Study of Oncology Length of Stay Variation and Driving Real-Time Solutions

Background
The complex and unpredictable nature of oncology lends to interdependencies, unintended consequences, and wide variation. Length of stay (LOS) is an outcome metric used to evaluate the cumulative effect of inpatient processes.

The oncology population LOS at Baylor University Medical Center (BUMC) is above the majority of external benchmarks. Hospital administrations typically follow Center for Medicare/Medicaid Services (CMS) geometric mean LOS, however, this doesn’t account for the severity of illness. The Charles A. Sammons Cancer Center is a regional referral center, receiving the sickest of the sick referrals, especially for acute leukemia and blood & marrow transplant patients. Before the service line LOS can meet expectations a reasonable benchmark needed to be agreed upon.

A multidisciplinary team consisting of oncology nurses, nurse practitioners, physicians, administration, and quality, Comprehensive Care Management, Health Information Management (HIM), and the Advanced Analytics departments was tasked with developing a comprehensive understanding of the benchmarks, the variables, and the opportunities, as well as providing actionable steps toward improvement.

Objectives / Methods
- **Primary Objectives:**
  - Identify the most appropriate external comparator as a benchmark
  - Identify areas with the most opportunity, especially within the Cancer Center

**Benchmark**
- Arithmetic vs Geometric
- CMS
- SS2
- DFW Hospital Council
- APRDRG

**Opportunity**
- DRGs
- Hospital Unit
- Physician

**Variability**
- Measure variation
- Drivers

**Plan of Action**
- Impactful
- Focused
- Spreadable

Results
The initial study included 2,666 oncology inpatient visits and ninety-four (94) DRGs from July 1, 2015 to June 30, 2016.

Benchmarking Data from the study period was compared against several external benchmarks. The APRDRG-LOS stratifies patients based on acuity and provides realistic yet motivating targets. The physicians favored this expectation based on the quality of information and method of calculation. Below is an example of comparisons at the DRG level for the Cancer Center’s higher volume patient load.

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Discussion
The theory that the distance between the patient’s residence and the hospital correlated to the length of time spent inpatient was dispelled. A scatter plot of distance versus LOS in days showed no correlation.

Hematologic oncologists and nursing reviewed the NCCN guidelines for AML and ALL. The pathways match internal practice, however, do not provide timelines. Average timeframes from the CH experience were added to this ongoing discussion between the providers in an attempt to draft treatment algorithms to reduce variation.

There is now a heightened awareness of expectations for LOS specific to the patient’s diagnosis and acuity. Hospital leadership has acknowledged the complexity of oncology cannot be accurately measured against general medical/surgical LOS standards.

There is increased communication of next steps for patient care and any barriers. Daily identification of the barrier and accountability for resolution has created visibility. Recurring and unresolved barriers now have an avenue for escalation.

Implementations have been spread to other CH floors. From July 2017 to June 2018, the overall oncology ALOS has decreased by 13% from the previous year. The ultimate goal of meeting expectation has not been reached, however, ground is gained each year.

Conclusion
Appropriate benchmarks and expectations help the team accept the goal and foster excitement for success.

The display board was the focal point for identifying, resolving, and tracking barriers to timely discharge. Nurses “owned” the process and ran the huddles, but engaged physicians, participation from HIM, and accountability for resolution of barriers are key.

Not all delays are clinical. A Case Manager or Social Worker is an integral part of the care team and assisted with arrangements that may have otherwise delayed discharge.

Lack of an accurate visible target caused physician disengagement. Frequent updates of the APRDRG-LOS expectation by HIM provided the huddle team with a common goal. This also opened discussions for improved documentation of complications.

Enhanced MDRs decrease unnecessary inpatient days, are sustainable, and can be spread to other nursing units.

References

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