

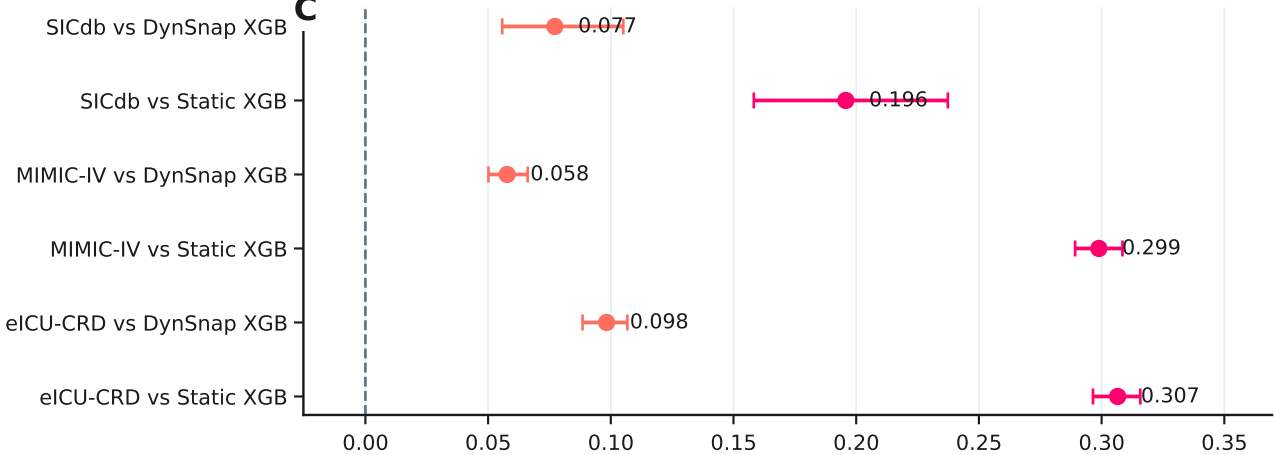
A Paired stay-level gain summary

Cohort	Comparator	AUPRC gain (95% CI)	AUROC gain (95% CI)
SICdb	DynSnap XGB	0.077 (0.056, 0.105)	0.093 (0.066, 0.122)
SICdb	Static XGB	0.196 (0.158, 0.237)	0.231 (0.198, 0.268)
MIMIC-IV	DynSnap XGB	0.058 (0.050, 0.066)	0.037 (0.031, 0.042)
MIMIC-IV	Static XGB	0.299 (0.289, 0.309)	0.262 (0.254, 0.269)
eICU-CRD	DynSnap XGB	0.098 (0.088, 0.107)	0.049 (0.043, 0.054)
eICU-CRD	Static XGB	0.307 (0.296, 0.316)	0.232 (0.225, 0.239)

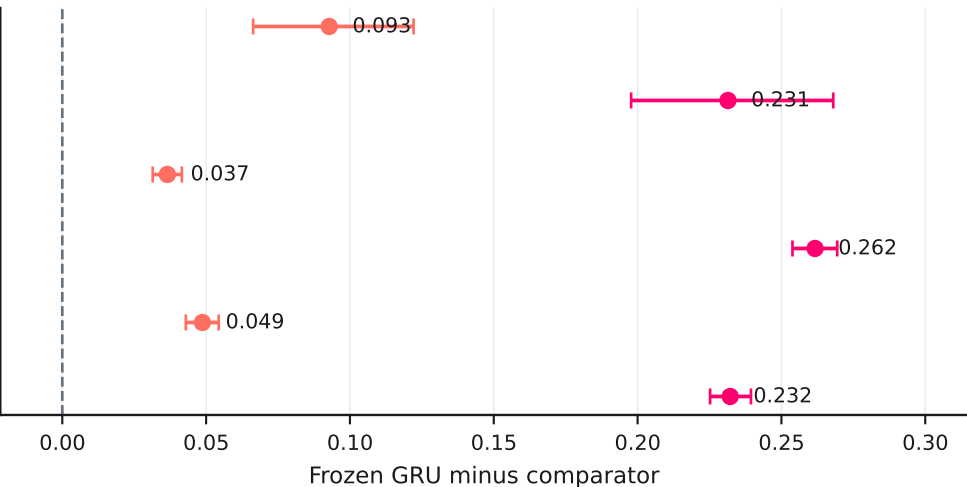
B Subgroup robustness summary

Cohort	Subgroups (n)	AUPRC advantage median [min, max]	AUROC advantage median [min, max]	All positive
SICdb	10	0.198 [0.126, 0.238]	0.231 [0.163, 0.270]	Yes
MIMIC-IV	6	0.299 [0.293, 0.310]	0.261 [0.243, 0.273]	Yes
eICU-CRD	6	0.309 [0.293, 0.319]	0.234 [0.225, 0.240]	Yes

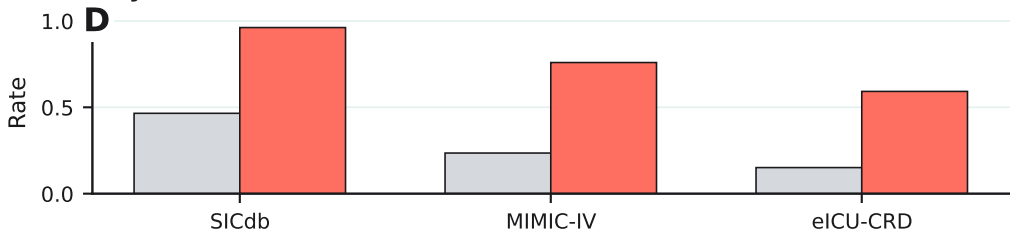
C Stay-level AUPRC gain



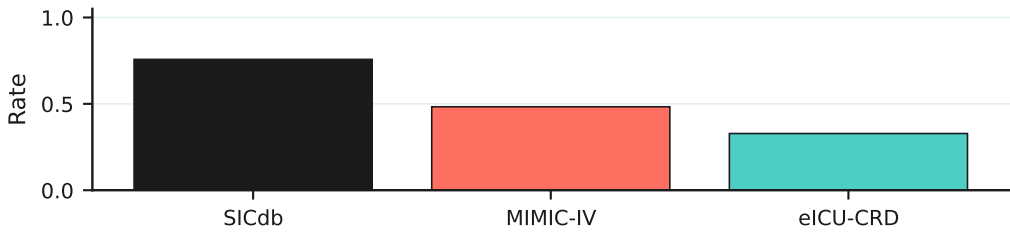
Stay-level AUROC gain



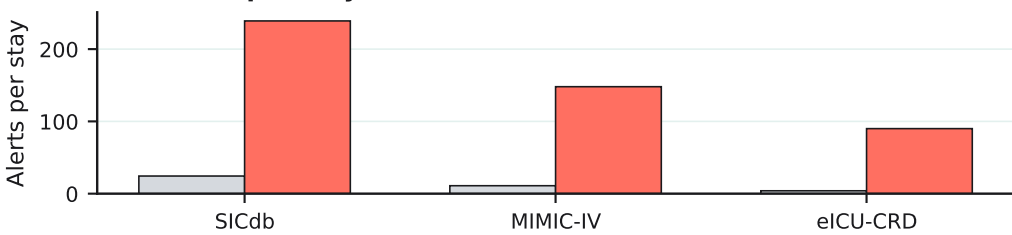
D Any-alert rate



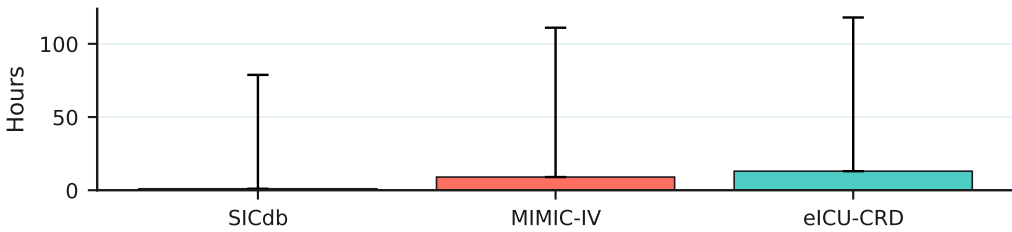
Alert before or at first positive



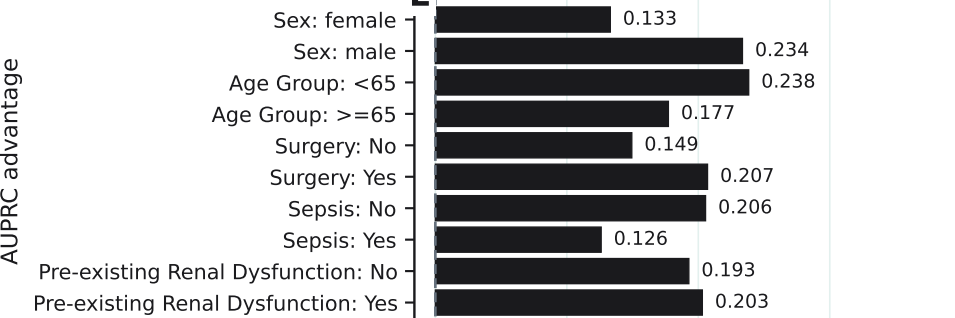
P90 alerts per stay



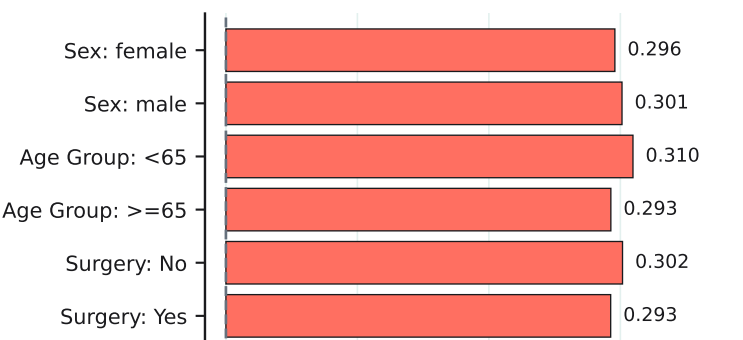
Median lead time before first positive



E SICdb



MIMIC-IV

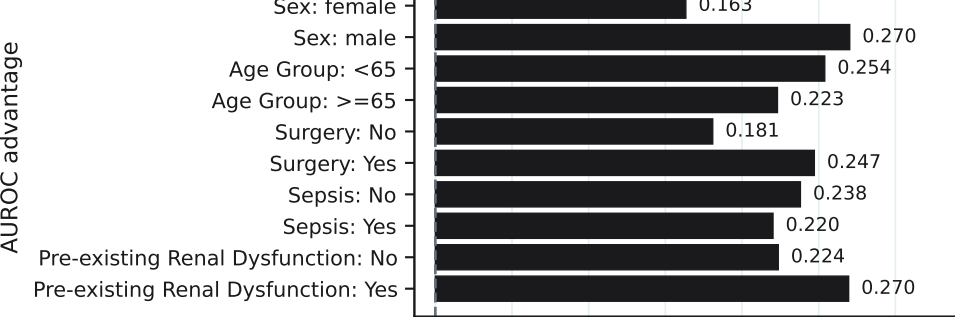


eICU-CRD



AUPRC advantage

F SICdb



MIMIC-IV



eICU-CRD



AUROC advantage

Frozen GRU minus Static XGBoost

Frozen GRU minus Static XGBoost

Frozen GRU minus Static XGBoost