Creating a Financially Sustainable Transcatheter Aortic Valve Replacement (TAVR) Program

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Background
In 2016, growth in TAVR procedures was experienced at all Mayo Clinic sites. In Florida, annual volumes grew 350%, increasing from 12 procedures in 2014 to 54 procedures in 2018. Due to the cost per valve of $67,000 and because TAVR procedures require intensive physician and allied health resources, each case performed resulted in a net operating loss. In order to continue to offer this critical service to our patients, we needed to assess opportunities for cost reduction to create a financially sustainable program.

Objectives
1. Reduce the cost per case for TAVR procedures
2. Ensure the highest level of patient safety is maintained
3. Maintain performance in 30-day readmission and mortality rates
4. Create a cost reduction strategy that can be replicated with other procedures

Planning/ Research Methods
An enterprise interdisciplinary team, consisting of physicians, nursing, administration, finance, supply chain, clinical documentation, and health systems engineering was formed. Key stakeholders were engaged to review current processes and diffuse best practices across sites. The team focused on opportunities to reduce supply costs and operational expenses, while ensuring appropriate coding to maximize reimbursement.

Implementation Methods
The following cost reduction strategies were implemented in a phased approach at Mayo Clinic Florida:

- Eliminated the need for perfusion standby.
- Transitioned the majority of cases from the OR to Cath Lab. The care team meets on a weekly basis to review cases and determine location based on clinical criteria.
- Increased skills and competency of nurses to provide post-procedure care on the Cardiology floor.
- Reduced the number of allied health staff involved in the case.
- Reduced the length of stay for TAVR procedures.

Tips for Creating a Cost Reduction Strategy
- Involve interdisciplinary team members in the process.
- Identify physician and staff champions to help lead the change.
- Review current process and determine variable costs that can be changed.
- Start with small test of change - changing everything at once makes it difficult to understand the impact of each change.
- Determine non-negotiables that cannot be sacrificed (i.e. quality and patient safety).

Results
Through these interventions, we were able to reduce the overall cost per case while maintaining quality outcomes for our TAVR procedures.

- Reduced overall cost per case by 22%.
- Decreased length of stay by 50%.
- Decreased OR utilization, resulting in savings of $4,250 per patient. Since implementation, 85% of TAVR cases have been performed in the Cath Lab.
- Eliminated need for ICU stay for the majority of cases, resulting in savings of $1,700 per patient.
- Reduced 30-day readmission and mortality rates, maintaining performance above the national average based on registry data.

What is TAVR?
Transcatheter aortic valve replacement (TAVR) is a minimally invasive procedure to replace a narrowed aortic valve that fails to open properly (aortic valve stenosis).

Mortality Rate: In Hospital Observed

Cost per Case

30-day Readmission Rate

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