FROM COLLABORATIVE CARE TO CLINICAL VALUE: THE IMPACT OF MULTIDISCIPLINARY REHABILITATION APPROACH ON READINESS TO RETURN HOME IN ACUTE NEUROLOGICAL CARE

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Introduction & Background

In acute neurological care, the metric of therapeutic success extends far beyond mere clinical survival. Modern healthcare paradigms increasingly evaluate efficacy through the lens of a patient's long-term functional recovery trajectory and their seamless transition back into the community.

Discharge directly to the home environment is a primary indicator of both clinical value and patient quality of life. However, achieving this requires overcoming significant barriers, including profound functional dependency and the acute psychological burden placed on family caregivers. Without a structured, coordinated intervention, patients are frequently dispositioned to long-term alternative care facilities, which exacerbates healthcare costs and may delay community reintegration.

Objectives

The primary objective of this study was to evaluate the readiness of acute neurological patients and their families to return home following a structured program of acute multidisciplinary rehabilitation and proactive discharge planning. To establish a global standard of clinical value, the home discharge rates of this cohort were benchmarked against international findings from a meta-analysis by Chevalley et al. (2023), which reported a baseline home discharge readiness rate of **71.2%** across a global sample of 204,787 patients.

Methodology

This study employed a retrospective chart review of patients admitted to Sunway Medical Centre with primary acute neurological diagnoses, with further inclusion criteria being:

- Admitted specifically for acute, inpatient multidisciplinary rehabilitation.
- Receiving a minimum of **two formal reviews** during multidisciplinary team (MDT) meetings. The review flow is shown in Figure 1.

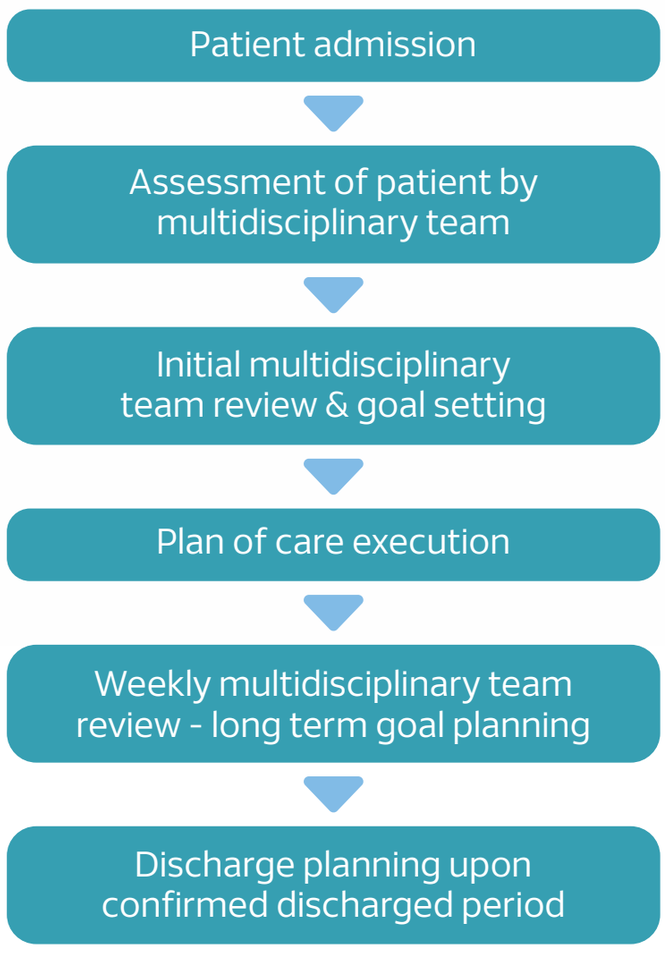


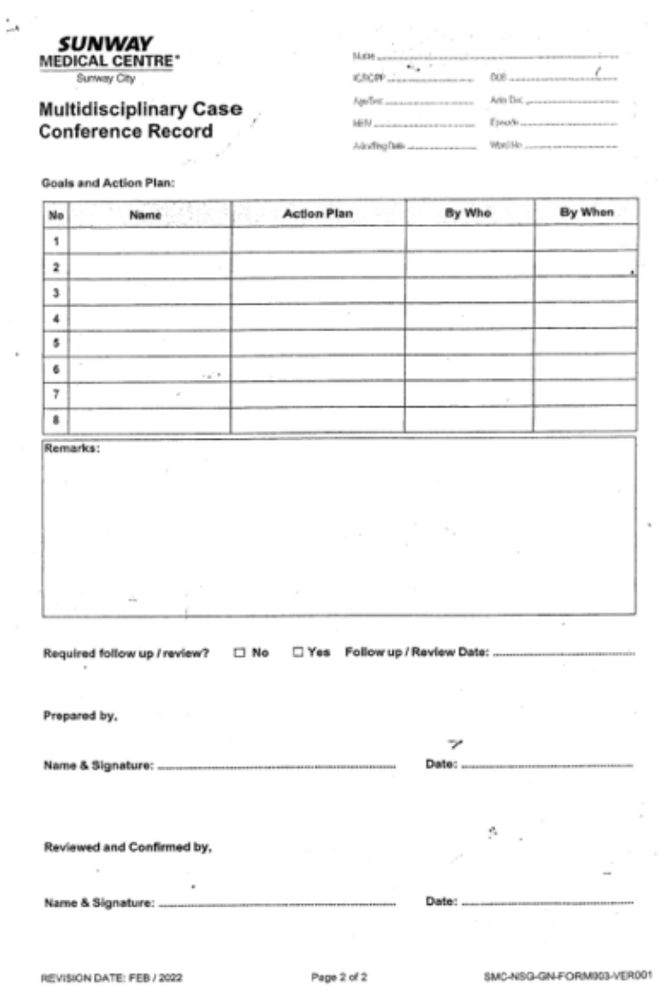
Figure 1: Multidisciplinary Team Review Process Flow

The MDT consisted of a comprehensive panel including Consultant Rehabilitation Physicians, Allied Health Practitioners (physiotherapists, occupational therapists, speech-language therapists, pharmacists, dietitians), and nursing staff where applicable.

- **First MDT Review:** Utilised to establish the patient's functional baseline, set realistic short and long-term therapeutic goals, and initiate planning for discharge.
- **Subsequent MDT Review(s):** Used to monitor functional trajectories, dynamically adjust care plans, and coordinate patient-family education.

This educational component was crucial, focusing on hands-on training for activities of daily living (ADLs), mobility assistance, and specialised care techniques to ensure a safe, confident transition of care from the acute hospital setting to the home.

Reviews are documented in the form as shown in Figure 2.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Multidisciplinary Case Conference Record

Name: _____
IC/ROP: _____ DOB: _____
Age/Sex: _____ Adm Dte: _____
MRN: _____ Episode: _____
Admitting Date: _____ Ward No: _____

Goals and Action Plan:

No	Name	Action Plan	By Who	By When
1				
2				
3				
4				
5				
6				
7				
8				

Remarks:

Required follow up / review? ☐ No ☐ Yes Follow up / Review Date: _____

Prepared by,

Name & Signature: _____ Date: _____

Reviewed and Confirmed by,

Name & Signature: _____ Date: _____

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Figure 2: Multidisciplinary Team Review Form

Results

A total of **40 patients** met the stringent inclusion criteria and were included in the final analysis.

Discharge Disposition (as shown in Figure 3)

- **75.0%** of the patients were successfully discharged directly to their homes.
- The remaining **25.0%** opted for alternative dispositions, including subacute step-down rehabilitation facilities or specialised nursing care.

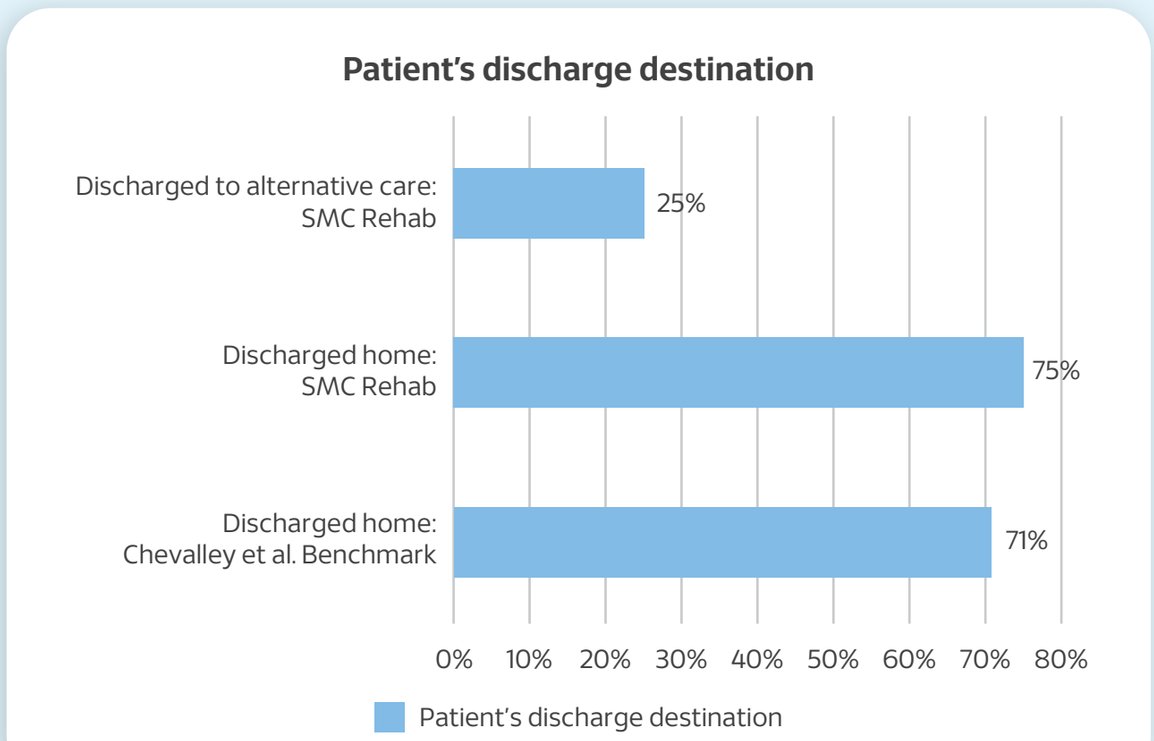

Figure 3: Breakdown of Patient Discharge Destination Benchmarked with Chevalley et al.

Functional Outcomes

Functional improvement was measured using the Modified Rankin Scale (mRS):

- **87.5%** of the cohort demonstrated a clinically significant improvement of **at least one level of independence** on the mRS.
- Progressions typically manifested as a shift from total care dependency to an ability to actively participate in mobility and essential ADLs with minimal assistance or supervision.

Discussion & Clinical Implications

The findings demonstrate that Sunway Medical Centre's structured MDT framework yielded a home discharge rate of 75.0%, successfully meeting the international benchmark of 71.2% established by Chevalley et al. (2023). This may be tied to the fact that 87.5% of the patients achieved objective functional gains on the mRS.

By actively mitigating functional dependency and systematically lowering the psychological barriers for caregivers through targeted education, the MDT approach directly shifts the discharge trajectory away from institutionalised care. This not only maximises the patient's independence but also drives healthcare efficiency by reducing the systemic and financial reliance on long-term alternative care settings.

Conclusion & Future Directions

The implementation of a structured, iterative multidisciplinary rehabilitation framework combined with proactive discharge planning significantly enhances patient-family readiness for home transitions in acute neurological care.

Limitations

As a single-centre, retrospective study with a compact sample size (n = 40), the generalisability of these outcomes to broader, structurally varied healthcare systems remains to be validated. Future research should focus on multi-centre prospective trials and long-term post-discharge follow-ups to evaluate the sustainability of home placements and caregiver burnout rates over time.

Reference

Chevalley, O., Truijen, S., Opsommer, E., & Saeys, W. (2023). Physical functioning factors predicting a return home after stroke rehabilitation: A systematic review and meta-analysis. Clinical Rehabilitation, 37(12), 1698–1716. https://doi.org/10.1177/02692155231185446