

Insurance Status and In-Hospital Outcomes Among Adults With Acute Leukemia: A Nationwide Analysis (2016–2021)

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INTRODUCTION

High-Acuity Need: Acute myeloid leukemia and acute lymphoblastic leukemia require rapid, intensive, and high-cost inpatient interventions to prevent early mortality.

Access Barrier: Health insurance coverage serves as the primary gateway to timely hematologic care, diagnostic testing, and specialized oncologic therapies.

Knowledge Gap: While health disparities in oncology are documented, the specific impact of insurance status on inpatient survival and resource consumption (hospital charges and length of stay) remains understudied at a national scale.

Study Rationale: Quantifying these disparities across Medicare, Medicaid, private insurance, and uninsured populations provides critical evidence to inform health policy and improve equitable access to life-saving care.

AIM

To evaluate the independent association between insurance status, in-hospital mortality, and healthcare resource utilization among older adults (> 50 years) hospitalized with acute leukemia using a nationally representative US cohort.

METHOD

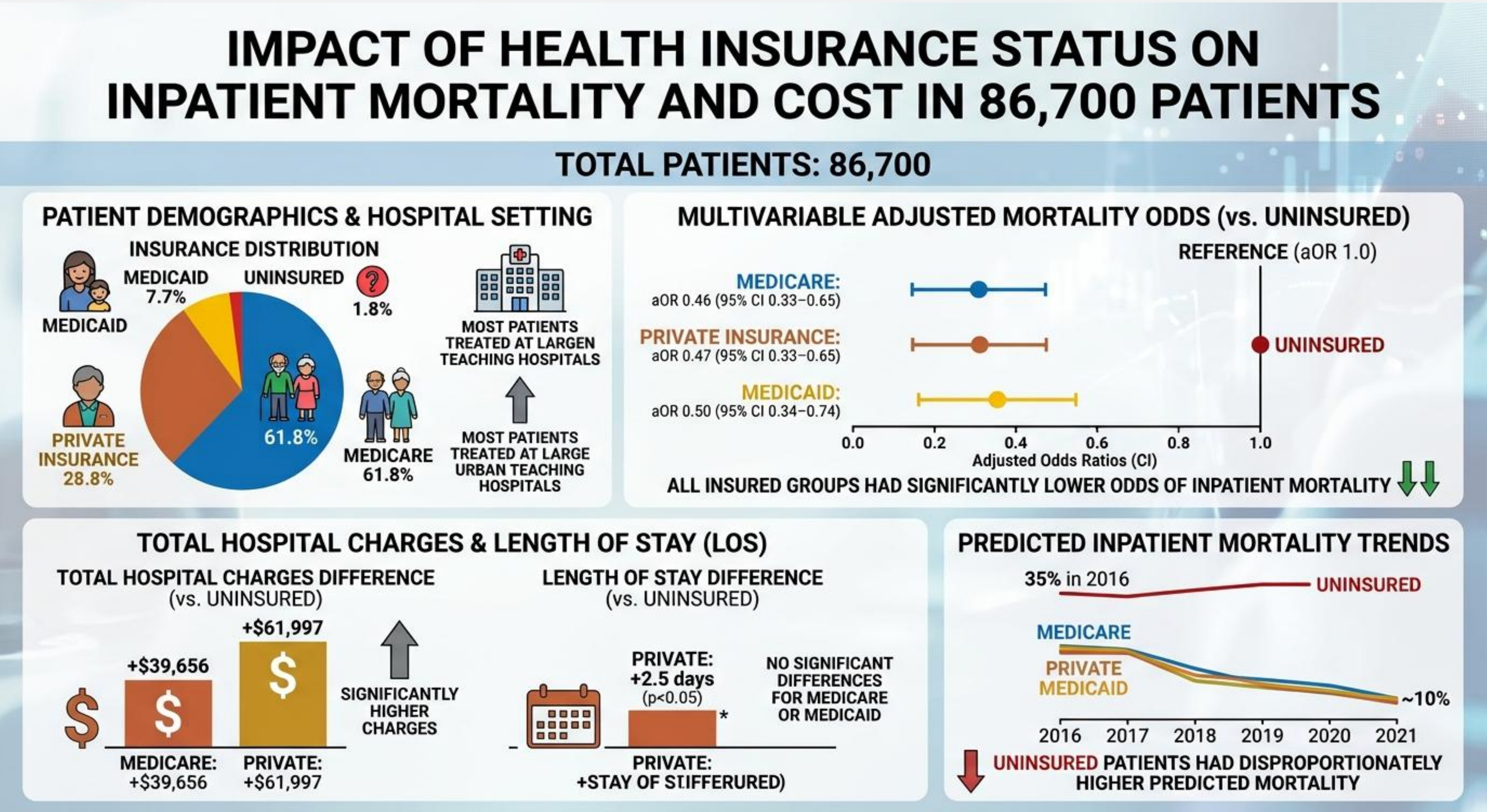
- Dataset:** National Inpatient Sample (NIS), 2016–2021.
- Population:** Adult patients (> 50 years) hospitalized with a primary diagnosis of AML or ALL (>N = 86,700).
- Stratification:** Medicare, Medicaid, Private Insurance, Uninsured (reference group).
- Statistical Analysis:** Multivariable logistic and linear regression models adjusted for demographics, Charlson Comorbidity Index, and hospital characteristics.

CONCLUSIONS

- Mortality Impact:** Lack of insurance is a strong, independent predictor of in-hospital mortality in adult acute leukemia.
- Resource Disparity:** Insured patients undergo more intensive diagnostic and therapeutic pathways, evidenced by significantly higher hospital charges and longer stays.
- Policy Implication:** Structural policy interventions expanding coverage are urgently required to eliminate financial barriers to life-saving hematologic care.

RESULTS

- Peak Disparity:** Uninsured mortality peaked at **35%** in 2016.
- Convergence:** Insured groups stabilized around **~10%** mortality by 2021, leaving a persistent survival gap for uninsured patients.
- Setting:** The vast majority of care was delivered at large, urban teaching facilities.



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