Title: Using an EHR Cognitive Computing Model to Identify Emergency Department Patients Who May Benefit from Palliative Care Intervention

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Problem Statement: The need for palliative care (PC) among patients admitted to University of Colorado Hospital (UCH) Emergency Department (ED) exceeds the resources of Palliative Care Social Workers (PCSWs) assigned to the ED. Screening tools are needed to help PCSWs determine which patients benefit most from PC consultation.

Purpose: The UCH electronic health record contains a cognitive computing model, the End-of-Life Index (EOLI), that identifies patients at high risk of death within 12 months. This Quality Improvement project examined the EOLI usefulness in the UCH ED as a screening tool to identify patients who might benefit from PC consultation.

Methods: EOLI and ED disposition for all patients evaluated by the PCSW during June 2023 were reviewed.

Findings: EOLI at ED admission identified 36/81 (44%) of consulted patients as high risk, and 20/36 (56%) of those PC consultations admitted to the hospital as high risk. Of those admitted to hospice, 3 of 5 had a high EOLI. Of those connected with community PC, 4 of 6 had high EOLI. There was a subset of patients with low EOLIs who were still appropriate for PC consultation; those with non-end-stage chronic disease, and patients seen for the purpose of completing MDPOA or other forms.

Conclusions: Lack of data early in the ED admission limits EOLI's usefulness in identifying those patients who ultimately receive PC services. Periodic recalculation over the course of the admission may improve its sensitivity. Not all patients who benefit from PC services will have a high EOLI. The EOLI will likely not be used as a single decision tool; but rather, in conjunction with other data. Future projects include use of a data extraction tool to obtain EOLI for all ED patients at admission, and again one hour after admission, to better evaluate EOLI's ability to identify high risk patients.