

Tamara N. Chambers, MD, FACS, [tchambers@dhs.lacounty.gov](mailto:tchambers@dhs.lacounty.gov)  
 Los Angeles County + University of Southern California Medical Center, Los Angeles, Web: [dhs.lacounty.gov](http://dhs.lacounty.gov)

## Project Description

I wanted to increase the number of surgeries completed daily to improve surgical patient care. I believed I could do this by block time reallocation and level loading.

### Problem Statement:

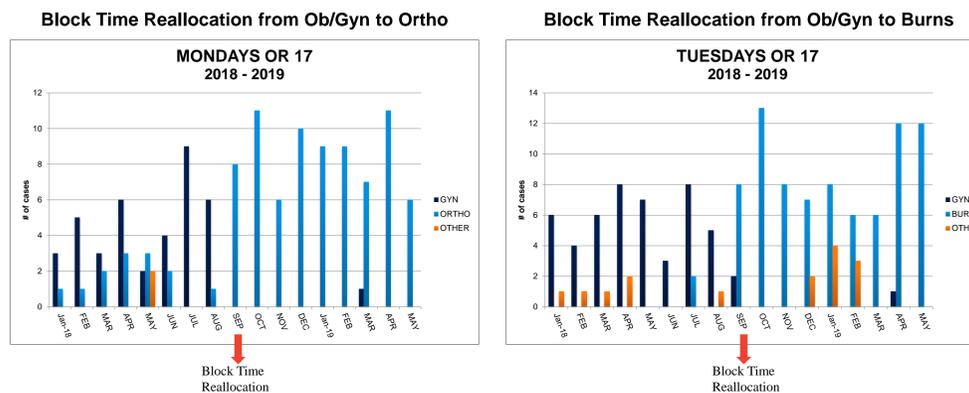
The operating rooms at LAC+USC are a limited resource. In fact, more than just a room, nursing, anesthesia, surgical equipment, a surgeon, and an operating room must be rationed based on patient acuity and disease burden. As a level I Trauma Center, emergency cases must take precedence over elective cases, adding to the complexity of operating room management. **Problem:** How can we provide more timely care for patients requiring elective surgical care without affecting emergency surgery care?

### Discovery:

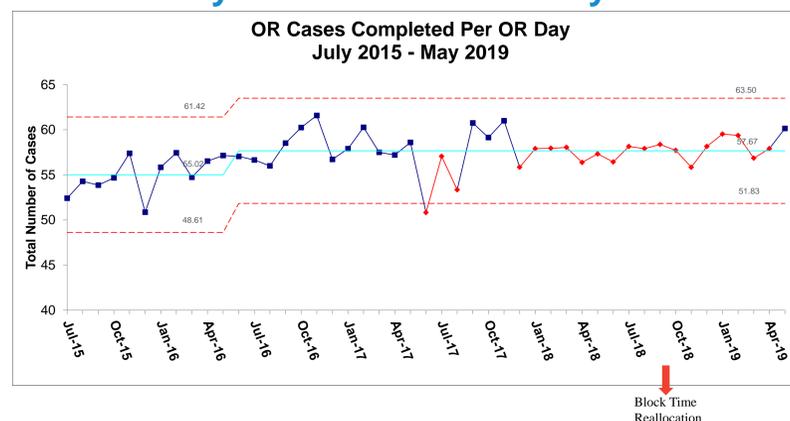
1. I developed an initial mission model and interviewed 160 people affecting surgical case completion, including patients, nurses, anesthesiologists, nurse anesthetists, surgeons, residents, supply chain attendees, surgical schedulers and environmental services personnel.
2. I was surprised that everyone cared and was willing to work towards improving perioperative services and operating room efficiency.
3. I was surprised by how many compelling interests must be managed to complete each surgical case.
4. Based on my interviews and research I iterated to identify value-add opportunity and create new value streams.

## Results

### Block Time Reallocation Increases Monthly OR Case Volumes by 10%



### Block Time Reallocation Increases Average Daily OR Case Volumes by 10%



## Lessons Learned

- “Go to the Gemba”: Go to the ground floor to understand the process in its entirety and before intervening.
- Form alliances with front line staff, they can be assets and have considered solutions to the problem; implementing their solutions garners buy-in and fuels continued process improvement initiatives.
- Look for opportunity in underutilized components of current workflow.
- Create separate value streams that reduce chaos and create predictable workflows, such as fixed repeating schedule and level loading.
- All members of the OR community appreciate having a predictable schedule with consistent expectations and outcomes.

### Next Steps:

- Identify additional inefficiencies in surgical workflow:
  1. Surgical cancellations that inhibit value stream flow
  2. Time wasted once patient in operating room
- Continue to monitor block allocations with need for reallocation as necessary.
- Evaluate those services that lost their surgical block time to ensure they do not become over-utilizers.

## Mission Model Canvas

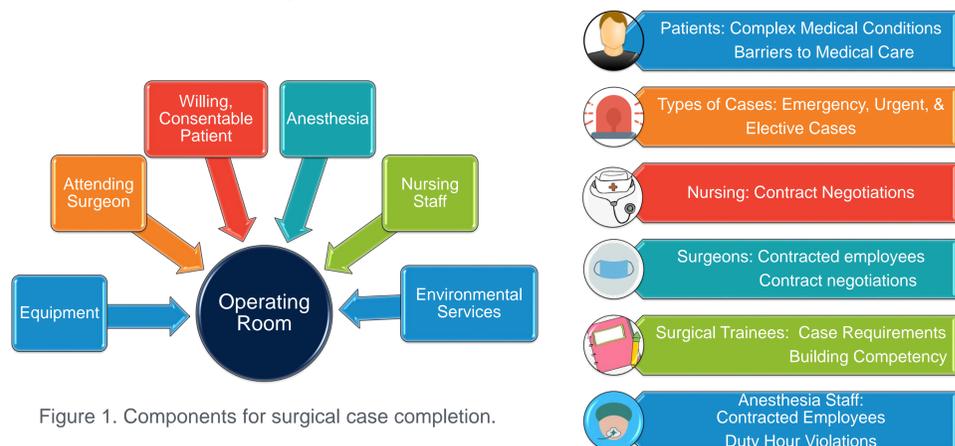


Figure 1. Components for surgical case completion.

Figure 2. Compelling Interests of each component

<b>Key Partners</b> <ul style="list-style-type: none"> <li>• Surgeons: Attendings &amp; Trainees</li> <li>• Anesthesia Providers</li> <li>• Nursing Staff caring for surgical patients</li> <li>• Willing, Consentable Patients requiring surgical care</li> <li>• Supply Chain for operating room equipment</li> <li>• Environmental Services cleaning operating rooms</li> </ul>	<b>Key Activities</b> <ul style="list-style-type: none"> <li>• Determine current block time utilization</li> <li>• Identify under-utilizers and over-utilizers of operating room time</li> <li>• Reallocate operating room time</li> </ul>	<b>Value Propositions</b> <ul style="list-style-type: none"> <li>• Reduces under-utilization of operating room from 38% (Ob/Gyn) to 78% (Ortho &amp; Burns)</li> <li>• Increase daily number of surgical cases completed in the operating room by 10% to allow 5 more patients to receive surgical care each day</li> <li>• Allows scheduling of cases so that all staff can be aware and prepare accordingly</li> </ul>	<b>Buy-in &amp; Support</b> <ul style="list-style-type: none"> <li>• Re-establishment of block time allocation</li> <li>• Frequent check-ins with all affected surgical services, and all key partners</li> <li>• Physician Champions</li> </ul>	<b>Beneficiaries</b> <ul style="list-style-type: none"> <li>• Orthopedic and Burns surgeons and trainees receive additional surgical experience</li> <li>• Anesthesia providers can anticipate the anesthetic needs of their patients</li> <li>• Surgical Nursing Staff that can prepare for the next case</li> <li>• Orthopedic and Burns patients that require surgical care receive more timely surgery</li> <li>• Supply Chain can anticipate required equipment</li> <li>• Environmental Services can be distributed to expected workflow</li> </ul>
<b>Mission Budget/Cost</b> <ul style="list-style-type: none"> <li>• Fixed cost to Los Angeles County of healthcare lives</li> <li>• Potential cost of lawsuits/claims from patients not receiving timely care</li> <li>• Potential labor loss due to inadequate patient volumes</li> <li>• IT solutions</li> </ul>		<b>Mission Achievement/Impact Factors</b> <ul style="list-style-type: none"> <li>• Reliably increase the number of elective and emergency surgical cases completed daily at a level I Trauma Center by 5%.</li> </ul>		

**Goal:** To increase the number of elective and emergency surgical cases completed daily at a Level I Trauma Center.

**Outcome-oriented Objective:** Increase daily number of cases completed at a Level I Trauma Center by 10% per day by September 2019.