Validation of a Palliative or End of Life Care Case-Finding Measure in Emergency Medical Services

AJE Carter, M Harrison, J Goldstein, M Arab, B Stewart, JL Jensen, A Muise

Introduction

The novel Paramedics Providing Palliative Care at Home program has been developed to address the mismatch between traditional paramedic practice and patient's goals of care. Case-finding is key to estimate potential impact for systems looking to establish such programs, continuous quality improvement once operational, and for prospective identification of patients who might benefit from referral to palliative care. Typical paramedic charting templates do not provide direct identification of these cases. Our objective was to test the validity of a previously derived Palliative Support Composite Measure (PSCM) and two modifications.

Methods

A priori Gold Standard criteria for determining whether a response was appropriate for a paramedic palliative care approach were identified by expert consensus. Excluding chief complaints and clinical conditions that were universally identified as not appropriate for paramedic palliative support, these criteria were applied by two trained chart abstractors to 500 consecutive charts to classify calls as appropriate for paramedic palliative support, or not. The PSCM and modifications (added criteria call location type and registration in a palliative care program, text mining terms) were applied to the same cohort, and sensitivity, specificity, positive and negative predicative (PPV/NPV) values calculated.

Results

Of the 500 cases, 21 (4.2%) were classified as appropriate for paramedic palliative support by the Gold Standard (kappa 0.734). 9 cases with initial disagreement were reviewed with 8 ultimately being deemed to fit the palliative support criteria. The PSCM performed poorly (using the "potential palliative" cut point): sensitivity 71.4% (95%CI: 47.8-88.7), specificity 71.4% (95%CI: 67.1-75.4) and PPV of 9.9% (95%CI: 7.5-12.9) and NPV of 98.3% (95%CI: 96.7-99). The modified PSCM: sensitivity 61.9% (95% CI: 38.4-81.9), specificity 99% (95%CI: 97.6-99.7), PPV 72.2% (95%CI: 50.5-86.9) and NPV 98.3% (95%CI: 97.2-99). A Modified PSCM plus pall* text term performed similarly: sensitivity100% (83.9-100), specificity 97.3% (95% CI: 95.4-98.5), PPV 61.8% (95%CI: 48.6-73.4) and NPV100%.

Conclusion

A modified PSCM provides moderate sensitivity, specificity and PPV, improved by the text term Pall* if feasible. This query will be helpful to systems considering a paramedic palliative care program or when one is already operational.