Introduction:
Frailty has shown to have prognostic relevance for patients with critical illness. Since a wide range of tools has been described to screen for frailty, we aimed to describe the association of two frailty screening tools, the Clinical Frailty Scale (CFS) score and the modified Frailty Index (mFI) in critically ill patients.

Methods:
We performed a post-hoc analysis of a multicenter cohort of patients admitted to six Canadian Intensive Care Units (ICU) between February 2010 and July 2011. Frailty was identified using the Clinical Frailty Scale (CFS) and the modified Frailty Index (mFI). Concordance of the frailty screening tools was evaluated with partial Spearman rank correlation and intraclass correlation (ICC). Discrimination and predictive ability of the tools for hospital mortality, 1-year mortality, hospital readmission and adverse events were compared using concordance statistic (C-statistic) and calibration plot adjusting for age, sex, Sequential Organ Failure Assessment (SOFA) score and ICU admission source, respectively.

Results:
The cohort included 421 patients. Prevalence of frailty was 32.8% (95% confidence interval [CI] 28.3%–37.5%) with the CFS and 39.2% (95% CI 34.5%–44.0%) with the mFI. Concordance between the two tools was low [(ICC of 0.37; 95% CI 0.29-0.45) and partial correlation coefficient of 0.38 (95% CI 0.29-0.47)], even after adjustment. Hospital and 1-year mortality were greater for frail compared to non-frail patients using of both tools. Similarly, both tools found frail patients were less likely to be living independently after hospital discharge, and more likely to be rehospitalized when compared to non-frail patients.

Conclusion:
While the CFS and mFI show low concordance, both showed good discrimination and predictive validity for hospital mortality. Both tools identify a subgroup of patients more likely to have worse clinical outcomes.