THE UNIVERSITY OF TENNESSEE HEALTH SCIENCE CENTER

Inequities in Access and Impact of Post-Stroke Home Occupational Therapy Services in a Statewide Medicaid Population

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Background

- **Stroke or cerebrovascular accident (CVA)**
  - **Leading cause of death & disability**
- **Occupational Therapy Services**
  - **Key component of rehabilitation**
  - **Improves functional Recovery & QOL**

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Inequities in CVA Incidence & Outcomes

- Minorities & Individuals of Low SES
  - Increased mortality
  - Poorer outcomes
  - Reduced access to services

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Research Questions

- Do racial, gender-based, and geographic inequities impact access and utilization of OT services?

- Does the receipt of OT services reduce hospital readmissions?

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Specific Aims:

Overall goals: To determine whether Medicaid patients experience racial, gender-based, and geographic inequities in access and utilization of post-stroke OT services, and if these differences in exposure to OT services account for differences in readmission rates for those groups at greatest risk.

Specific Aim 1: Quantify racial, gender, and geographic inequities in access and utilization of home-based OT services and hospital readmissions post stroke.

Specific Aim 2: Examine the impact of access and utilization of post-stroke home-based OT services on hospital readmission.

Specific Aim 3: Determine if differences in access and utilization of post-stroke OT services mediate racial, gender, and geographic inequities in hospital readmissions.

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Expected Outcomes

Hypothesis: African-Americans, men, and those residing in health professional shortage areas (HPSA), low-income areas, and rural areas will have poor access to home-based OT services and higher readmissions rates. Lack of OT access and utilization will be associated with hospital readmissions and that access and utilization of post-stroke OT services will mediate racial, gender, and geographic differences in hospital readmissions.

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Methods

Study Design and Population:

- Retrospective Cohort Study
- Tennessee Medicaid claims data (2016–2020)
- Adults (age ≥18 years)
- Principal inpatient diagnosis of ischemic stroke
- Continuous Medicaid enrollment throughout the study period
- Followed at least 30 days & max 90 days from d/c date (index discharge)

Exclusion Criteria

- Diagnosis of stoke during baseline period
- Death during index admission
- Discharge against medical advice
- Transfer to an acute facility after index discharge

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Methods

Outcomes

Access to OT services- whether or not patients received post-stroke OT services
Utilization of OT services- number of post-stroke OT visits
30- and 90-day hospital readmissions following index discharge- assessed using the Centers for Medicare and Medicaid Services (CMS) validated Readmission Following Acute Ischemic Stroke Hospitalization Measure

Main Independent Variables:

1) Race defined as African-Americans vs. Whites/Others
2) Gender (male vs. female)
3) Patient residence in HPSA vs. non-HPSA and rural vs. urban

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Preliminary Analysis

2016 to 2020 Tennessee Medicaid claims data available in the Tennessee Population Health Data Network (TN-POPnet)

674 patients met inclusion and exclusion criteria

8.6% received OT services within 30 days post-index discharge

Odds of receiving OT services decreased with increasing age (OR 0.97 [95% CI 0.95 – 1.00])

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Preliminary Analysis

OT services less likely to be provided to women, those living in a designated HPSA, and those with a high comorbidity index (OR 0.68 [95% CI 0.38–1.23] for women, 0.80 [95% CI 0.42–1.53] for HPSA, and 0.96 [95% CI 0.82–1.12] for comorbidity index)

African Americans (AA) more likely to receive OT services (OR 1.23 [95% CI 0.67–2.29])

The receipt of OT services within 30 days after stroke discharge was associated with lower 30 days hospital readmissions (OR 0.40 [95% CI 0.09 – 1.67]), but no associations were statistically significant.

Conclusions: Low access to OT services post-stroke discharge. Gender and geographic disparities exist with the use of OT services. Providing OT services after hospital discharge could result in lower 30-day readmissions.

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Data Analysis

Logistic regression analyses will be conducted for binary outcomes of access to OT services and 30-day & 90-day readmissions.

Depending on distribution of number of OT services, conduct poisson or negative binomial regression analyses

Aim 3: Assess mediating effects of access and utilization of poststroke OT services on racial, gender, and geographic inequities in hospital readmissions.

Bootstrapping mediation analysis will be used to estimate the indirect relationships between:
1) race, gender and geographic factors
2) mediating variables (access and utilization), and
3) readmissions, respectively, to determine whether exposure to OT services accounts for differences (inequities) in readmission rates by race, gender, and geographic factors.

Indirect effects will be examined using 5,000 bootstrap samples to calculate 95% confidence interval.

All regression models will be controlled for covariates including age, claims-based stroke severity, length of stay, and Charlson comorbidity index.

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Impact

This project will generate important information about racial, gender-based, and geographic inequities in access to post-stroke OT services for the Medicaid population and the impact of these inequities on critical patient outcomes.

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Questions?

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