

Achieving 20 Percent Across-the-Board Operational Cuts with Lean

Flad Architects | Affiliated Engineers Inc. | UW Health

Wisconsin Department of Health Services
Health Care in the Built Environment
March 14, 2018



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Objectives

- Use new operational methods and create building plans to **leverage change, reduce program size and square footage**
- Apply **Lean planning/metrics** to improve efficiency, focus on the patient, and encourage space sharing
- Understand the successes and challenges of cutting **20 percent of program spaces**
- To quickly **foster a vision and commitment to change** among diverse stakeholders, including patient and family advisors
- Impacts to design process and engagement with regulatory agencies

Agenda

- Setting the Stage
 - About us: who is UW?
 - Vision: What was the goal and how was it approached
 - Process and the 3P Story
- Building Overview
- ED/UCC
 - 3P Operational Strategy
 - SF efficiency and adjacencies
 - How it is working today
- Surgery Story
 - 3P Operational Strategy
 - SF efficiency and adjacencies
 - Equipment Prep room
 - How it is working today
- Other Stories
- Measuring Outcomes
 - Lessons learned
 - Carrying Lean forward to operations day-to-day

About Us

UW Health

- Located in Madison, Wisconsin
- 6 hospitals; 80 clinics
- 600,000 patients per year
- 16,500 associates
- 1,400 physicians

UW Health at The American Center

- 56 bed, community-based health and wellness facility located on the far northeast side of Madison.



UWHealth

Vision

- Be a first-choice destination for scheduled surgeries for patients, payers, and surgeons in Wisconsin and beyond
- Offer a seamless new access point for comprehensive UW Health services
- Strengthen the UW Health brand through high quality health and wellness programs for communities in eastern Dane County
- Free up space in University Hospital to accommodate regional referrals and needed renovations



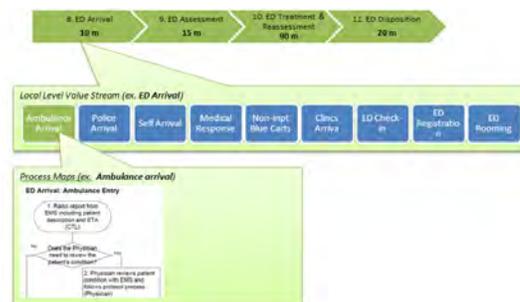
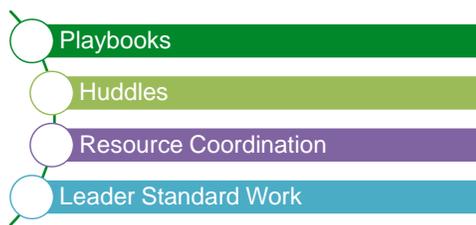
Redefining Healthcare

- Facility Design
- Workflows
- Patient & family experience
- Cross training
- Innovation



Work Environment

- Standard work
- Patient flow
- Process improvement
- Coaching
- Organizational structure



Planning / Design Process



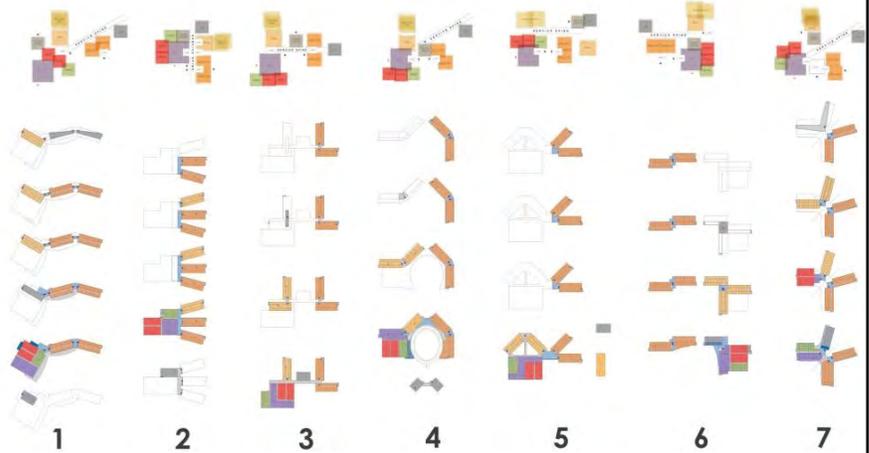
Process / Schedule

- April, 2012: Mobilization
- May – June, 2012: Concept / Shell Selection
- June, 2012 – Feb, 2013: 3Ps
- January, 2013: Site / Civil Package
- February, 2013: Footing & Foundation Package
- April, 2013: Groundbreaking
- April, 2013: Exterior Enclosure Package
- July, 2013: Interior Fit-out Package
- May, 2015: Substantial Completion

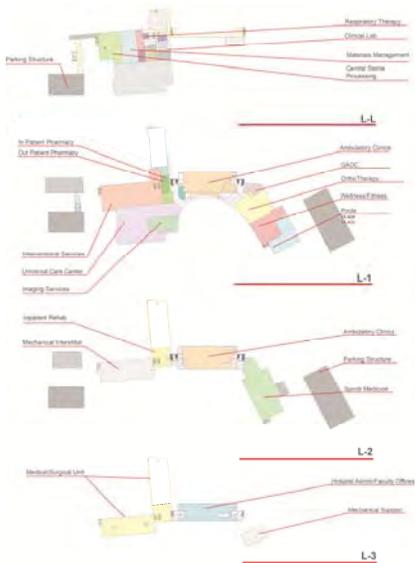


Big Planning Questions

- Relationship of beds to the diagnostic and treatment platform
- Relationship of ambulatory care to the acute care center?
- Is logistics a separate building?
- Central utility plant or distributed systems?



Shell Selection



Planning Participation

- 3P team participants identified
 - 3P1: UCC, ORs, imaging
 - 3P2: Inpatient
 - 3P3: Rehabilitation, sports performance
- 100 + staff participants – diverse stakeholders/interdisciplinary teams
- Front line clinicians involved from the beginning
- “Dyad” leadership
- Patient Family Advisors (PFAs)



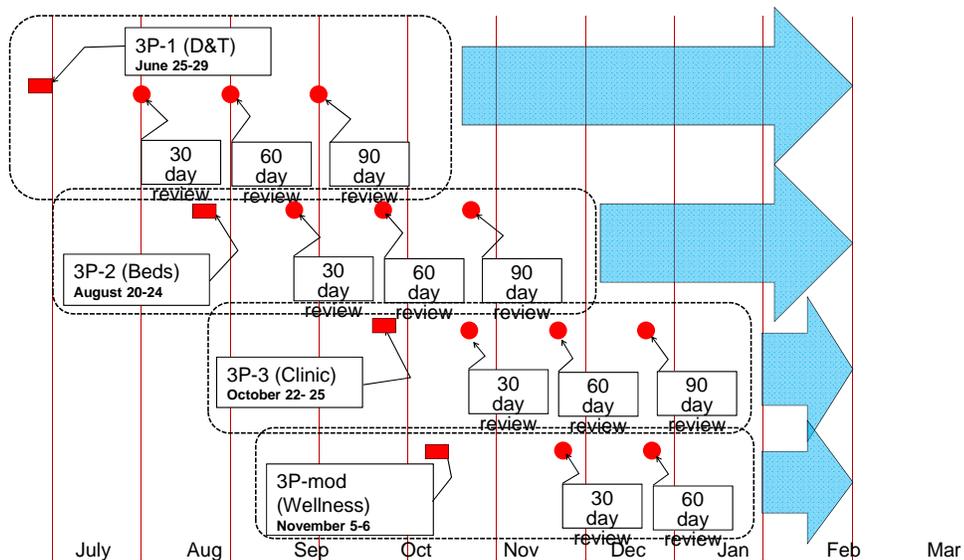
Setting the Stage: The 3P Story



Lean Process Schedule



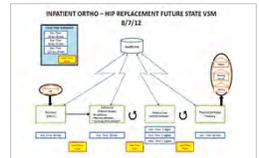
The 3P Events and 30/60/90 Day Reviews



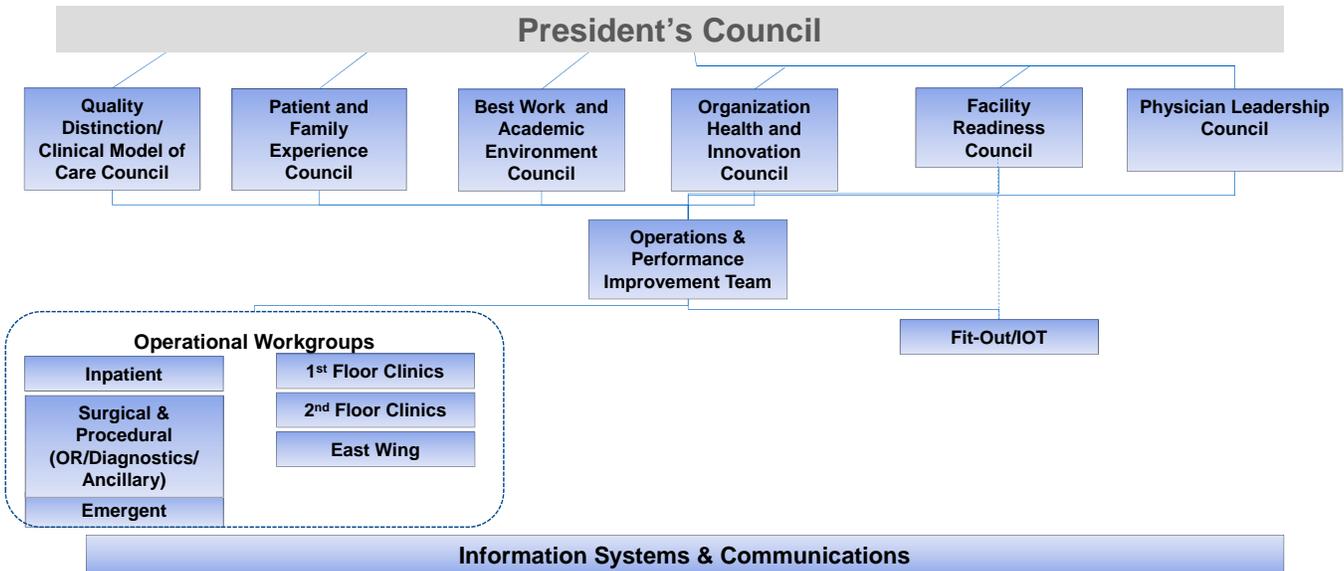
Setting the Stage: The 3P Story

Defining Characteristics

- Design
- New workflows
- Patients
- Associate roles
- Incubator for new ideas



Operational Governance



Facility Governance

- Building constructed from West (inpatient) to East (wellness) – stakeholder engagement during construction
- Preliminary kickoff meeting with DHS and MFD: November 2012
- Follow-up reviews: January 2013 / March 2013 / August 2013
- Initiated monthly review meetings onsite with DHS inspector beginning in September 2013

Addressed questions during the process which minimized adjustments required at final inspection



Building Overview



West Wing – Acute

- Overnight Stay Rooms
 - 56 rooms: 2 floors of 28 each
 - 1 floor shelled for expansion
- Operating Rooms
 - 14 total: 11 built-out + 3 shelled
- Reprocessing
- Radiology: 2 MRI, CT, X-Ray
- Pharmacy
- Cafeteria
- Meditation Room
- Universal Care Center (UCC)



Center Wing – Clinics

- Clinic Exam Rooms
 - 1st Floor: Specialty Clinics
 - Cardiology
 - Medical and Surgical Weight Management
 - Hernia
 - Urology-Men's Health
 - General Surgery
 - Plastic & Reconstructive Surgery Endocrine Surgery
 - 2nd Floor: Orthopedic Clinics, OrthoCare Now and Diagnostic Imaging
- Faculty Offices
 - Future clinics shell space
- Other
 - Clinical laboratory
 - Gift Shop
 - Community room
 - Restaurant, coffee shop



East Wing – Sports Performance & Wellness

- PT and OT
- Wellness, fitness, and sports performance
 - Therapeutic pools
 - Sport courts
 - 3-lane elevated sprint track
 - Outdoor sports performance area
- Preventive cardiology gym
- Integrative medicine
- Learning kitchen
- Community education



lap pool and warm water therapy pool



learning kitchen

Planning Considerations

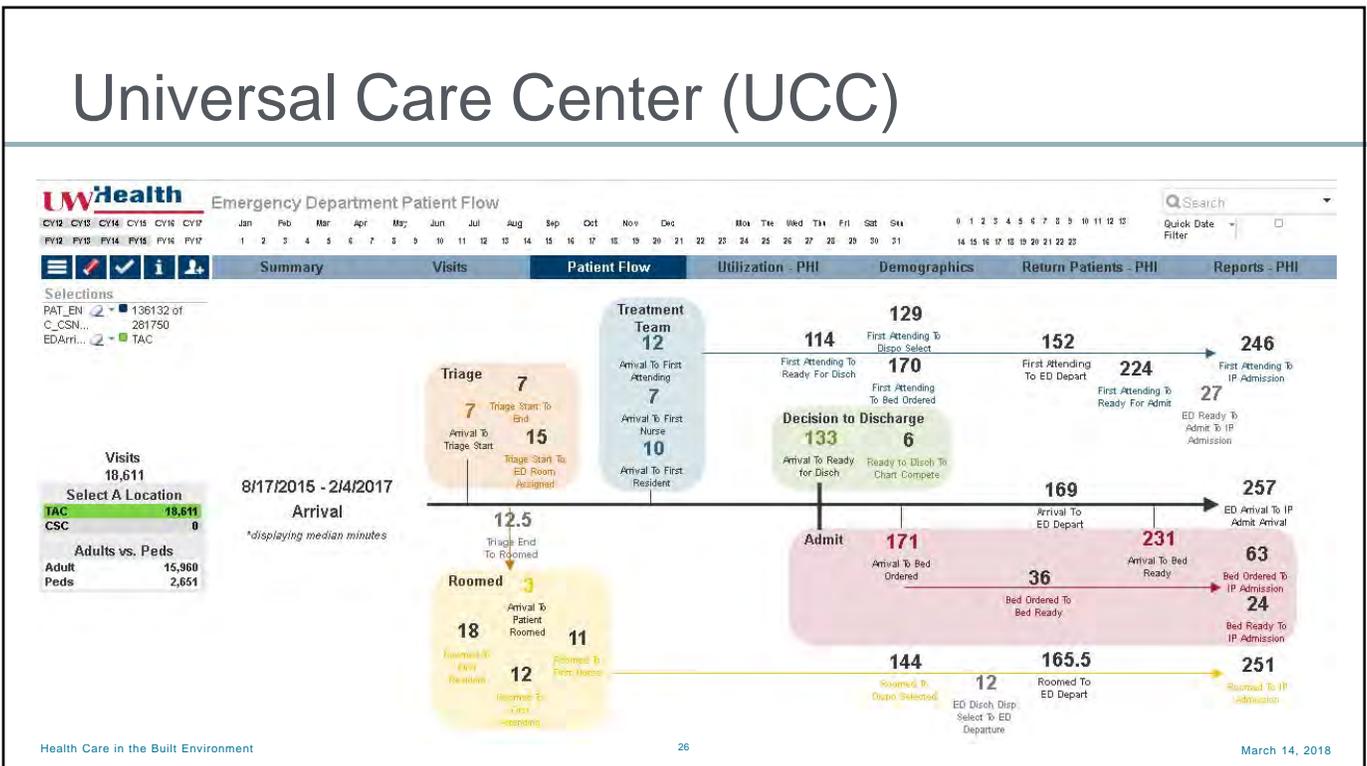
- Focus on Efficiency
- Storage – just in time
- Minimal officing – code required only
- Pharmacy location to serve both surgery and public
- Minimal waiting areas
- Adjacencies that reduced travel time and saved SF
- Single registration points for all services





Functional Use

Universal Care Center (UCC)



Universal Care Center (UCC)

- 6 pods/8 rooms each
- Uniformity of rooms
- Shelled pod
- ED volumes + 35%



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Universal Care Center (UCC)

Universal Care Center

- Reducing rooms required from 60 to 48
- 24-hour emergency department
- Pre/post operative care
- Radiology
- 48 Rooms: 6 pods of 8 each
- Beehive design for staff work areas
- Patient-centered, efficient, flexible space



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Universal Care Center (UCC)

- ✓ Flexible space with efficient workflows
- ✓ Understanding limitations of core technology systems
- ✓ Importance of change management
- ✓ Role of consumer technologies
- ✓ The digital ecosystem



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Universal Care Center (UCC)

Universal Care Center

- Electronic medical records impact
- 17.5 months - We have demonstrated significant cost/unit of service reduction from our AMC counterpart
 - ED visits: 18,439
 - Surgery cases: 10,035
 - Imaging and outpatient procedures: 64,320
- Rank in the 50th percentile of benchmark from small community hospitals



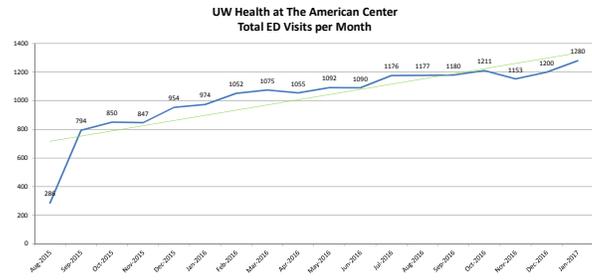
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Universal Care Center (UCC)

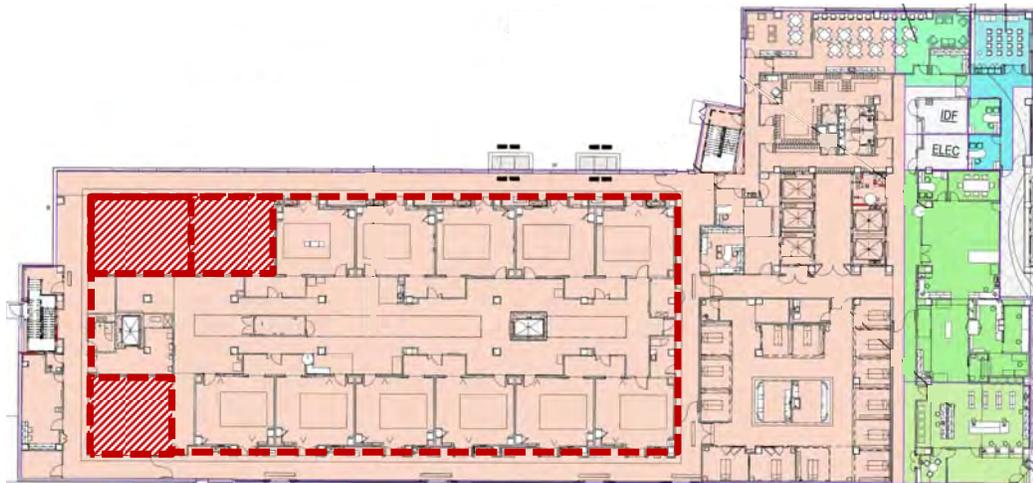
Emergency Department

- 31% increase in visits this year
- Average admission rate: 17%
- Admitted patients LOS: 277 minutes
- Discharged patients LOS: 191 minutes



Operating Rooms

- 14 ORs
- 3 Shelled



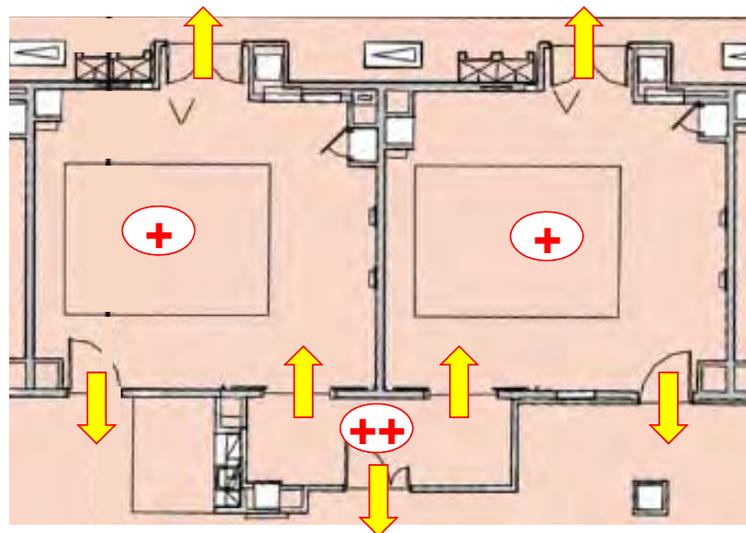
Operating Rooms

- Design/Lean
- Fewer OR's required with:
 - Operational changes
 - Addition of sterile prep rooms
- Savings in time and space with adjacency to UCC



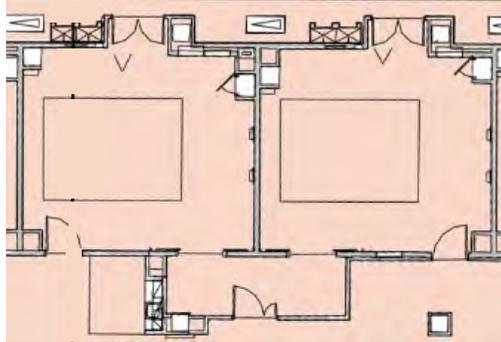
Operating Rooms

- HVAC Design Criteria
- Room Pressurization
 - Door Interlock
 - Monitoring/Alarming
- Smoke Purge



Operating Rooms

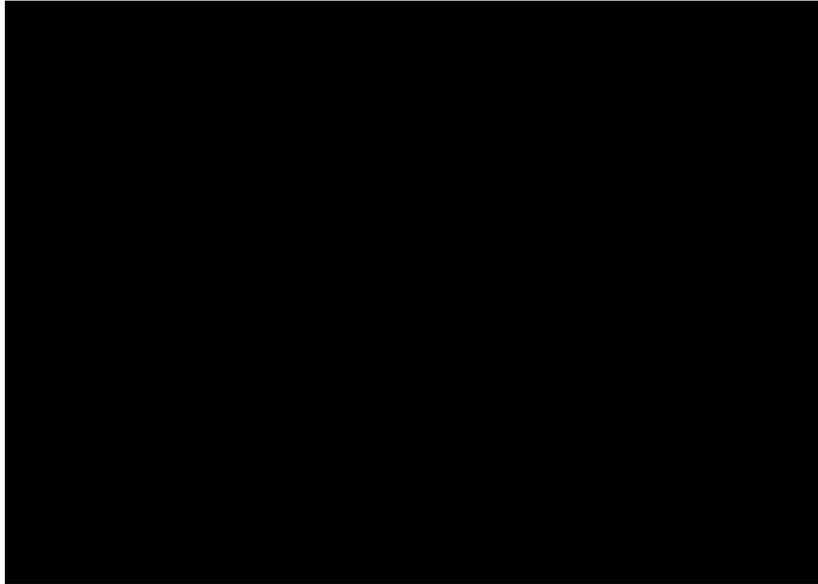
- Operations:
- What LOS and Surgery times look like today
 - Aim for 80% utilization
 - What works, what doesn't, and why
- Ante rooms



New Starts Now



New Starts Now

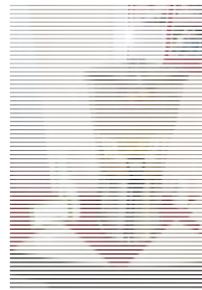


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Lessons Learned

- Spa water
- Resource Coordination Center
- Electronic Medical Record
- Hiring your leaders
- OR opening
- Line of sight in UCC
- Room numbering
- Where's the restroom?
- Branding
- New technology deployment



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Radiofrequency Identification (RFID)

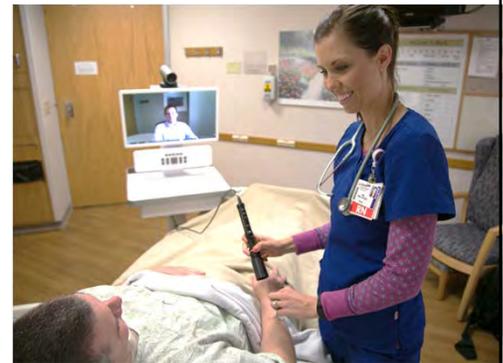


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By the Numbers

- Patient Satisfaction at 95th percentile
- LOS for joint replacement decreased by over 1.25 days
- 17% operating margin
- Engagement scores 85% for Great Place to Work
- Better than industry best practice in turn over and time to fill vacancies
- Surgeons requesting more block time
- Rank at the 50th percentile for cost per unit of service



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Quality: Healthcare Associated Infections

- Zero Hero Award
 - Catheter-associated Urinary Tract Infection (CAUTI)
 - Central Line-associated Bloodstream Infection (CLABSI)
 - Clostridium difficile
- Surgical Site Infections (SSI)
 - 0.19% (20/10,035)



Daily Management System

- 43 Daily Huddles
- 380 Playbooks (workflows)
- 38 Visual Management Boards
- No Meeting Zone
- Standard Work
- Gemba – Go and See
- Improvement Team Mentoring Program
 - 25 Improvement Champions
 - 32 Improvement Projects





Questions?