

Supplementary information

Treatment escalation plans at Northumbria Healthcare Trust

Northumbria Healthcare Trust (NHCT) has had a standardised treatment escalation plan (TEP) document since 2016, when the trust was restructured alongside the opening of its purpose-built acute care hospital, Northumbria Specialist Emergency Care Hospital (NSECH). NSECH has emergency medicine consultants on site 24 hours a day seven days a week, alongside medical and surgical consultants during daylight hours and non-resident overnight. The trust care model is for all patients to be admitted to NHCT via the NSECH emergency department (ED) and for admitted patients to be seen within 12 hours by a consultant. Notes from the first consultant assessment are completed on a standardised template, within which is included a prompt to complete a TEP document and, if applicable, to review do not attempt resuscitation (DNAR) discussions and documents. The TEP plan is clearly laid out to document perceived suitability for level 2 (for example, vasopressors or non-invasive ventilation) or level 3 (intensive care unit) care and is regularly audited with high completion rates (internal unpublished data). Timely and clearly documented ceiling of care decisions support junior clinicians and improve patient flow.

Selection of clinical variables

Data were collected early in the COVID-19 pandemic, with variables selected for relevance as perceived from evidence available at that time. We collected data including demographics (age, gender, place of residence, height, weight), past medical history (for example, previous history of hypertension, diabetes mellitus, solid organ malignancy or venous thromboembolism), current medications (for example, immunosuppression, corticosteroids, angiotensin converting enzyme inhibitors, metformin) common serum blood tests (for example, lymphocytes, neutrophils, creatinine), admission arterial and venous blood gases (for example, pO₂, pCO₂, base excess), changes on chest X-ray, clinical frailty and clinical observations (for example, blood pressure, heart rate, supplementary oxygen requirements).

Additionally, we had collected data on symptoms at presentation, such as presence of cough, subjective pyrexia, gastrointestinal changes and dyspnoea. However, we later had concerns regarding the reliability of collecting this data from clinical records, so elected not to analyse this data.

We did not report results from univariate logistic regression of categorical variables if the positive rate was less than 25%, due to concerns of small sample size.