Stepped palliative care, with visits occurring only at key points in the patient's cancer journey, resulted in fewer palliative care visits than conventional early palliative care. The study, presented at the American Society of Clinical Oncology (ASCO) meeting, held May 31 to June 4, in Chicago, and published simultaneously online in the *Journal of the American Medical Association (JAMA)*, found that stepped palliative care did not diminish the quality of life of lung cancer patients, though the authors noted a reduced length of hospice stay at end-of-life.

"Tailoring early palliative care to patients' illness trajectories and care needs is a more patient-centered and scalable way to deliver evidence-based oncology care for patients with advanced cancer," Jennifer Temel, the corresponding author, from Massachusetts General Hospital and Harvard Medical School, Boston, tells *Cancerworld*. "These findings are especially salient as patients with advanced cancer are now living longer while being treated with life-long cancer therapies, so a tailored palliative care model enables greater dissemination of palliative care services while ensuring patients receive the care they need when they need it."

There is good evidence that early palliative care, introduced either at time of diagnosis or when life expectancy is estimated to be limited, improves patient outcomes. However, the approach has not been widely implemented due to shortages of palliative care clinicians, highlighting the need for models that are less resource intensive.

The stepped-care model ensures that patients are introduced to palliative care at the time of diagnosis, but then triages further palliative care delivery based on their illness trajectory and quality of life needs.

For the current study, Temel and colleagues developed a stepped approach, where all patients receive minimum contact with specialty-trained clinicians, with more intensive treatment triggered using decrements in quality of life. "A key element of this model is that patients must be monitored systematically and 'stepped' up to more intensive treatment if less exposure to the clinician does not achieve sufficient benefit," write the authors.

Between February 2018 and December 2022, 507 patients with advanced lung cancer (non-small-cell lung cancer and small cell lung cancer) and mesothelioma, from three academic medical centres in Boston, Philadelphia and Durham, who were not being treated with curative intent, were randomised 1:1 to stepped palliative care (n=250) or early palliative care (n=257).

The stepped approach starts with Step 1, involving an initial palliative care visit within four weeks of study enrolment and subsequent visits only at the time of change in cancer treatment or after a hospitalisation. During the first stage patients completed quality of life questionnaires every six weeks. Those with a 10-point or greater decrease in scores from baseline (indicating reduced quality of life) were advanced to Step 2, involving meeting a palliative care clinician every four weeks. Patients assigned to the early palliative care arm had palliative care visits every four weeks following enrolment.

Results showed that the mean number of palliative care visits by week 24 were 2.4 for stepped palliative care vs 4.7 for early palliative care (adjusted mean difference –2.3; P<0.001). The mean number of visits at week 48 continued to be lower for stepped palliative care: 3.8 vs 7.7 visits.

At week 24, mean scores for the quality of life measure Functional Assessment of Cancer Therapy-Lung [FACT-L] were non-inferior for those receiving stepped palliative care (adjusted mean score 100.6 vs 97.8 for early palliative care, P<0.001 for non-inferiority).

The proportion of patients assigned to stepped palliative care who reported discussing end-of-life

preferences were non-inferior for stepped palliative care – 30.4% for stepped vs 33.0% for early (P=0.09).

For deceased participants, 71.9% of patients in the stepped palliative care group vs 77.2% in the early palliative care group had received hospice care prior to death.

The adjusted mean hospice stay was 19.5 days for those assigned to stepped palliative care vs 34.6 days for those assigned to early palliative care (–25; P=0.91 for non-inferiority).

Notably, other important patient reported outcomes, including depression symptoms and prognostic understanding, showed no difference between the two study groups.
"Stepped palliative care holds considerable promise to increase the scalability of integrated palliative and oncology care by maintaining the effect of early palliative care on patients' QOL [quality of life] and other salient patient-reported outcomes with fewer palliative care visits," write the authors.

Temel adds, "To our knowledge, this is the first randomised trial to establish the non-inferiority of a palliative care strategy that's tailored to a patient's needs by triggering more intensive palliative care services based on patient-reported quality of life, compared with resource-intensive early palliative care."

Developing new technologies such as predictive modelling that allow automated queries from health records, more widespread implementation of standard patient-reported outcome measure collection and machine learning prognostic models, add the authors, would facilitate use of stepped palliative care.

Addressing the significantly shorter end-of-life hospice stays found for stepped palliative care, Temel says, "Length of stay in hospice is a quality metric for end-of-life care, so an important outcome to monitor. We found that both study groups did have long length of stays in hospices, although they were shorter for the stepped palliative care group. In further research we will integrate strategies to ensure patients in the last months of life step up to more frequent palliative care visits."

The team also plan to evaluate the cost-effectiveness of stepped palliative care compared with early palliative care.