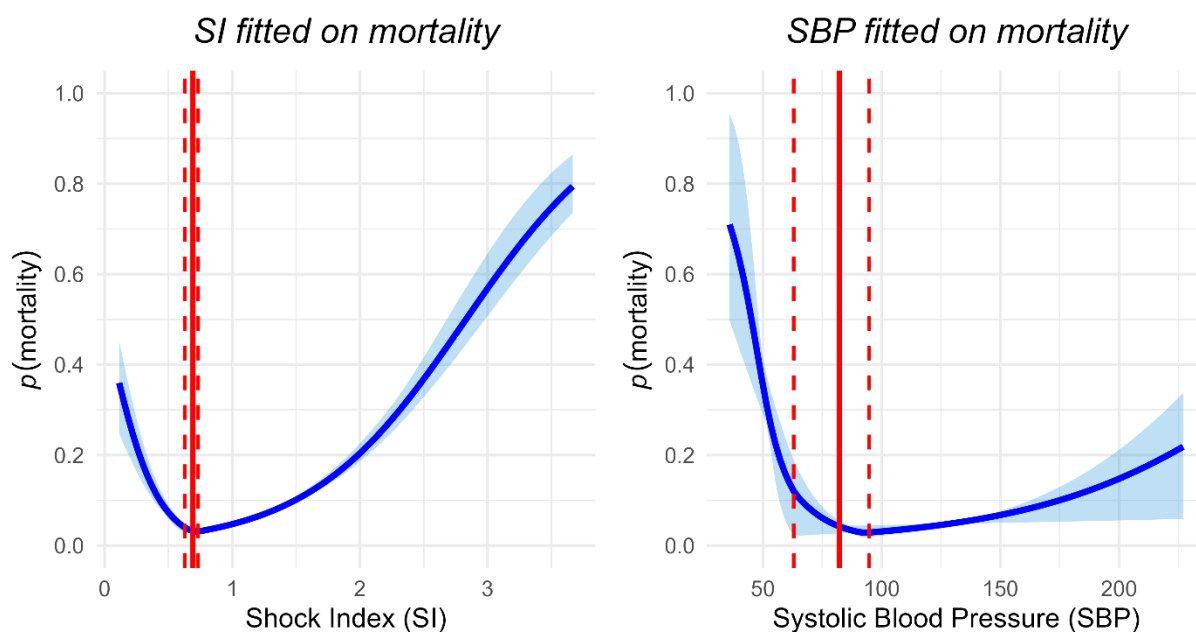




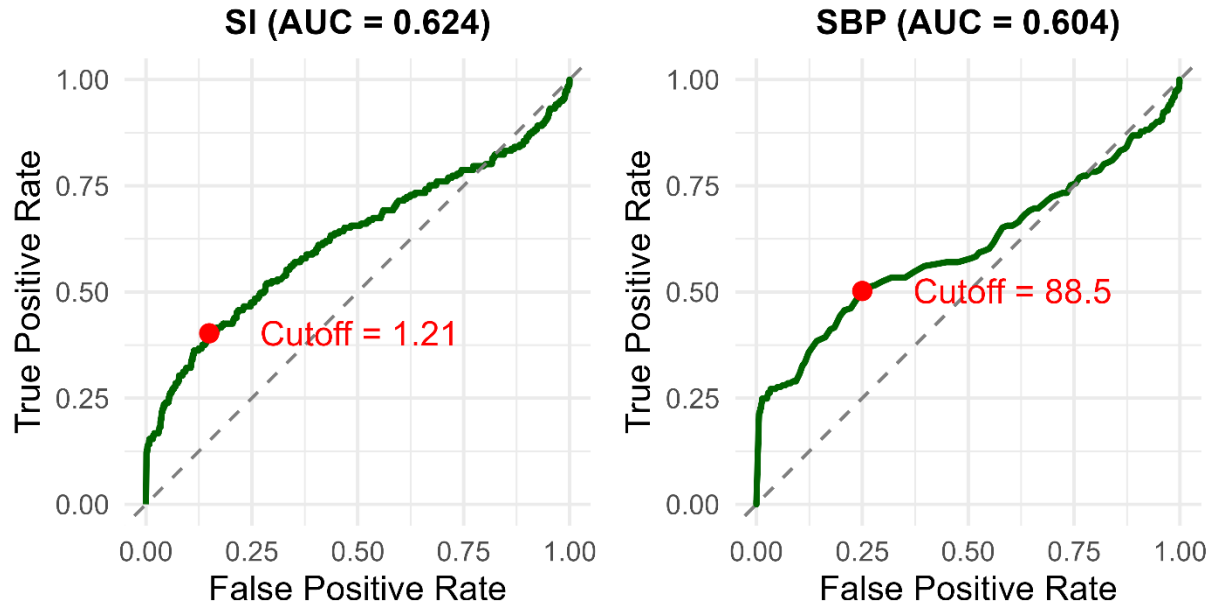
** Note: Risk for hemorrhage was defined as: defined as AIS body (non-head/face) ≥ 1 and at least one of the following: SBP ≤ 100 , shock index ≥ 1 , SOFA cardiovascular score ≥ 3 , initial lactate ≥ 4 , initial base deficit ≥ 6 , initial pH ≥ 7.2 , TXA, vasopressors, inotropes, blood products within 24 hours, circulatory diagnosis, or hemorrhage-related death.*

Figure S1. Participant Screening, Eligibility, and Inclusion Flow Diagram.



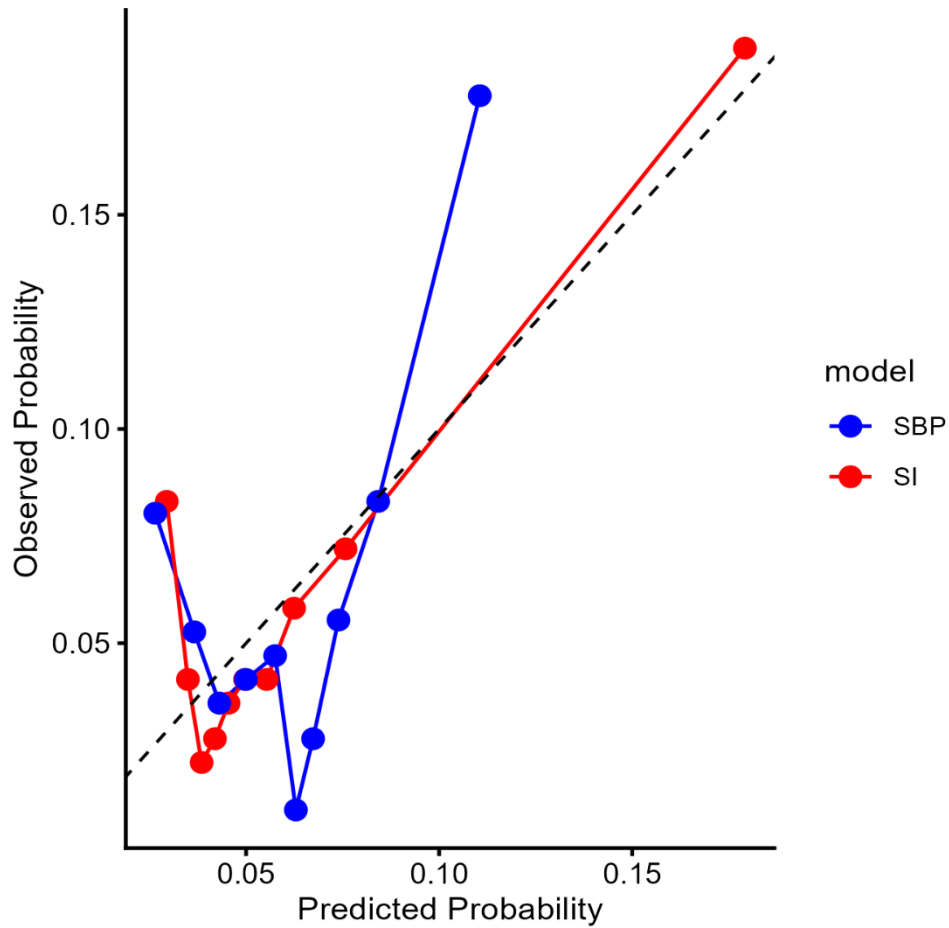
Note: The solid red vertical line indicates the estimated inflection point; dashed red vertical lines represent the corresponding 95% confidence interval bounds. The shaded blue area around the fitted curve denotes the 95% confidence band for the predicted probability of mortality.

Figure S2. Identification of Optimal Inflection Points for Shock Index and Systolic Blood Pressure in Predicting 30-day Mortality.



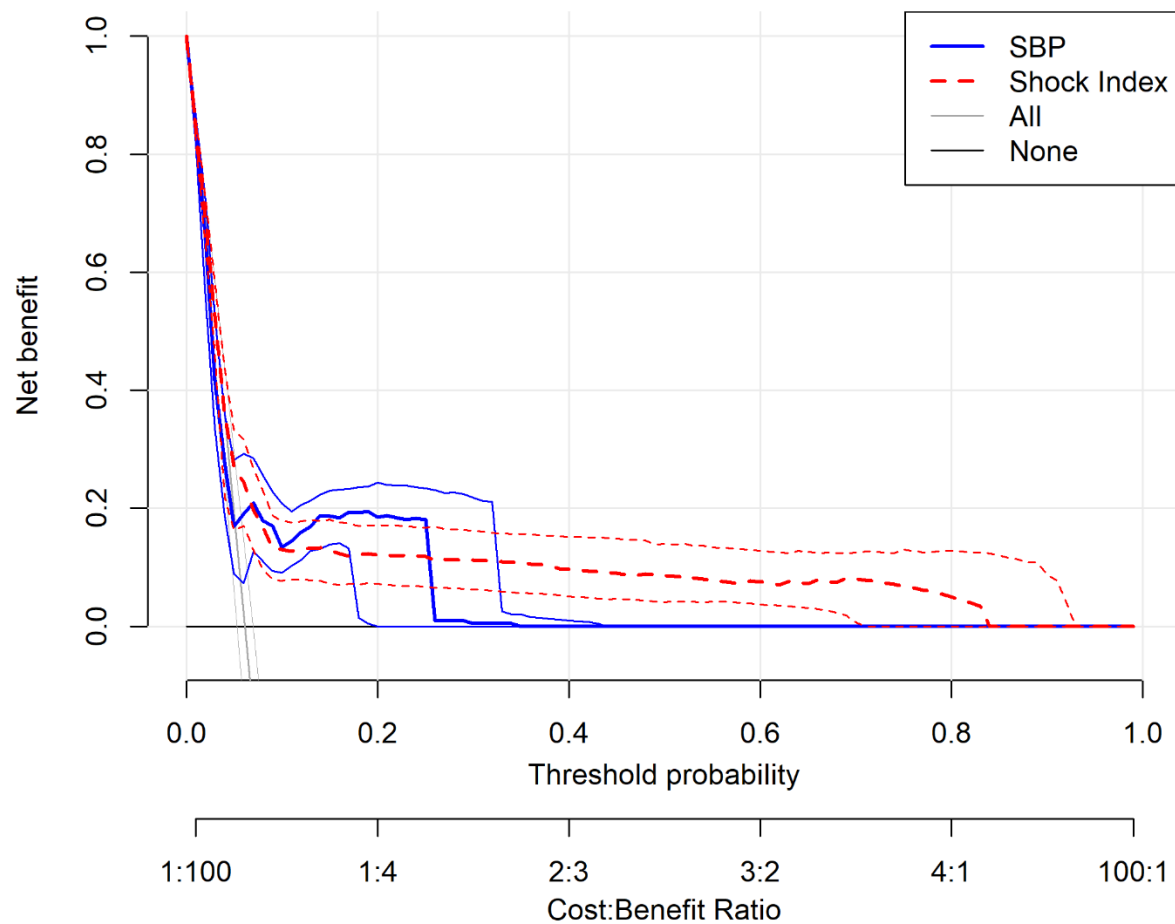
Note: The red points indicate the optimal operating thresholds identified using Youden's J statistic: $SI \geq 1.21$ for the shock index model and $SBP \leq 88.5$ mmHg for the systolic blood pressure model. At these cutoffs, SI yielded a specificity of 85.1% and sensitivity of 40.3%, while SBP yielded a specificity of 75.0% and sensitivity of 50.2% and. The dashed diagonal line represents chance-level discrimination (AUC = 0.50).

Figure S3. Receiver Operating Characteristic (ROC) Curves for Shock Index and Systolic Blood Pressure in Predicting 30-day Mortality.



Note: The dashed diagonal line represents perfect calibration, where predicted and observed probabilities are in complete agreement. Points and lines closer to this line indicate better calibration. The SI model (red) tracks closer to the diagonal than SBP (blue) across most probability ranges, reflecting its marginally superior calibration as quantified by the Brier score (0.054 vs. 0.058). Scatter around the diagonal is expected given the modest discriminatory performance of both single vital-sign predictors.

Figure S4. Calibration Plots for Shock Index and Systolic Blood Pressure in Predicting 30-day Mortality.



Note: The “All” line represents the net benefit of treating all patients as high risk, and the “None” line (at zero) represents the net benefit of treating no patients. A model provides clinical utility when its curve lies above both reference lines. SI (red dashed) demonstrated higher net benefit than SBP (blue solid) across a broader range of threshold probabilities.

Figure S5. Decision Curve Analysis Comparing Shock Index and Systolic Blood Pressure for Predicting 30-day Mortality.