Predictors of Unplanned Hospitalizations in Patients With Nonmetastatic Lung Cancer During Chemotherapy

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Purpose/Objectives: To determine predictors of unplanned hospitalizations in patients with lung cancer to receive chemotherapy in the outpatient setting and examine the potential financial burden of these events.

Design: Retrospective, longitudinal cohort study.

Setting: The National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER)–Medicare linked database.

Sample: Of 104,388 incident cases of lung cancer diagnosed from 2005–2009, 2,457 cases of patients with lung cancer who received outpatient chemotherapy were identified. Patients were aged 66 years or older at diagnosis, had uninterrupted Medicare Part A and B coverage with no health maintenance organization enrollment, and received IV chemotherapy at least once.

Methods: Generalized estimating equations was used.

Main Research Variables: Patient age, sex, race, marital status, degree of residential urbanization, median income, education level, stage, receipt of radiation therapy, and comorbidities.

Findings: Younger age, non-White race, lower education, higher income, receipt of radiation therapy, and lack of preexisting comorbidity were significant predictors of the likelihood of an initial unplanned hospitalization for lung cancer. Non-White race, receipt of radiation therapy, and comorbidity were factors associated with an increased number of hospitalizations.

Conclusions: Unplanned hospitalizations are frequent, disruptive, and costly. This article defines areas for further exploration to identify patients at high risk for unexpected complications.

Implications for Nursing: This article represents a foundation for development of risk models to enable nursing evaluation of patient risk for chemotherapy treatment interruption and unplanned hospitalization.

Unplanned hospitalizations in patients receiving chemotherapy for nonmetastatic cancer disrupt potentially curative treatment regimens, significantly affect quality of life, and are costly to the patient and healthcare system. Efforts to identify patients at risk of requiring unexpected care are needed to prevent negative outcomes and improve care quality and value. Lung cancer is the second most commonly diagnosed cancer in Americans, with an average age of 70 years at presentation, and the leading cause of cancer deaths (American Cancer Society, 2016). Treatment typically includes combinations of surgical resection, chemotherapy, radiation therapy, targeted agents, and biotherapy, depending on histology, stage, and molecular characteristics. Extensive research has focused on identification of factors associated with increased risk of readmission postsurgery in this population (Hu, McMurry, Isbell, Stukenborg, & Kozower, 2014; McDevitt et al., 2013;