Reducing Length of Stay (LOS) following Elective Carotid Endarterectomy (CEA) Surgeries

Objectives

- SVS wants to provide its members added value; focus on actionable research
- LOS is easily measured; reducing it has high financial benefit
- Identify actionable, operational/administrative contributors (non-clinical, non-demographic) and underlying drivers of LOS

3-legged discovery process pointed to candidates prolonging LOS (hypothoses)

- **Literature Review**
  - Elective CEA
- **Database Exploration**
  - Actionable operational & administrative contributors
- **On-Site Visits & Interviews**
  - Standardization (Pathway)
  - Communication (inc. Discharge Plan)
  - Social & non-clinical factors
  - Awareness (Scheduling, Incentives)

Registry

- 86K+ elective procedures
- 2003-2018
- 173 fields
- LOS, Clinical & Demographic data only

Designated Survey

- 18 questions regarding actionable candidates
- Distributed by SVS
- 208 responses from 122 centers
- 119 centers had corresponding registry data

34% center response rate

Sample of n=42,936

Registry

- 86K+ elective procedures
- 2003-2018
- 173 fields
- LOS, Clinical & Demographic data only

Results

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Testing</th>
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</thead>
<tbody>
<tr>
<td>Patients pre-existing demographic information, pre-existing clinical status &amp; events that occur during surgery can explain the variance in length of stay</td>
<td>No individual demographic, clinical or procedure events variables were good predictors of post-operative LOS</td>
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<tr>
<td>Existence of a Clinical pathway reduces LOS</td>
<td>No correlation was found between existence of clinical pathway and LOS</td>
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<tr>
<td>Surgeon-patient and inner-department communication reduces LOS</td>
<td>LOS was not correlated with timing of discharge planning with nursing staff nor with the existence of a pre-op package; Not enough variance in discharge planning with the patients to test</td>
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<tr>
<td>Social, non-clinical factors increase LOS</td>
<td>No correlation was found between the social situations described and LOS</td>
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<tr>
<td>Scheduling optimization reduces length of stay</td>
<td>Not enough variance in LOS awareness when scheduling to test</td>
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</tbody>
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Top Recommendations

1. Adding timestamps (date and time) for admittance and discharge to the registry
2. Examining the magnitude of social-related additional night in the hospital followed by a pilot to address them
3. Conducting surgeon-level studies in addition to facility-level studies in order to identify more opportunities to reduce LOS