

Geriatric Hip Fracture Program: *The Thundercat Protocol*

Hip Fracture Lean Team

Stephanie Rogers, MD, Lee-lyn Chen, MD,
Jahan Fahimi, MD, Johanna Powers, RN,
Derek Ward, MD

Background

Hip fractures are a growing problem for geriatric patients and confer significant morbidity and mortality in this population. Up to 24% of patients die within a year of the injury and 50% never regain their prior functional level.

There is excellent data in the peer-reviewed literature that a comprehensive, multi-disciplinary management program, with timely, evidence-based care can improve outcomes however no such program existed at UCSF.

At the start of our project there was very little coordination of care and we had the following metrics for the 12 months prior to the project initiation:

- Mean Time to OR from Admission: **52 hours**
- Median Time to OR: **48 hours**
- Average Length of Stay: **8.96 Days (LOS index 1.44)**
- Direct Cost Index 2.27

Given that the national standard **goal time-to-OR is 24 hours** and our measured indexes were all > 1 improving these metrics align with the **true north values of quality, safety, patient experience, and financial strength.**

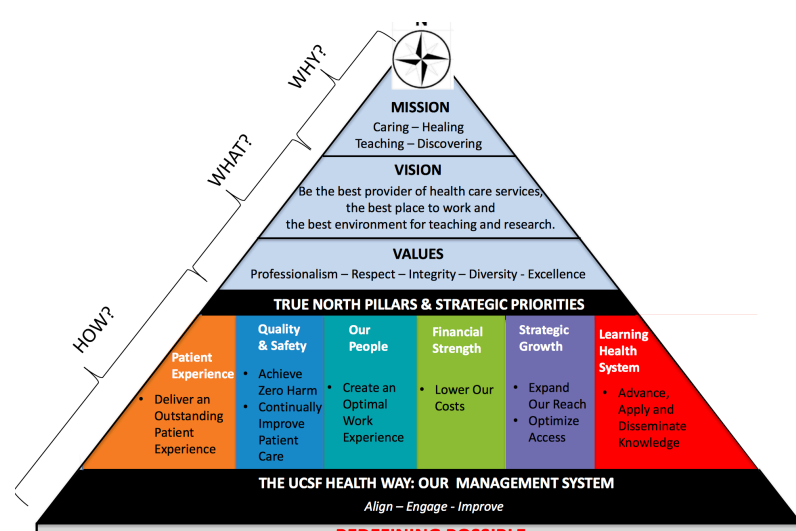
Project Goals

Overall Goals:

Deliver the highest-quality, evidence based care to geriatric patients with hip fractures in alignment with the age-friendly health initiative.

Specific Goals:

1. Create a **team-based coordinated care** approach to geriatric hip fracture patients
2. Develop and adopt an **evidence-base protocol** to treat patients throughout the care episode
3. Decrease **time-to-OR to < 24 hours**
4. Decrease LOS to meet a **LOS Index <1**
5. Improve **mortality and outcomes** for hip fracture patients

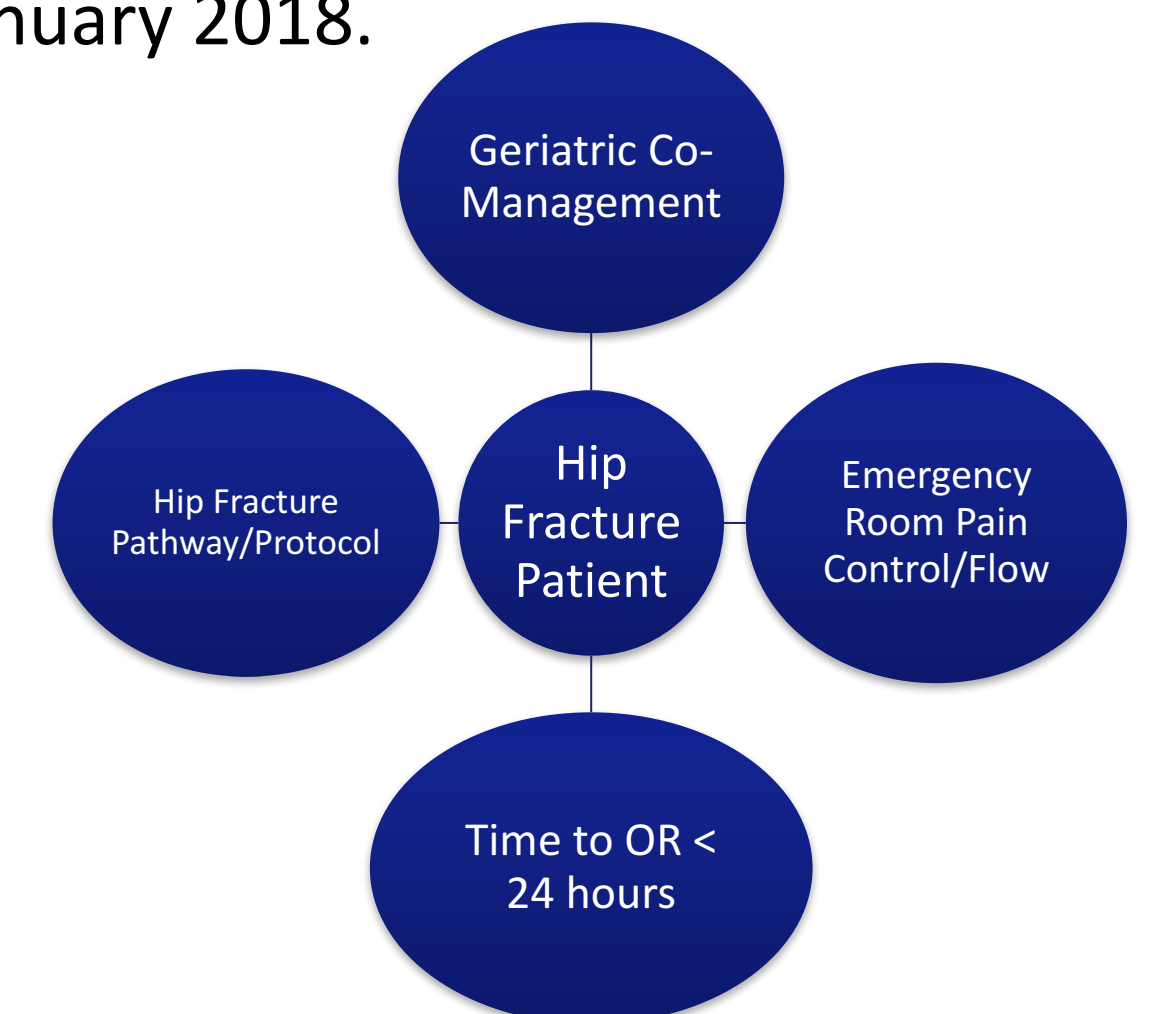


Project Plan and Intervention(s)

In order to achieve the stated project goals we created a core team of involved stakeholders including representatives from Geriatrics, Orthopaedic Surgery, Anesthesia, The Emergency Department, and Perioperative Nursing. The group used **Lean methodology** to create a process map to identify areas for improvement and involve other stakeholders throughout the care spectrum. We also conducted a literature review as well as brought in experts in the field to help create a protocol. The protocol was then disseminated, revised multiple times, and adopted by all stakeholders involved. Once the protocol was adopted it was rolled out in stages beginning in September of 2017 and culminating in January 2018.

The solutions involved four main areas of focus

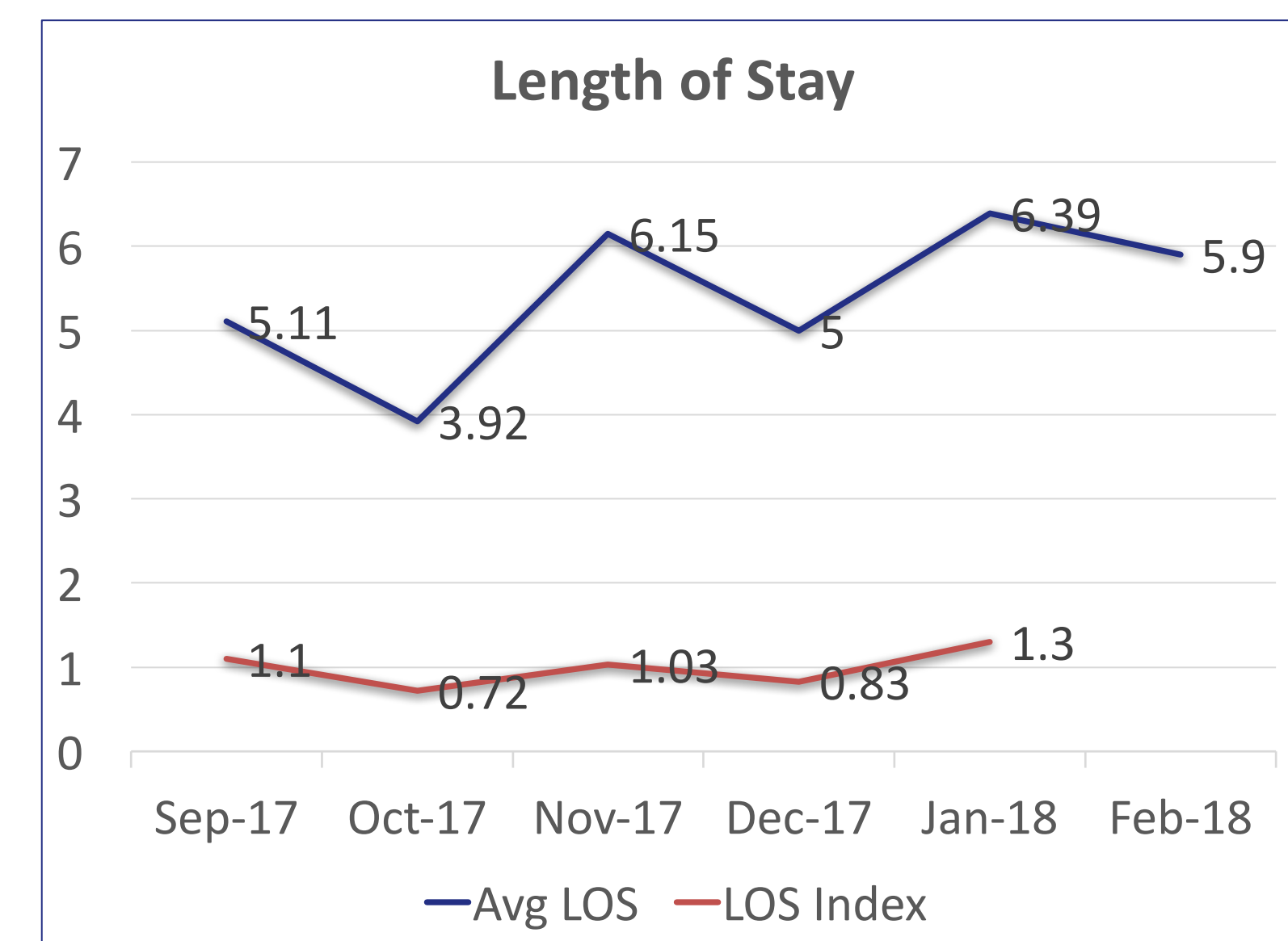
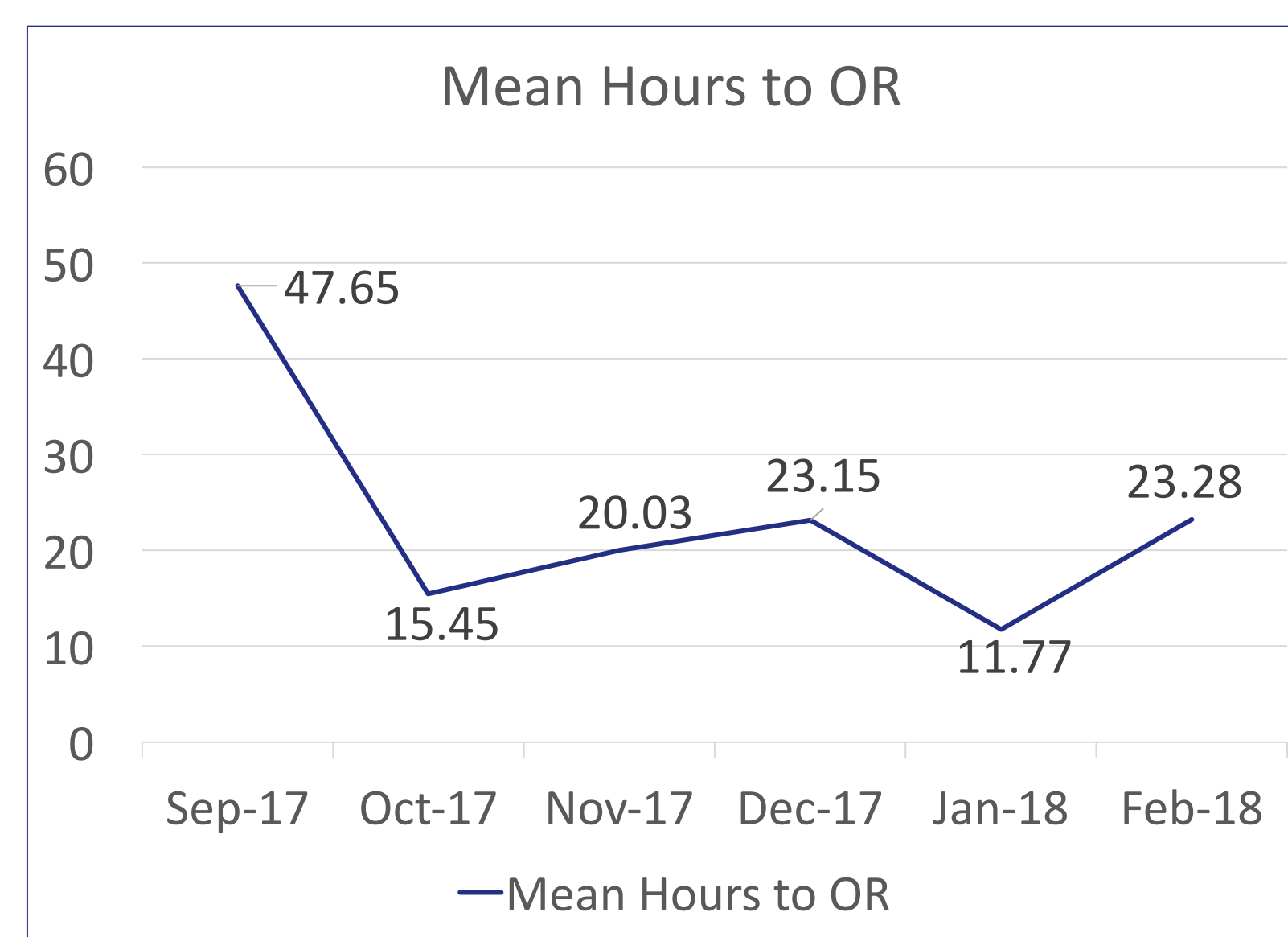
- **Geriatric Co-Management**
 - Daily team rounds, geriatric specific care
 - Rapid operative optimization
- **Evidence-based Treatment Protocol**
 - From Admission to Followup
- **Emergency Room Flow and Pain Control**
 - Rapid assessment and communication
 - Fascia Iliaca Blocks and a non-opiate pain protocol
- **Rapid Operative Intervention**
 - Specific OR protocols, equipment, and staffing



Project Evaluation & Impact

Since initiation of the program the Hip Fracture Protocol has been approved and adopted by the Departments of Medicine, Cardiology, Anesthesia, Emergency, Orthopaedic Surgery, Geriatrics, and Perioperative Nursing. Daily rounds occur with geriatric co-management, physical therapy, case management, and orthopaedic surgery which guides patients through the care process. The protocol is publically and readily available on a university website (hipfracture.ucsf.edu) and a campaign was initiated for dissemination. There was widespread adoption of the protocol resulting in significant improvement in care. Specific metrics have improved significantly with **Time-to-OR, LOS, and LOS index all achieving stated goals** as below over a 6 month time period during which we have treated 93 patients.

	Baseline Data	9/2017 – 2/2018	% change
Mean Hours to OR	52	23.55	54.7%
Average LOS	8.96	5.41	39.6%
Average LOS Index	1.44	0.99	31.3%



Next Steps, Dissemination & Lessons Learned

Planned Next Steps:

1. Obtain financial, mortality, and outcome data and compare to baseline
2. Continue monthly tracking to ensure continued adoption of the program and adherence to metric goals
3. Track the cohort of hip fracture patients longitudinally both to measure outcomes and produce research

Planned Dissemination Includes:

1. Publish our interventions, outcomes and lessons learned in peer-reviewed journals
2. We have received significant interest from other hospitals for adoption of the protocol and have engaged with departments at Zuckerberg San Francisco General Hospital to help implement a similar protocol

Lessons Learned:

1. Multi-disciplinary teams combined with lean methodology results in significant improvement in care
2. Engagement of multiple stakeholders requires alignment of goals with the UCSF True North Pillars