

2017

# Reduced Cost and Decreased Length of Stay Associated with Acute Ischemic Stroke Care Provided by Nurse Practitioners: A Single Primary Stroke Center Experience

Leah Roering NP

CentraCare Health, leah.roering@centracare.com

Michelle Peterson NP

CentraCare Health, michelle.peterson@centracare.com

Muhammad Shah Miran MD

Melissa Freese

CentraCare Health, freesem@centracare.com

Kenneth Shea MD

kenneth.shea@centracare.com

*See next page for additional authors*

Follow this and additional works at: [https://digitalcommons.centracare.com/nursing\\_posters](https://digitalcommons.centracare.com/nursing_posters)



Part of the [Neurology Commons](#), and the [Other Nursing Commons](#)

---

## Recommended Citation

Roering, Leah NP; Peterson, Michelle NP; Shah Miran, Muhammad MD; Freese, Melissa; Shea, Kenneth MD; and Suri, M Fareed K. MD, "Reduced Cost and Decreased Length of Stay Associated with Acute Ischemic Stroke Care Provided by Nurse Practitioners: A Single Primary Stroke Center Experience" (2017). *Nursing Posters*. 76.

[https://digitalcommons.centracare.com/nursing\\_posters/76](https://digitalcommons.centracare.com/nursing_posters/76)

This Book is brought to you for free and open access by the Posters and Scholarly Works at DigitalCommons@CentraCare Health. It has been accepted for inclusion in Nursing Posters by an authorized administrator of DigitalCommons@CentraCare Health. For more information, please contact [schlepers@centracare.com](mailto:schlepers@centracare.com).

---

**Authors**

Leah Roering NP, Michelle Peterson NP, Muhammad Shah Miran MD, Melissa Freese, Kenneth Shea MD,  
and M Fareed K. Suri MD



# Reduced Cost and Decreased Length of Stay Associated with Acute Ischemic Stroke Care Provided by Nurse Practitioners: A Single Primary Stroke Center Experience

Leah Roering APRN, CNP, FNP-BC

Centracare St. Cloud Hospital,  
St. Cloud, Minnesota



## Introduction

The Nurse Practitioner (NP) has a wider role in modern stroke centers providing quality evidence based care to patients in both in and outpatient settings for acute ischemic stroke (AIS) and transient ischemic attack (TIA) patients. We studied the outcome measures, length of stay (LOS) and cost before and after implementation of nurse practitioners as the primary medical provider in a community based stroke center

## Methodology

St. Cloud Hospital is an acute care hospital with dedicated stroke services responsible for workup and management of all patients admitted with AIS and TIA. From March 2014-March 2015, all patients were primarily managed by stroke neurologists with or without support of NPs, representing physician driven arm. From June 2015-March 2016 all non-critical patients were managed primarily by NPs, representing the NP driven arm of care. For this analysis, we excluded all patients with subarachnoid hemorrhage and intracerebral hemorrhage. Using ICD codes, we abstracted LOS and hospitalization cost for all patients, and compared between two arms.

## Analysis/Results

A total of 822 patients were included in the physician arm and 336 in NP arm. The mean age was 72±14 years for both arms, and 54.4% were male in the physician arm and 57.4% were male in the NP arm. The mean total LOS for the physician arm was 3.1 ±3.3 days while 2.9±3.6 for NP arm (p=0.6). The total cost for physician arm was \$11,286.70 ±\$10,920.90 while the NP arm was \$10,277.30± \$10,142.30 (p=0.1).

Characteristics	NP arm (n=336)	Physician arm (n = 822)	P Value
Age (mean± SD)	72±14 years	72±14 years	
Gender (male %)	57.4	54.4	
LOS (mean± SD)	2.9±3.6	3.1 ±3.3	0.6
Cost (\$) (mean± SD)	10,277.30 ± 10,142.30	11,286.70 ±10,920.90	0.1

## Conclusions/Implications

There is a trend towards lower cost and length of stay with implementation of NPs as the primary stroke provider for patients admitted with acute ischemic stroke and transient ischemic attacks.

## Team Members

Michelle Peterson, APRN, CNP, AGNP  
Melissa Freese BSN, RN, CNRN,SCRN  
Muhammad Shah Miran, MBBS  
Kenneth Shea MD  
M. Fareed K. Suri, MBBS

## References

Condon, C., Lycan, S., Duncan, P., & Bushnell, C. (2016). Reducing readmissions after stroke with a structured nurse practitioner/registered nurse transitional stroke program. *Stroke*, STROKEAHA-115.

Kapu, A. N., Kleinpell, R., & Pilon, B. (2014). Quality and financial impact of adding nurse practitioners to inpatient care teams. *Journal of Nursing Administration*, 44(2), 87-96.

Mozaffarian, D., Benjamin, E., Go, A., Arnett, D. K., Blaha, M. J., Cushman, M., ... & Howard, V. J. (2015). AHA statistical Update. *Heart Dis. stroke*, 132.

Newhouse, R. P., Stanik-Hutt, J., White, K. M., Johantgen, M., Bass, E. B., Zangaro, G., ... & Weiner, J. P. (2011). Advanced practice nurse outcomes 1990-2008: a systematic review. *Nursing Economics*, 29(5), 230.

Stanik-Hutt, J., Newhouse, R. P., White, K. M., Johantgen, M., Bass, E. B., Zangaro, G., ... & Weiner, J. P. (2013). The quality and effectiveness of care provided by nurse practitioners. *The Journal for Nurse Practitioners*, 9(8), 492-500.