

# **Social Determinants of Health and Emergency Department Utilization for Genitourinary Complications in Patients with Genitourinary Cancers: A Retrospective Cohort Study**

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## **Background:**

Genitourinary (GU) complications are a common reason for emergency department (ED) visits, particularly among patients with GU cancers who represent approximately 1 in 16 cancer-related ED encounters. Urinary tract infections (UTIs) are the leading GU complication, accounting for over 3% of cancer-related ED visits. Patients with GU malignancies often experience overlapping complications, such as infections, obstruction, or postprocedural issues, reflecting underlying disparities in access to care and coordination. To our knowledge, this study is the first to examine this issue in Northwest Indiana (NWI), focusing on demographic, clinical, and social factors associated with ED presentation for GU complications. The goal is to inform community-based interventions targeting cancer disparities in NWI.

## **Methods:**

This retrospective cohort study included patients with GU cancers who presented to the ED at three NWI hospitals from January 2021 to March 2025. GU cancers and complications were identified using ICD-10. The primary outcome was ED presentation for GU complications (yes/no). Data were extracted from EPIC. Analyses included descriptive statistics, bivariate analysis (Chi-square, Kruskal-Wallis), and binary logistic regression using SPSS 31.0 ( $p < 0.05$ ). The study was IRB-exempt (IRB #14040) through Indiana University.

## **Results:**

Among 534 patients, bivariate analysis showed significant ( $p < 0.05$ ) associations between GU complications and age, sex, ethnicity, insurance type, smoking status, ED disposition, and return visits (30-day and 90-day). Multivariate analysis revealed increased age (OR=1.034,  $p < 0.001$ ) and 90-day return visits (OR=3.603,  $p = 0.001$ ) were associated with higher odds of ED presentation. Hispanic ethnicity (OR=0.557,  $p = 0.049$ ) and current smoking (OR=0.369,  $p = 0.002$ ) were associated with lower odds of ED presentation.

## **Conclusion:**

Multiple sociodemographic and clinical factors were independently associated with ED presentation for GU complications. These findings may guide targeted interventions, risk stratification, and future research aimed at addressing structural inequities and care coordination among patients with GU cancer.