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

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

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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).

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

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.

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References