

Hospital Concentration and Payer-Based Patterns in Inpatient Neuro MRI Utilization

A New York State Analysis • 2019–2023

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BACKGROUND

Advanced neuroimaging is **central to inpatient neurologic care**, yet statewide patterns of inpatient neuro MRI utilization by **payer and hospital structure** remain poorly characterized. We analyzed payer distribution, care pathways, diagnosis mix, and hospital-level concentration.

METHODS

1 Data Source

NY State SPARCS database, 2019–2023; adult inpatient hospitalizations involving neuro MRI.

2 Identification

MRI encounters identified via Clinical Classifications Software Refined (CCSR) procedure descriptions; primary payer categorized as Medicare, Medicaid, Commercial, or Other.

3 Analyses

Payer mix, temporal trends, ED-associated utilization, diagnosis distribution, and hospital-level concentration.

CONCLUSION

Inpatient neuro MRI utilization in NY State shows **payer-based differences** in care pathways and **marked hospital-level concentration**. These findings emphasize structural factors influencing access to advanced inpatient neuroimaging and may inform resource allocation across health systems.

RESULTS — HOSPITAL CONCENTRATION

Inpatient Neuro MRI Encounters by Hospital, NY State 2019–2023

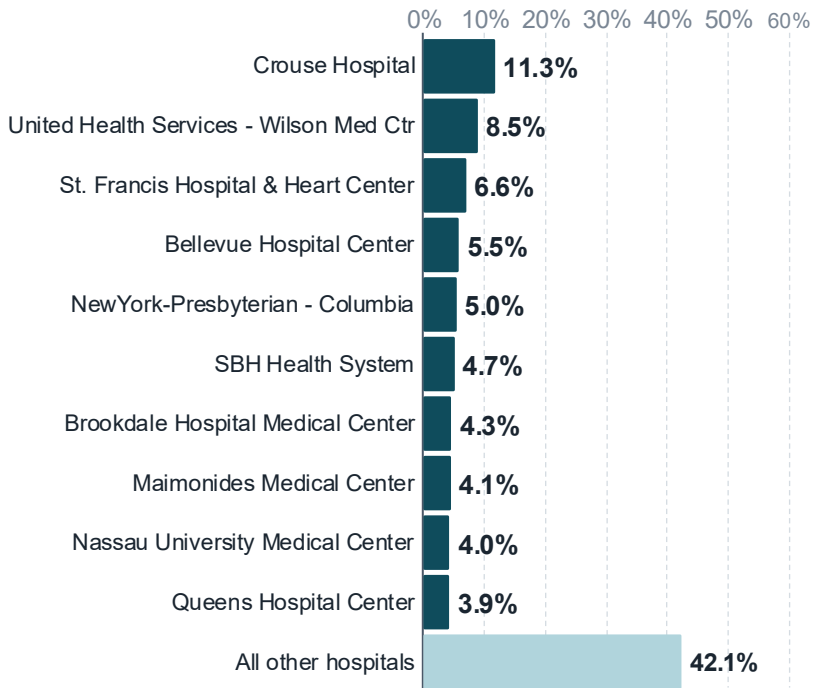


Figure 1. Distribution of inpatient neuro MRI encounters across hospitals in NY State, 2019–2023. The top 10 hospitals accounted for 57.9% of all encounters despite participation from 130+ hospitals.

KEY FINDINGS

7,079
encounters inpatient neuro MRI encounters identified statewide (2019–2023)

57.9%
top 10 hospitals of all encounters concentrated in 10 hospitals despite 130+ statewide participants

62.3%
ED-associated of encounters; highest ED utilization among Medicaid and Medicare patients

PAYER & DIAGNOSIS MIX

Payer mix: Medicare 49.4%, Medicaid 27.1%, Commercial 19.0%, Other 4.5%.

Trend: Medicaid share rose 23.4% → 29.2%; Medicare declined 51.9% → 47.4% (2019–2023).

Top indications: cerebral infarction (49.9%), TIA (11.7%), epilepsy/convulsions (10.0%), headache (4.9%), acute hemorrhagic CVD (4.4%).