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Introduction:
The aim of this study was to prospectively validate the use of low d-dimer levels in combination with a low National Early Warning Score (NEWS) to identify medical patients at low risk of 30-day mortality in an unselected cohort representative of acutely ill patients normally seen in an emergency department (ED).

Methods:
In this prospective observational study, plasma d-dimer levels and NEWS of all acute adult consenting medical patients presenting to the ED at the Hospital of South West Jutland were assessed at arrival. 30-day survival status was extracted from the Danish Civil Registration System which ensured complete follow-up. Patients were sorted by high and low d-dimer with a cut-off value of 0.50 mg/L and additionally by high and low NEWS with a cut-off score of 2.

Results:
The final study population consisted of 1516 patients with a median (25-75 percentile) age 66 years (52-77) of which 49.4% were female. 791 (52.2%) patients had a low d-dimer (<0.50 mg/L) of which 3 (0.38%, 95%CI 0.12-1.17%) died within 30 days; all of these patients had a low NEWS (<2). 725 (47.8%) patients had a high d-dimer (≥0.50 mg/L) of which 32 (4.4%, 95%CI 3.14-6.18) died; 12 (37.5%) of these had a low NEWS (<2). Comparing 30-day mortality for patients with high and low d-dimer, the odds ratio is 12.3 (95%CI 3.7-40.3). 14 of the 35 patients (40.0%) who died had a low NEWS at presentation to the ED.

Conclusion:
Low d-dimer levels appear to identify patients at low risk of 30-day mortality. The addition of NEWS does not appear to increase this ability. Further validation is needed.