

Tool can identify harmful medications in older adults with cancer, study finds

Researchers analysed patient record data to identify patients that were prescribed one or more potentially inappropriate medications, which are considered to be high-risk for older adults.

The study analysed data from 388,113 US veterans with newly diagnosed cancer between January 2000 and December 2022

A tool to identify potentially harmful medications in older adults with cancer can accurately pinpoint medications linked with a greater risk of frailty, unplanned hospitalisation and mortality, study results suggest.

In a retrospective cohort study, published in *The Journal of the National Comprehensive Cancer Network* on 10 September 2025, researchers used electronic patient record data to identify patients that were prescribed one or multiple geriatric oncology potentially inappropriate medications (GO-PIMs), which are medicines identified by the National Comprehensive Cancer Network to be high-risk in older adults.

It found that an increasing number of GO-PMs — as identified by the GO-PIMs scale — was independently associated with greater risk of frailty at diagnosis, unplanned hospitalisation during follow-up and mortality.

Researchers analysed data from 388,113 US veterans with newly diagnosed cancer between January 2000 and December 2022.

The study revealed that more than one-third (38%) of participants were prescribed one or more GO-PIMs — 12% received selective serotonin reuptake inhibitors, 10.4% received opioids, 9.2% received benzodiazepines and 9.2% received corticosteroids.

The type of GO-PIM prescribed varied depending on cancer type and wider prescribing trends — for example, declining rates of opioid and benzodiazepine prescribing over the later years of the study period, the study results showed.

Researchers said that after adjusting for covariates, each additional GO-PIM was associated with a 66% increase in the odds of being mildly or moderate-to-severely frail at diagnosis, as well as with a higher hazard of unplanned hospitalisation (Cox regression adjusted hazard ratio [aHR], 1.08; 95% CI, 1.07–1.08) and death (Cox regression aHR, 1.07; 95% CI, 1.06–1.07), after adjusting for frailty and all covariates.

Commenting on the study, Darren Walsh, geriatric oncology pharmacist at the Geriatric Oncology Assessment Liaison Clinic at the University Hospital Waterford and member of the British Oncology Pharmacy Association Geriatric Oncology Specialist Advisory Group, said the GO-PIMs scale could be an “incredibly useful tool for all pharmacists caring for older adults with cancer”.

However, he cautioned that medications should still be reviewed “taking into account the context of the patient’s prognosis”, with shared decision-making in line with the patient’s care goals.

Vanya Slavova-Boneva, a specialist senior adult oncology programme pharmacist at the Royal Marsden Hospital NHS Foundation Trust in London, highlighted that the use of benzodiazepines, opioids and

corticosteroids in older adults with cancer “depends on specific cancer conditions and treatment goals and symptom management needs”.

“It is not clear whether the tool considers the appropriateness of medications for cancer stage, treatment goals or symptom severity.”

“This work identifies certain medications as problematic, but these drugs might be suitable for specific cancer cases and symptom management,” she said.

“The study does not differentiate between active treatment, supportive care and end-of-life care, limiting its relevance to real-world decision-making.”

Slavova-Boneva also stressed that non-prescription medications, supplements and prescriptions not listed on patient records may also contribute to polypharmacy not identified by this tool.

She noted that the research faces limitations owing to its dataset consisting mainly of white male veterans aged under 85 years and, therefore, includes few women-specific cancers.

“The tool functions best as a warning system for healthcare providers who need to make individualised decisions about medication use especially when treating patients in palliative care,” Slavova-Boneva added.

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