Improving Best Cochlear Implant Practices and Financial Sustainability

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Acknowledgment

• Cochlear Medical Advisory Board
• Cochlear Clinical Services
Cochlear Implant Audiology and Speech Services

• Perception that CI programs cannot be profitable

• Expanding criteria for cochlear implantation will result in more candidates

• 18,000 potential CI candidates in Eastern Missouri and Southern Illinois
Cochlear Implant Programs

• The added pressure of healthcare reform coupled with the goal of continued provision of excellent patient care challenges Cochlear Implant (CI) programs to revisit clinical practices. This includes redefining models of care to grow the CI program to increase patient access.

• Objective: increase the number of patients seen per day per audiologist by limiting technical and administrative functions previously performed by Audiologists through the development of best practice guidelines as well as the implementation of a Hearing Aid/Cochlear Implant (HA/CI) coordinator.
Lean Six Sigma (LSS)
8 types of waste

- Defects
- Overproduction
- Waiting
- Non-utilized talent
- Transportation
- Inventory
- Motion
- Extra Processing
Lean Six Sigma (LSS)

• Lean Six Sigma (LSS) is a methodology that relies on a collaborative team approach for problem solving and process improvement.

• The core tool used to drive Lean Six Sigma projects is the DMAIC cycle Define
  Measure
  Analyze
  Improve
  Control
Lean Six Sigma (LSS)

• This is a formal and logical structure to progress through any type of project and get to an end point with tangible business improvements. The Lean journey is described as "not for the faint-heart".

• It is hard work and involves a “top-down” approach, which guarantees a “buy in” by all stakeholders. Implementing and incorporating Lean Six Sigma solutions results in improved, optimized and stabilized business processes.
Lean Six Sigma

• Lean: Eliminate Waste
  Streamlining Processes

• Six Sigma: Increasing Quality and Yield
  Reducing Defects and Variation
Lean Six Sigma

• Does not force choice between quality and saving money
• Grounded in measurement and statistical rigor
• Places quality improvement tools in the hands of the frontline providers
• Results in sustainable long term improvements
Objective

• Utilizing LSS methodologies, a plan was developed to reorganize the Audiology clinic. This includes development of best practice protocols which allow the audiologist to reduce technical and administrative functions by 30%. The training of the non-clinical HA/CI coordinator was critical to provide basic non-reimbursable clinical services for patients and completion of clerical duties.
Clinic Reorganization

- LSS Methodologies
- Best practice protocols
- Reduce non-billable activities by 30%
- Train non-clinical CI/HA coordinator
- Offset cost of coordinator with increased billable activity
Prior to LSS Implementation

• 50% of Audiology time spent on non-billable activity

• Average of 3 patient appointments/day
Baseline Measures

Average Time Spent

<table>
<thead>
<tr>
<th></th>
<th>Calls per day</th>
<th>Mins per call</th>
<th>Mins per day</th>
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<tbody>
<tr>
<td>CI AuDs</td>
<td>5</td>
<td>5.1</td>
<td>25.5</td>
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<tr>
<td>HA AuD</td>
<td>13.5</td>
<td>3.2</td>
<td>43.7</td>
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<tr>
<td>Total</td>
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<td>8</td>
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</tbody>
</table>

Non-billable time
Baseline Measures

Calls by Type

- Scheduling Appt.: 52%
- Voicemail: 18%
- Product Question: 13%
- Device Order: 3%
- Education Question: 1%
- Payment: 1%
- Insurance: 2%
- Study: 3%
- Other: 7%

Majority of time spent scheduling appointments
Best Practice Standards

- Preoperative evaluation protocols
- Templated evaluations
- Initial Stimulation protocols
- Routine follow up standards
- Continuity between CI clinicians
- Templates allow for ease of data input
Profitability starts with Productivity

Results

- 54% increase in profitability
- Averaged 6 appointments per day per CI Audiologist
- Audiologist reduced technical and administrative functions by 30%

<table>
<thead>
<tr>
<th></th>
<th>CI Patient visits per Month</th>
<th>All Audiology visits per Month</th>
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<tbody>
<tr>
<td>Before</td>
<td>44</td>
<td>131</td>
</tr>
<tr>
<td>During</td>
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<tr>
<td>After</td>
<td>102</td>
<td>204</td>
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</table>
Cochlear Implant Procedures

The Center for Hearing and Balance Disorders
Cochlear Implant Procedures

3rd Qtr 2013

3rd Qtr 2014

0 5 10 15 20 25

10 23
Conclusion

Following adoption of LSS Principles:

• >100% increase in patient visits per CI provider
• Improved efficiencies and increased revenues
• Significant increase in CI procedures
“Control”

- Ongoing review of clinic activities
- Ongoing modification of best practice methods
- Thoughtful consideration of expansion of clinical resources