

# Decreasing Length of Stay in Ortho-Geriatric Patients: A Cost-effective and Comprehensive Care Model

## Category: Best in Financial Improvement

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### INTRODUCTION

- ❑ Hip fracture incidence in Singapore will increase 3.5 times between 2018 and 2050.<sup>1</sup>
- ❑ Prolonged hospital stay has a direct impact on poor outcomes and healthcare costs in older adults with hip fracture.<sup>2,3</sup>
- ❑ The mean length of stay (LOS) in Singapore ranges from 10 to 19 days.<sup>4</sup>
- ❑ The average costs for a hip fracture ranges from SGD \$15,671 to SGD \$22,432 per admission, not inclusive of rehabilitation.<sup>5</sup>

### OBJECTIVES

- ❑ To increase the monthly mean percentage of patients with hip fracture in NUH  $\geq 65$  years' length of stay (LOS)  $\leq 10$  days from 59.5% (average in 2021 and 2022) to 75%

### METHODOLOGY

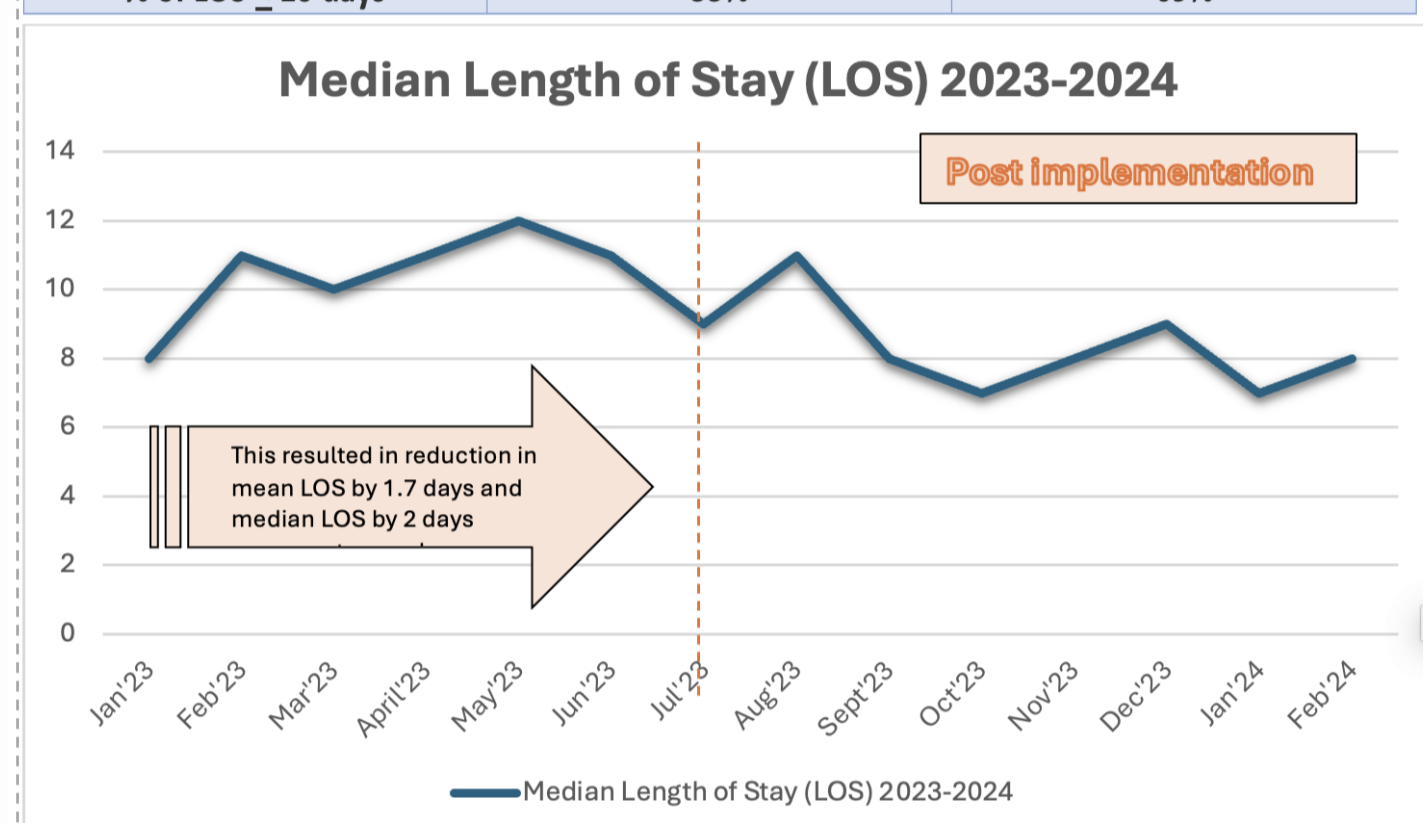
- ❑ The evidence-based quality improvement project was implemented from July to Dec 2023 using Plan-Do-Study-Act method.
- ❑ The multidisciplinary approach comprised multiple interventions (*Table 1*) and a fast-track workflow to a dedicated rehabilitation facility for suitable patients on top of the usual care delivered by the Orthogeriatric team.<sup>6</sup> All staff are usual staff with enhanced training and capabilities.

Table 1: Multidisciplinary approach and interventions for patients with hip fracture

Root Causes	Interventions
No visibility of Community Hospital beds available	<ul style="list-style-type: none"><li>❑ Provide visibility to bed availability at community hospital</li><li>❑ Provide standardised suggestion to patient/ family regarding which CH across the team (medical/nursing/allied health)</li></ul>
No coordination of discharge plan	<ul style="list-style-type: none"><li>❑ Discharge planning from Day 1 of Ortho-Geriatric Assessment</li><li>❑ Consolidated information in Ortho-Geriatric Assessment by Day 3 of admission</li></ul>
No rehabilitation goal-setting	<ul style="list-style-type: none"><li>❑ Therapists to document rehabilitation goals, potential and discharge destination by POD 1</li></ul>
Unaware of major change in care needs	<ul style="list-style-type: none"><li>❑ Educating patient/ family about potential change in functional status and need for long term caregiver<ul style="list-style-type: none"><li>➢ Communications during Day 1 of Ortho-Geriatric Assessment, follow up communication post operation</li></ul></li></ul>
Lack of manpower	<ul style="list-style-type: none"><li>❑ Ortho-Geriatrics Fast-track pilot with SLH</li></ul>

### RESULTS

	2022 (Pre-interventions)	July 2023 – February 2024 (Post-Interventions)
Mean Length of Stay	11.7 days	10 days
Median Length of Stay	10 days	8 days
% of LOS $\leq 10$ days	55%	69%



The median LOS reduced by 20% from 10 days in 2022 to 8 days in the intervention period and beyond. This has significantly benefitted and reduced the length of stay for 226 patients, resulting in savings of SGD\$852,924 over 8 months and projected SGD\$1,275,612 over the course of a year.

### DISCUSSION & CONCLUSION

The Comprehensive Ortho-Geriatric Care model reduced the length of stay, resulting in healthcare savings. More importantly, this has resulted in earlier access to rehabilitation, reduction in complications and readmissions. These interventions also foster a culture of patient-centred care, tailoring management to older adults' needs in a streamlined and cost-effective way.

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