Increasing Referrals of Nursing Home Residents to Hospital at Home. A Quality Improvement Project.

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NUHS@HOME

National University Health System

Introduction

NUHS@Home partnered with a nursing home (NH) group in May 2024 to provide hospital-at-home services for residents. However, six months into this collaboration, many residents eligible for early supported discharge (ESD) were not being referred by general ward teams to NUHS@Home. A quality-improvement project was initiated to increase ESD referral rates of eligible residents from Ng Teng Fong Hospital general wards (GW).

Methods

Stakeholder interviews with rounding consultants and junior doctors identified barriers to referral. Pareto analysis of these barriers revealed that limited promotion of NUHS@Home to medical teams, limited promotion of NUHS@Home to NH residents and their families, and lack of clear admission criteria were the predominant modifiable contributors (Figure 1). Plan–Do–Study–Act (PDSA) interventions were implemented from April to September 2025 to target these barriers.

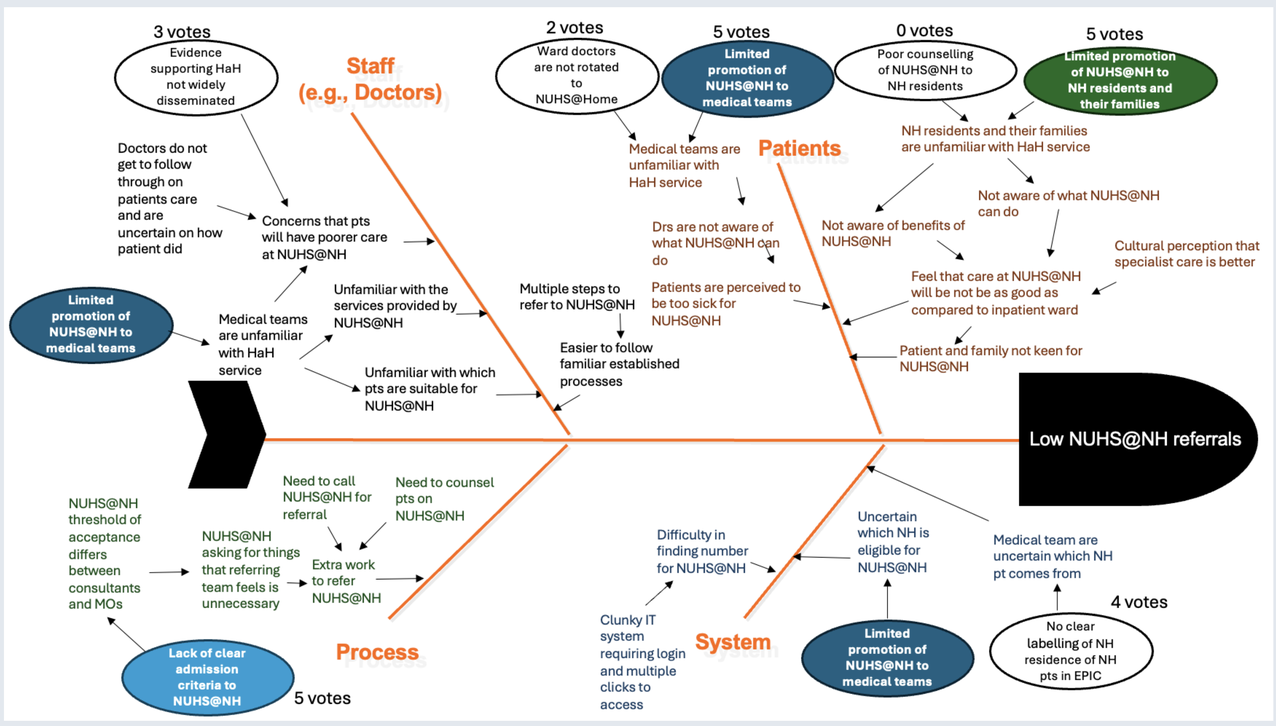
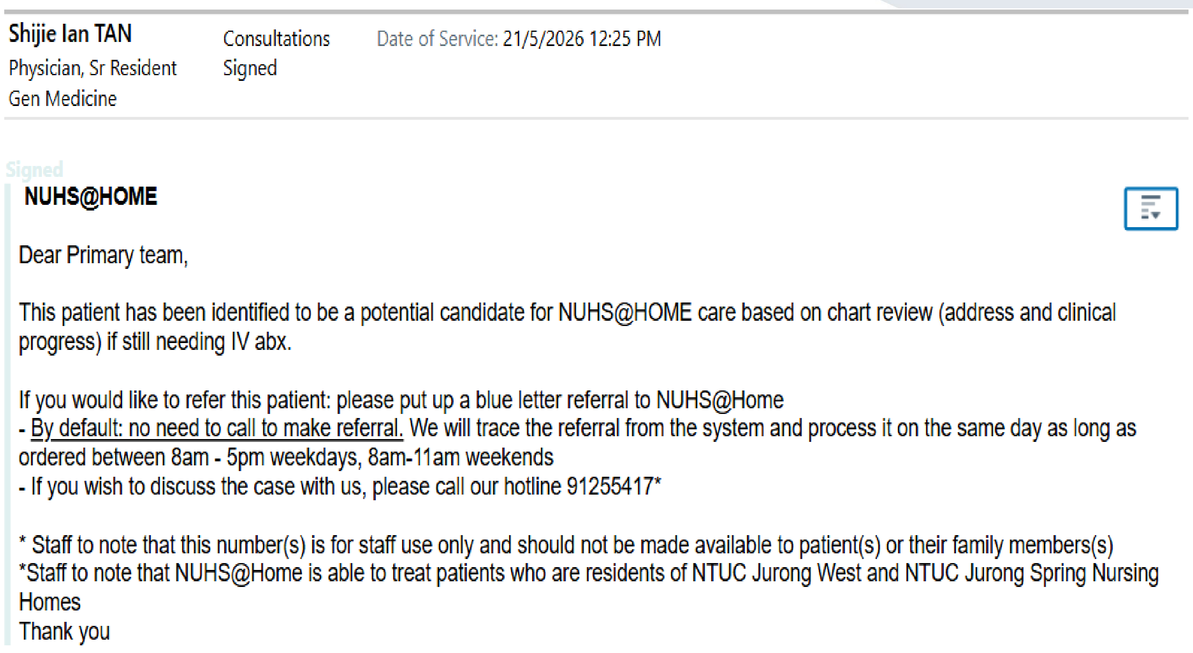


Figure 1: Fishbone diagram identifying cause and effect to low NUHS@NH referrals



Shijie Ian TAN
Physician, Sr Resident
Gen Medicine

Consultations
Signed

Date of Service: 21/5/2026 12:25 PM

Signed

NUHS@HOME

Dear Primary team,

This patient has been identified to be a potential candidate for NUHS@HOME care based on chart review (address and clinical progress) if still needing IV abx.

If you would like to refer this patient: please put up a blue letter referral to NUHS@Home
- By default: no need to call to make referral. We will trace the referral from the system and process it on the same day as long as ordered between 8am - 5pm weekdays, 8am-11am weekends
- If you wish to discuss the case with us, please call our hotline 91255417*

* Staff to note that this number(s) is for staff use only and should not be made available to patient(s) or their family members(s)
*Staff to note that NUHS@Home is able to treat patients who are residents of NTUC Jurong West and NTUC Jurong Spring Nursing Homes
Thank you

Figure 2: Screening note by NUHS@Home team

PDSA Interventions

Awareness posters were displayed in the general medical wards, **targeted engagement sessions** were conducted both formally during orientation and informally through small-group discussions in MO rooms, and **appreciation messages** were sent to doctors whose patients were successfully discharged from NUHS@Home.

Senior-led screening by the NUHS@Home team was implemented to proactively identify eligible residents and prompt general ward teams to consider referral (Figure 2). This resulted in more consistent patient selection and acceptance practices for NUHS@Home referrals.

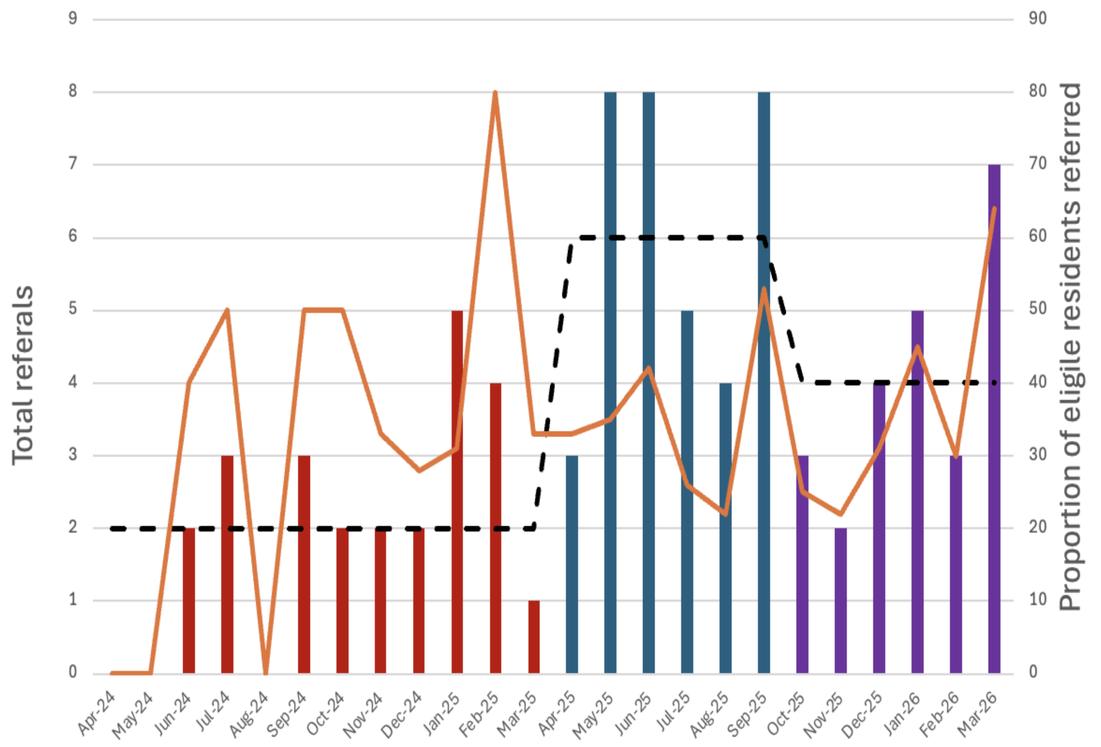
To address limited awareness of NUHS@Home among NH residents and their families, ongoing qualitative interviews with NH residents and their families are being conducted with plans for thematic analysis to identify best methods for outreach.

Results

44 engagement sessions were conducted over 6 months from April 2025 to September 2025; 4 during junior doctor orientations and 40 informal small group discussions. Appreciation messages were disseminated to 104 junior doctors. 126 residents were proactively identified as eligible for ESD and their GW teams were prompted to consider referral.

Absolute referrals increased from a baseline of 2 to 6 per month, although the proportion of eligible residents referred remained largely unchanged (35% pre-intervention vs 37% post-intervention) (Figure 3). This discrepancy was due to an increase in the number of residents identified as potentially eligible from senior-led screening and improved workflows with the NH group.

6 months after completion of the QIP, junior doctor orientation engagement sessions and senior-led screening remain ongoing. Absolute referrals have remained at 4 per month, while the proportion of eligible residents referred has remained stable at 36% (Figure 3).



	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26
Total referrals	0	0	2	3	0	3	2	2	2	5	4	1	3	8	8	5	4	8	3	2	4	5	3	7
Average total referrals	2	2	2	2	2	2	2	2	2	2	2	2	6	6	6	6	6	6	4	4	4	4	4	4
% of eligible residents referred	0	0	40	50	0	50	50	33	28	31	80	33	33	35	42	26	22	53	25	22	31	45	30	64

Figure 3: Run chart showing total NH resident referrals, proportion of eligible residents referred and average total referrals in each phase (color coded).

Qualitative Feedback

Feedback from the engagement sessions was particularly informative. While awareness posters and NUHS@Home briefings during orientation increased awareness of the programme, clinicians felt that these interventions did not significantly influence their referral patterns. More notably, the feedback highlighted differing perceptions between senior and junior doctors regarding informal engagement sessions and appreciation messages. Senior doctors generally felt that the engagement sessions and appreciation messages did not significantly influence their referral patterns. In contrast, junior doctors found the informal small-group engagements particularly valuable, as these sessions provided opportunities to clarify questions about NUHS@Home and facilitated discussions regarding the suitability of current inpatients for referral. Junior doctors also reported that the appreciation messages increased their confidence in identifying appropriate patients for NUHS@Home and fostered a more positive perception of the programme. Subsequent engagement efforts were increasingly focused on junior doctors who play an outsized role in identifying and referring suitable patients to NUHS@Home, as well as provide the initial counselling of patients and families on the benefits of the programme.

Conclusion

A targeted NUHS@Home awareness campaign focused on junior doctors, comprising informal small-group discussions, appreciation messages, and proactive identification of eligible NH residents, was associated with a sustained increase in NH resident referrals to NUHS@Home.

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