



Improving the Quality of Care for Hip Fracture Patients

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Reason For Action

- Approx. 500 hip fracture cases seen at Tan Tock Seng Hospital each year.
- Co-managed by the orthopaedic and geriatric team together with a dedicated case manager.
- Most patients are elderly with multiple co-morbidities, requiring care coordination between various clinical depts.

Initial State

In Year 2007:

- Average Length of Stay (ALOS): surgical patients = 11.8 days
- Average waiting time for pre-op cardiology tests was 4.6 days
- Complications: Urinary Tract Infections = 17%
(leads to delay in surgery & prolonged hospital stay)

Target State

1. Reduce time to surgery from 4.6 days to 2 days
2. Reduce UTI complication rates from 17% to 0%
3. Early rehabilitation
4. Cohorting patients for more consistent care

Gap Analysis

- ***Delay in consent for surgery:***
 - Await family decision for surgery
 - No standard information on treatment options
 - Family conference not done early.
- ***Long waiting time for MIBI / 2D echo:***
 - Not clear who to refer to cardiologist & who needs MIBI / 2D echo
 - No algorithm to guide junior doctors on referrals
 - No priority given to hip fracture patients.
- ***Hospital-acquired UTI high:***
 - Urine retention → UTI (immobility & pain)
 - No bladder / bowel protocols for early intervention

Gap Analysis

- ***Patients not cohorted to dedicated Ortho ward:***
 - Differing standards & delays
- ***Delays in referral & transfer for early rehabilitation:***
 - No fast-tracking of suitable cases
 - Primary team not aware about availability of beds in community hospitals.

Solution Approach

The team revised the clinical pathway & introduced changes to:

1. Reduce time to surgery :

- Family conference within **24hrs** of admission
- **Expedite cardiac tests** (2D echo/MIBI) to be done within 2 days
- Incorporate **Cardiology referral guidelines** & **direct listing** of MIBI & 2D Echo
- Provide a **Hip Fracture information booklet** to facilitate patient/ family's decision-making on treatment options

2. Reduce UTI complication rates:

- Design **standard bladder and bowel protocol**
- **Nurses empowered** & trained to initiate protocol

Solution Approach

3. Early rehabilitation:

- **Fast-track** patients to Rehab ward & community hospitals
- Daily call from Rehab Ward to Case Mgr about bed availability to “pull” suitable ortho patients early over to Rehab Ward

4. Cohorting patients:

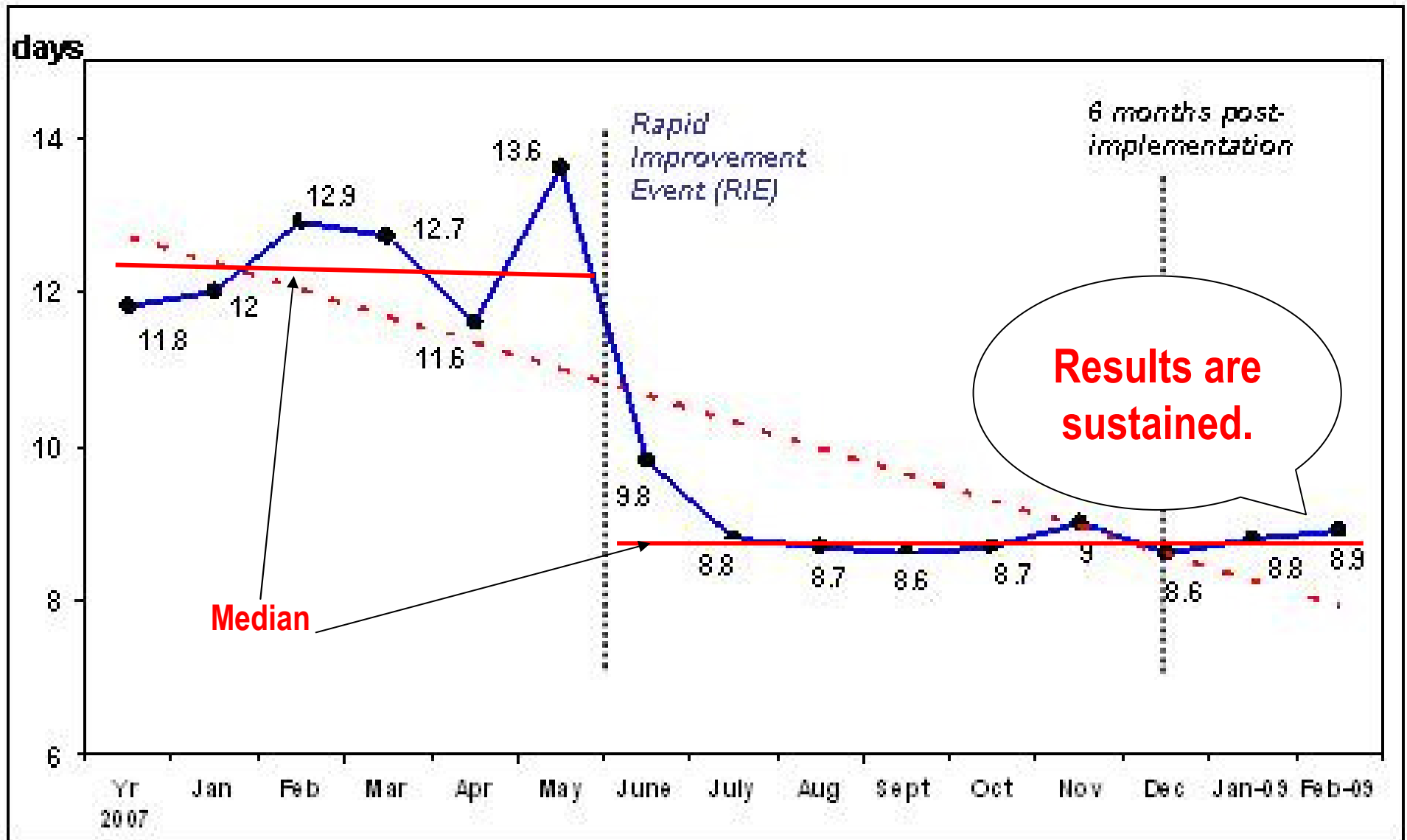
- To specific Orthopaedic Wards

Results

Results	Before Jan – Mar 2008 (N=123)	6 months After Sep – Dec 2008 (N=85)	% Improve- ment
No. of Operated cases	96 (78%)	65 (76%)	
UTI rates	17%	2%	↓15%
Average days for 2D Echo/ MIBI	4.1	2.3	44%
Average Time to consent (days)	3.9	2	49%
Average Length Of Stay for surgical pts (days)	11.8	8.6	27%

Results of Rapid Improvement Event (RIE)

Hip Fracture RIE : Average Length Of Stay



Results

Positive patient and staff feedback

“ With this booklet I now can understand the management of my mother’s care”

Patient’s daughter from Ward 12D

“ This pathway enabled us to monitor UTI closely”

Staff Nurse Wendy, Ward 12C



Adding years of healthy life

Estimated Cost Savings

- Reduction in ALOS for each surgical patient = 3 days.

Potential cost savings to hospital

= Est. \$180 / day X 3 = \$540 / pt

*Cost savings per year is estimated to be \$540 X abt 350
surgically treated patients/year = \$189,000*

- Early transfer to rehab or community hospital also translates to some reduction in patients' hospital bills.
- Decreased UTI in these patients translates to cost-avoidance for treatment of UTI & extended hospital stay.

Strategies to Spread & Sustain

1. Spread of Bladder protocol to other clinical wards to reduce hospital acquired infection by Nursing is underway
2. Periodic briefing of rotating doctors and new nurses
3. Ortho-Geriatric team has weekly multidisciplinary team meeting to review cases
4. Cohorting hip fracture patients to specific wards
5. Team is planning to extend such efforts to other complex geriatric fracture conditions
6. Pilot of integrated hip fracture pathway with Community Hospital (Oct 2009)

Thank You

