Old Wine in New Casks: Avoiding Broken Systems in Shiny Spaces

Engaging front-line staff in integrated process and architectural design for ideal surgical patient care.

1) Background: In 2013, East Tennesse Children’s Hospital began to plan, design, and build a state-of-the-art patient and family centered care tower for clinics, surgery, and NICU.

2) Challenge: The Surgery Department operates on multiple floors, has many constraints, excessive handoffs, duplicative information in multiple EMRs, and ineffective processes. This results in excessive wait times, long stays, unnecessary searching for needed information, and dissatisfied patients, families, staff, and providers.

3) Goals:
   1. Design a patient and family centered care tower that delivers ideal care on one floor.
   2. Improve processes to reduce patient wait time and length-of-stay.
   3. Improve Operating Room on-time starts.

4) Schematic Design:
   Focus: From concept to inception user groups including front-line team members, providers, management, and families were involved with the design and planning of a new tower.

5) Room Modeling:
   Focus: In the past, a patient’s pre-op room was reserved for them for the entire day. In the new design, pre-op rooms will be flipped and used for multiple patients multiple times throughout the day. This Room Model was used to validate and confirm the number of pre/post rooms, PACU beds, and ORs required.

6) Periop Assessment:
   Focus: Understand and develop processes focused on optimizing OR access, improving operations, improving utilization, increasing quality, improving budget performance and maximizing patient/staff/physician satisfaction to deliver ideal surgical patient care.

   Key Findings and Improvement Focus:
   - Pre-surgery Information Flow: The majority of frustrations and delays experienced on the day of surgery are actually due to incomplete and missing information at the time of booking.
   - New Facility Process Flow: Design and detail how patients will move through the new facility with a focus on the new Pre/Post/PACU design and OR flow.
   - OR Coordination (i.e. “Air Traffic Control”): Design a central communication board (CCB) to signal status, sequencing, and prioritization of a dynamic OR schedule to all departments.

7) Pre-day of Surgery Information Flow:
   Focus: Lack of coordination between the hospital and providers too often results in missing patient information. This causes downstream hunting and gathering of information, preventable work, difficulty in coordinating OR support, late starts, and long wait times for surgeons and patients.

   Findings:
   - We had three phone calls and multiple checkpoints and yet still only received complete information on the day of surgery 10% of the time.
   - Redefined who, what, and when of needed information.

   Improvements:
   - Designed perioperative space with end-to-end patient flow on one floor.
   - Redesigned room doors to allow for emergency egress/access.
   - Reduced number of Pre/Post rooms with a column at the headwall from 11 to 3.
   - Reduced new facility equipment needs by $560,000.

8) Day of Surgery Information
   Focus: In the new space our Pre/Post assignments are combining with PACU. We had an opportunity to not just move our pre/post team to the new ORMCR to PACU module but to redefine the data elements essential to Outpatient Surgery to ensure we have the right information available to the right person at the right time.

   Approach:
   - The team defined patient information needed by all stakeholders for the flow and coordination of services. The group then determined which types of information are needed in each area (Registration, Pre/Post, PACU, OR “Air Traffic Control”, O.R.s, Anesthesia).

   Improvements:
   - Consolidated EMR modules to allow for shared information between groups.
   - Established clear guidelines and timelines for practices to follow (92% compliance).

9) Periop Coordination
   Focus: To achieve an on-time start our teams require significant information, preparation, and coordination. To accomplish this a process will need to be developed and deployed to manage perioperative coordination ensuring visibility, tracking, and priority of both patient flow and provider status.

   Approach:
   - Deploy a new management system for OPS focused on improving patient flow.

   Improvements:
   - Improved OR 1st case of the day on-time starts from 29% to 58%.
   - Average time to get a patient ready for surgery is 46 minutes; under our goal of 60 minutes 87% of the time.

10) Next Steps
   Move Planning: Focus: Define all areas where processes will need to or should make adaptations for March 2017 opening.
   - Identify specific needs to be addressed.
   - Assign priority, project owners, timelines, and support required.
   - Progress to Date:
     - 51 project identified with 29 high priority
     - 17 Complete, 11 in-process, 1 planned
   On-time Starts Kaizen:
   Focus: Continued improvement to OR on-time starts performance.
   - Review and track OR turnover time to improve OR utilization and surgeon satisfaction.
   - Implement standard Versed dosages based on patient weight ranges to eliminate drug waste and nursing witness process.
   - Stagger OR start times to ensure Anesthesiologist doesn’t have three assignments that start at the same time.

   Management System:
   Focus: Building a leadership support and reporting structure to sustain long-term performance.
   - Define key performance indicators including both process & outcome metrics.
   - Implement daily huddles to review today’s performance and coordinate and prepare for tomorrow’s schedule.

Opening March 2017!