Introduction:
Intensive care unit (ICU) admission triage occurs frequently worldwide and often involves decisions with high subjectivity, possibly leading to potentially inappropriate ICU admissions. In this study, we evaluated the effect of implementing a decision-aid tool for ICU triage on ICU admission decisions.

Methods:
Urgent ICU referrals before (May, 2014 to November, 2014, phase 1) and after (November, 2014 to May, 2015, phase 2) the implementation of a decision-aid tool were prospectively evaluated. Our primary outcome was the proportion of potentially inappropriate ICU referrals (defined as priority 4B or 5 patients, as described by the 1999 or 2016 Society of Critical Care Medicine [SCCM] guidelines) that were admitted to the ICU in 48 hours following referral. We conducted multivariate analyses to adjust for potential confounders, and evaluated the interaction between phase and triage priorities to assess for differential effects in each priority strata.

Results:
Of 2374 urgent ICU referrals, 110 (5%), 161 (7%), 284 (13%), 726 (33%) and 928 (42%) were categorized as priorities 4B, 4A, 3, 2 and 1 (SCCM 1999) or 110 (4.6%), 115 (4.8%), 887 (37%), 169 (7%) and 928 (39%) were categorized as priorities 5, 4, 3, 2 and 1 (SCCM 2016), respectively. Overall, 1184 (54%) patients were admitted to the ICU in 48 hours following referral. The implementation of the decision-aid tool was associated with a reduction of admission of potentially inappropriate ICU referrals [adjOR (95% CI) = 0.36 (0.13-0.97), p = 0.043] (figure 1). There was no difference on hospital mortality for the overall cohort between phase 1 and phase 2.

Conclusion:
The implementation of a decision-aid tool for ICU triage was associated with a reduction of potentially inappropriate ICU admissions.

Image 1: