eAppendix B: Model discrimination within subgroups

In order to understand how the model performed for patients with different characteristics (fairness), we calculated the model AUC with the full data (derivation and validation set combined), but subsetted to different subgroups of race, gender, and age. Because the median age of patients who died in the data was 74 years, we use this as a cutoff for the age subgroup analysis. We note that the model shows similar discrimination for Black and white patients, as well as for female and male patients (Appendix Table 4). The model shows less discrimination for patients 75 years or older, but still improves over random guessing by almost 20% (Appendix Table 4).

(A)

	Race	
	Black	**White**
AUC by group	0.80 [n=966]	0.78 [n=909]
Overall AUC	0.79 [N = 1,875]	

(B)

	Gender	
	Female	**Male**
AUC by group	0.81 [n=1,000]	0.79 [n=1,088]
Overall AUC	0.80 [N = 2,088]	

(C)

	Age	
	< 75	**75 or older**
AUC by group	0.80 [n=1,503]	0.68 [n=585]
Overall AUC	0.80 [N = 2,088]	

AUC values are calculated with predictions assuming a hospital mortality rate of .2 for all patients, using the full complete cases dataset (derivation and validation sets combined with complete cases for the variables included in the risk model).
The subgroup analysis for race excludes individuals who were not identified as either Black or white in the dataset, and therefore the overall AUC is calculated with this subset of the data.

eTable 4: AUC by subgroup. (A) Race. (B) Gender. (C) Age.