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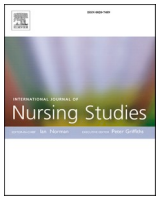



Nurse-coordinated, transitional care intervention for hospitalised older adults in a frailty registry: The TRANSFER-II feasibility and acceptability study

Kirsten J. Parker [a,b,*], Louise D. Hickman [c], Julee McDonagh [a,b], Richard I. Lindley [b,d], Caleb Ferguson [a,b]

[a] School of Nursing, Faculty of Science, Medicine & Health, University of Wollongong, Wollongong, NSW, 2522, Australia
[b] Centre for Chronic and Complex Care, Blacktown Hospital, Western Sydney Local Health District, Blacktown, NSW, 2148, Australia
[c] School of Nursing, University of Sydney, Camperdown, NSW, Australia
[d] Westmead Applied Research Centre, University of Sydney, Westmead, NSW, Australia

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ABSTRACT

Background: The hospital to home transition is a critical journey for older adults, often leading to health decline and increased healthcare utilisation. Frailty amplifies these risks, making effective support strategies during the transition home essential to improving outcomes and reducing the risk of rehospitalisation.
Aim: To evaluate the feasibility and acceptability of a nurse-coordinated, transitional care intervention for older adults enrolled in a frailty registry transitioning from hospital to home.
Design: Prospective, non-randomised, single-arm, Phase I feasibility and acceptability trial within a cohort study.
Methods: Patients were eligible if: aged 65 years and over, admitted under Geriatric, Aged Care and Rehabilitation Services at two metropolitan hospitals, enrolled in the Western Sydney Clinical Frailty Registry, and discharging home. The intervention, titled as the 'Nurse Navigator', included nurse-coordinated, phone-based, patient-centred discharge communication initiated during the transfer from hospital to home. The primary outcome was the feasibility and acceptability of the intervention, assessed by the proportion of participants who were able to agree with and achieve the patient-centred priorities.
Results: A total of 127 participants were recruited, of whom 106 completed the intervention. Participants were mostly female (57%), with a mean age of 80.4 years. Intervention fidelity was high. One hundred and five (99%) participants able to agree to the three patient-centred priorities, and 99 (93%) able to achieve these three priorities.
Conclusion: There was high feasibility and acceptability of a nurse-coordinated, transitional care intervention for complex older adults transitioning from hospital to home. The high level of engagement and achievement of patient-centred priorities highlights the positive potential of tailored communication strategies to support safe and effective transitions. These results suggest implementation projects, or Phase II or III randomised controlled trials, are promising to improve patient-reported outcomes.
Trial registration: The trial was prospectively registered with the Australian New Zealand Clinical Trials Registry (ANZCTR), trial ID: ACTRN12624000795594. Registered and updated 28th July 2024. First participant recruited August 2024, and last participant recruited February 2025.

What is already known

- Older adults living with frailty are at increased risk of poor outcomes and hospital readmissions.
- Transitional care for this population is often fragmented, with the need for improved patient-centred coordination during the hospital to home transition.

* Corresponding author at: 33 Morre Street, Liverpool, NSW, 2170, Australia.
E-mail addresses: Kjsp933@uowmail.edu.au (K.J. Parker), louise.hickman@sydney.edu.au (L.D. Hickman), jmcdonagh@uow.edu.au (J. McDonagh), richard.lindley@sydney.edu.au (R.I. Lindley), calebf@uow.edu.au (C. Ferguson).

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What this paper adds

- Demonstrates the feasibility and acceptability of a nurse-coordinated, transitional care intervention for older adults living with frailty.
- Provides foundational evidence to inform the development of future implementation studies and larger-scale randomised controlled trials focused on patient-centred transitional care interventions.

1. Introduction

Globally, the proportion of people aged 65 years and over is projected to reach 17% by 2050, which is more than double the 8% recorded in 2015 (He et al., 2016). Longer lifespans result in a higher occurrence of chronic conditions, multimorbidity, and functional decline, leading to increased healthcare utilisation among older adults (Maresova et al., 2019). This demographic shift has been accompanied by rising rates of potentially avoidable hospitalisations, emergency admissions, prolonged inpatient stays, and extended recovery periods (Schoffer et al., 2023). High quality, evidence-based care transitions can reduce adverse events and rehospitalisation. Whereas, poorly managed transitions are associated with fragmented care, medication errors, and communication breakdowns (Werner et al., 2018). Increasing reliance on the Emergency Department as a point of entry places additional demands on discharge processes and post-acute coordination, particularly for older adults with complex needs. Implementing evidence-based transitional care models is required to improve patient outcomes and alleviate increasing pressure on healthcare resources and costs (Joo and Liu, 2021).

Over recent decades, various transitional care interventions have been developed to address the challenges associated with hospital to home transitions. Recent systematic reviews and meta-analyses indicate reductions in readmission rates; however, they demonstrate mixed effects on other outcomes, with limited or no impact on mortality and more favourable effects observed on functional ability and quality of life when targeted (Parker et al., 2024; Lee et al., 2022). Transitional care models vary from Emergency Department-initiated interventions with home visits or telehealth follow-up to interventions spanning inpatient care, discharge, and post-discharge support, including geriatric assessments, personalised recommendations and home-based rehabilitation (Lee et al., 2023; Schapira et al., 2022; Parsons et al., 2017; Garbin et al., 2024). Reported outcomes are inconsistent, with some studies reporting no improvement in primary endpoints (Jacobsohn et al., 2022; Garbin et al., 2024), while others show reductions in hospital length of stay and healthcare use during follow-up (Lee et al., 2023; Schapira et al., 2022; Parsons et al., 2017). Differences in design (e.g., level of multidisciplinary involvement, duration and intensity of follow-up, patient and caregiver engagement) likely contribute to this variability, and a recent systematic review suggests that low-complexity, well-specified interventions were most effective in reducing 30-day readmissions (Tyler et al., 2023).

Effective implementation of these low-complexity interventions is further predicated on the delivery of effective discharge communication tailored to the health literacy needs of older adults. Deficits in health-literate communication, characterised by a lack of plain, patient-appropriate language, unclear priorities, and low actionability, are repeatedly linked to poor understanding and suboptimal self-management after discharge (Forsman and Svensson, 2019). Evidence-based strategies, such as the use of patient-oriented discharge summaries and individualised discharge letters, have been shown to enhance patient-provider communication and improve post-discharge outcomes (Jack et al., 2009; Hahn-Goldberg et al., 2021). By providing clear, health-literate information regarding diagnoses and follow-up care, these interventions ensure that patients and caregivers are adequately prepared for the transition, addressing the information gaps that frequently lead to adverse outcomes for vulnerable older adults.

Nurse-coordinated models emerge as a strategically viable approach to operationalise such communication due to the unique positioning of the nursing workforce at the hospital-community interface. As a central link between siloed care environments, nurses are well-placed to provide leadership in care continuity, possessing the clinical expertise required for complex patient education and oversight necessary for sophisticated coordination (Roos et al., 2025). Nurse-coordinated models have potential to operationalise early discharge processes within existing clinical workflows, thereby mitigating the communication breakdowns characteristic of fragmented transitions (Zhu et al., 2015). Nurse-coordinated transitional models of care have demonstrated efficacy in reducing 30-day readmissions for older adults living with frailty (RR 0.78, 95%CI [0.63, 0.97], $p = 0.02$) (Parker et al., 2024). While this is the case, implementation and effectiveness remains challenged by the heterogeneity of global healthcare systems, complicating the translation of evidence into practice (Leithaus et al., 2022; Landi et al., 2024).

Conducted as a trial within a cohort (TwiC) study, the TRANSFER-II Study forms a sub-study of the larger, ongoing Western Sydney Clinical Frailty Registry, a prospective registry of patients admitted under the Rehabilitation Aged Care Services across two metropolitan hospitals, providing frailty and outcome data over a 12-month period (Ferguson et al., 2023). Within the initial tranche analyses of the Western Sydney Clinical Frailty Registry (total sample N = 592), 23% (n = 134) died within 12 months, and 56% (n = 316) had at least one readmission in 12 months (McDonagh et al., 2025), highlighting readmissions as a critical area of unmet needs for older adults living with frailty within the health district. In response, the TRANSFER-II study isolates a focused, low-complexity and feasible intervention component, patient-centred discharge communication. The study is grounded in evidence that concise, prioritised, and actionable discharge information improves comprehension, and supports adherence to care plans when reliably delivered. Therefore, the TRANSFER-II Study aims to evaluate the feasibility and acceptability of a low-intensity, nurse-coordinated, transitional care intervention for acutely ill, hospitalised older adults returning home.

2. The TRANSFER-II study

The TRANSFER-II Study was prospectively registered on the Australian New Zealand Clinical Trials Registry (ANZCTR) ACTRN12624000795594 (Australian and New Zealand Clinical Trials Registry [Internet], 2024). Further trial details can be found in the study protocol (Parker et al., 2025). This feasibility and acceptability trial followed the Consolidated Standards of Reporting Trials (CONSORT) extensions to randomised pilot and feasibility trials (Eldridge et al., 2016), and the Template for Intervention Description and Replication (TIDieR) checklist (Hoffmann et al., 2014).

2.1. Aim

To evaluate the feasibility and acceptability of a nurse-coordinated, transitional care intervention for older adults enrolled in a frailty registry transitioning from hospital to home.

2.2. Study design

The TRANSFER-II Study was a prospective, non-randomised, single-arm, Phase I feasibility and acceptability trial investigating the use of a patient-centred discharge intervention for hospitalised older adults admitted under a Geriatrician and returning home. As a trial within a cohort (TwiC) study, TRANSFER-II utilised an established clinical frailty registry (Western Sydney Clinical Frailty Registry), which follows the frailty profile of older adults in the local community. The frailty registry protocol (Ferguson et al., 2023) and initial results (McDonagh et al., 2025) of the frailty registry have been previously published,

highlighting rehospitalisation as a common event.

2.3. Primary and secondary outcomes

Primary outcome: The proportion of participants who were able to set three priorities from the discharge summary and the proportion of participants who achieved one, two, or all three priorities.
Secondary outcomes: recruitment rate, number of intervention calls per contact, and retention rate. To determine the most appropriate primary outcome measure for a future randomised controlled trial between unplanned readmissions, mortality, institutionalisation, quality of life, anxiety, and depression. An additional qualitative measure asking participants what is most important to them at each follow-up time point.

3. Methods

3.1. Study setting

The study was conducted in the Rehabilitation and Aged Care Services of two metropolitan hospitals located within Western Sydney Local Health District, Australia. These two hospitals have a total of 534 beds and service a large and ethnically diverse, rapidly expanding (and ageing) population, encompassing a wide range of cultural, linguistic, and socio-economic backgrounds with 50% of residents being born in a non-English speaking country (Western Sydney Local Health District, 2025).

3.2. Screening for eligibility and enrolment

Included participants were hospitalised older adults aged 65 years and above, admitted under a Geriatrician to an acute care hospital, and included in the Western Sydney Clinical Frailty Registry (2019/ETH12635). Participants were discharging from hospital and returning home, were Australian permanent residents (Medicare), had the capacity to consent, and access to a phone to complete intervention activities.

Participants were recruited by research personnel in collaboration with the Western Sydney Clinical Frailty Registry during their admission under the Rehabilitation and Aged Care Services. Patients were screened against the study eligibility criteria through Electronic Medical Records (EMR) during their hospital stay and recorded on a screening log. Potential participants were provided with an in-person invitation to be involved in the study. Patients who agreed to participate signed the written consent form.

3.3. Intervention

All recruited participants received the intervention. The 'Nurse Navigator' intervention description is published in more detail in the study protocol (Parker et al., 2025). Further details regarding the Nurse-Navigator dialogue and the telehealth follow-up templates for weeks 1 and 2 are provided in Supplementary File 1. The intervention components are described in further detail below.

During inpatient stay:

- The Nurse Navigator met with the participant.
- Medical staff completed the discharge summary as usual routine practice.

On discharge:

- Nurse Navigator sets three patient-centred priorities with the participant, for when the participant returns home. These were determined by the recommendations and follow up activities outlined in the participants discharge summary, written by the medical team.
- The participant and Nurse Navigator numbered these activities one to three and ensured the participant understood what was required of them at home. These were discussed verbally and written down in simple language.
- The nurse helped to organise and facilitate these patient-centred priorities where needed and ensured safety at home.

Post discharge at home:

- Nurse telehealth contact within one week of discharge was planned to discuss these three patient-centred priorities, then again the following week, totalling two points of contact within the intervention.
- The nurse provided support and answered questions about the discharge summary and follow up requirements and ensured there was clear communication with the participant about the discharge plan in language that they understood.
- During these contacts the intervention nurse helped to facilitate further community support where needed.

3.4. Usual care

This trial used no control or comparator. All included participants received the intervention as well as usual care according to standard processes, policies and procedures. It was considered important to clearly establish feasibility before a large research investment in an appropriately powered randomised controlled trial.

3.5. Outcome measurements

Baseline demographic data, including age, sex, address, primary language, height, weight and Body Mass Index was collected on study baseline enrolment. Participants pre-hospital clinical status was collected using the Clinical Frailty Scale (Rockwood and Theou, 2020), a validated nine-point scale that assesses overall frailty based on clinical judgement. Clinical Frailty Scale scores ≥ 5 indicating frailty and higher scores reflect greater severity (Rockwood and Theou, 2020). Functional performance was measured using the Australian-modified Karnofsky Performance Status (AKPS), validated measure of physical and functional status between 10 and 100, with lower scores indicating reduced performance (Abernethy et al., 2005). During hospital admission participants' clinical status was measured using the Frailty Index for Emergency Department (FI-ED) frailty instrument, a validated frailty instrument specifically designed for acute care settings (Brousseau et al., 2018). Comorbidities and concurrent conditions were measured using the Charlson Comorbidity Index (validated tool that creates a weighted comorbidity score) (Charlson et al., 2022), and medication usage and number of medications as documented on the Discharge Summary. Discharge date and discharge destination were also collected. All the above outcome measures were also collected and available in the ongoing Western Sydney Clinical Frailty Registry for participants.

Two Patient Reported Outcome Measures (PROM) were used at baseline, including the EuroQol Visual Analogue Scale (EQ VAS) and EuroQol Five-Dimensional Five-Level questionnaire (EQ-5D-5L), validated instruments for measuring quality of life across five dimensions (mobility, self-care, usual activities, pain/discomfort, anxiety/depression) (Herdman et al., 2011; Devlin and Brooks, 2017). The Hospital Anxiety and Depression Scale (HADS) for measuring anxiety and depression in hospital settings (Bjelland et al., 2002; Zigmond and Snaith, 1983). These questionnaires were completed on recruitment to the study, during baseline admission.

3.5.1. Trial feasibility and acceptability

The primary outcome was to test the feasibility and acceptability of

the intervention, through the proportion of participants who were able to agree to the three priorities and the proportion of participants who achieved one, two, or three priorities. These were measured and collected during intervention calls by the Research Nurse, as self-reported by participants and based on the clinical judgement of the nurse. Other secondary outcomes included recruitment rate, retention rate, and number and duration of intervention calls.

3.5.2. Participant follow-up data

Follow-up was initiated at 1-, 3-, 6-, and 12-month timepoints post discharge from baseline admission. Data collected includes unplanned and all-cause readmissions, mortality, and institutionalisation. Additionally, patient-reported outcome measures for quality of life (EQ-5D-5L and EQ VAS (Herdman et al., 2011, Devlin and Brooks, 2017)) and anxiety and depression (HADS (Bjelland et al., 2002, Zigmond and Snaith, 1983)) were collected at 1-month post discharge, to investigate if the intervention could shift participant safety and quality of life at home post discharge.

3.6. Sample size

Consulting a biostatistician, a feasibility sample size to determine proof of construct related to patient experiences and safety during the transition home was used. With a minimum of 97 participants (single arm), the 95% Confidence Interval for any estimated proportion (assuming a 0.50 proportion) of the primary outcome would be no wider than +/− 10%. Accounting for a potential dropout rate of 10%, the final sample size required was 107 participants (Sakpal, 2010).

3.7. Statistical analysis

Statistical analysis included descriptive statistics and estimates of proportions using a 95% Confidence Interval. Repeated measures were reported for continuous and categorical variables. Inferential statistics were used on the Patient Reported Outcome Measures to compare at baseline and one-month, including Paired t-test. Both an intention-to-treat and per protocol analysis were completed. Per-protocol analysis

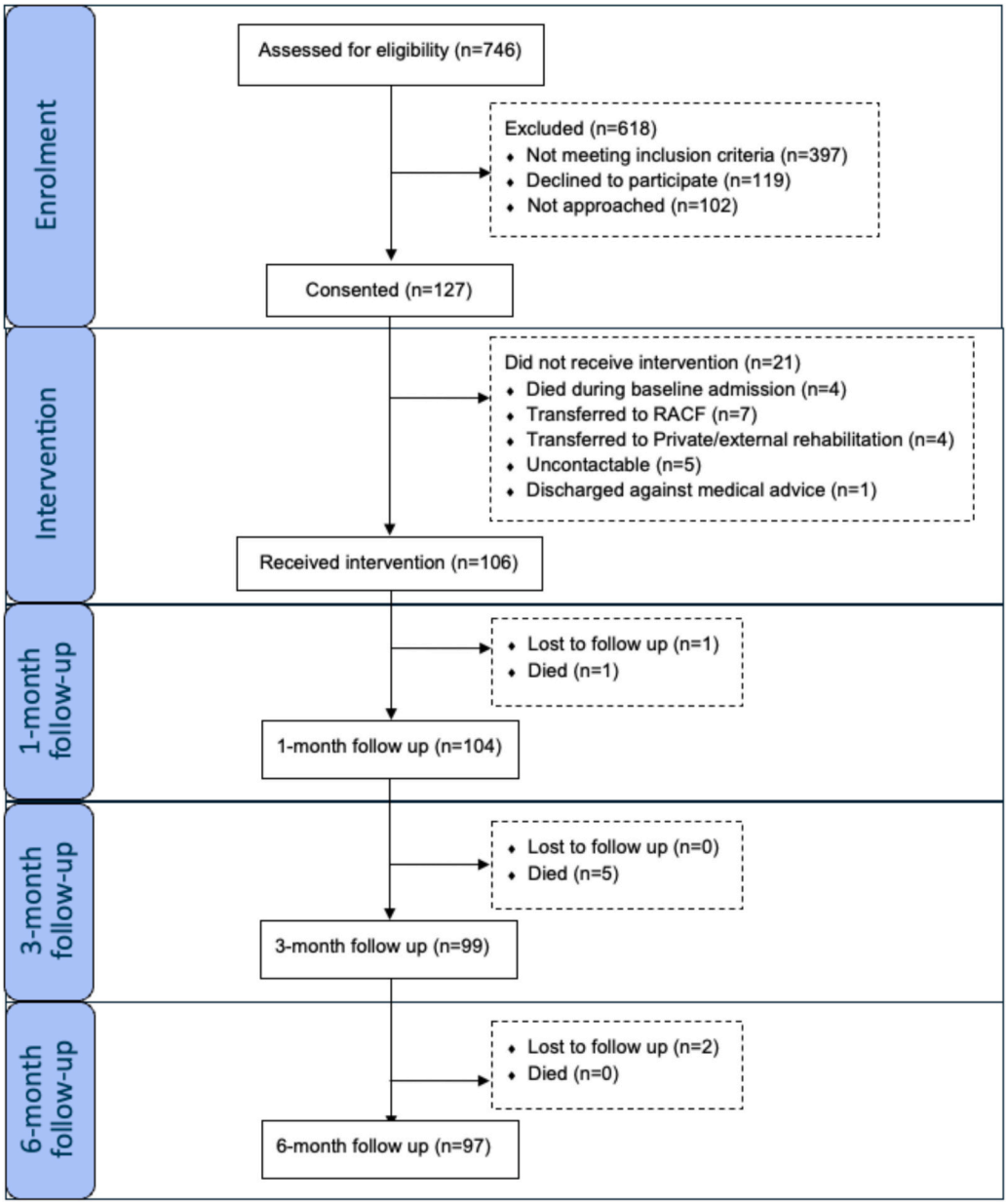

Fig. 1. CONSORT flow diagram of the TRANSFER-II study.

was reported in the results to account for a variation from protocol that occurred during data collection at one-month follow-up. Results were reported using a significance level of 0.05. Mortality, institutionalisation, and readmissions over follow up timepoints were analysed by descriptive statistics of the proportions.

3.8. Ethical considerations

Ethical approval has been granted from the Western Sydney Human Research Ethics Committee (2024/ETH01032) and site governance approval for Blacktown and Mount Druitt hospitals (2024/STE01730) in July 2024. All included participants signed written consent forms.

4. Results

4.1. Recruitment

Recruitment was conducted over a 6-month period from August 2024 to February 2025. As depicted in Fig. 1, a total of 746 potential participants were screened and 349 met eligibility criteria. One-hundred and twenty-seven participants were recruited to the TRANSFER-II Study; 21 participants did not receive the intervention for varying reasons (e.g. died during baseline admission or uncontactable). Resulting in 106 participants receiving the intervention and progressing to 1-month follow-up.

4.2. Participant characteristics

Participants had a mean age of 80.4 years, 57% female. Prior to admission to hospital, mean Clinical Frailty Scale of participants was 4.48 (SD 1.24). Median length of stay during baseline admission was 10 days (ranging 2–133 days). Table 1 summarises the baseline characteristics of recruited participants.

Table 1
Baseline demographics of participants.

Variable		N = 106
Age (years)	Mean (SD)	80.4 (6.7)
	Median (IQR)	81 (75, 86)
	Min, max	65, 98
Sex, n (%)	Female	60 (57%)
	Male	46 (43%)
Body mass index	Mean (SD)	29.65 (8.64)
	Median (IQR)	27.6 (24.28, 32.2)
	Min, max	17.8, 64.5
Pre-hospitalisation		
AKPS	Mean (SD)	63.87 (10.29)
	Median (IQR)	60 (60, 70)
	Min, max	40, 90
Clinical Frailty Scale	Mean (SD)	4.48 (1.24)
	Median (IQR)	4.5 (3, 5.25)
	Min, max	2, 7
	Non-frail	n = 53, 50%
	Mild-moderately frail	n = 50, 47%
	Severely frail	n = 3, 3%
During admission		
FI-ED	Mean (SD)	0.38 (0.11)
	Median (IQR)	0.38 (0.29, 0.46)
	Min, max	0.17, 0.67
Charlson Comorbidity Index	Mean (SD)	7.15 (3.6)
	Median (IQR)	6.5 (5, 8)
	Min, max	2, 25
Documentation of advanced care directive/ not-for-resuscitation	n (%)	27 (25.5%)
On discharge		
Number of medications on discharge	Mean (SD)	9.66 (3.92)
	Median (IQR)	9 (7, 12)
	Min, max	2, 23
Length of stay of baseline admission	Median (IQR)	10 (7–22)
	Min, max	2, 133

AKPS; Australian-Modified Karnofsky Performance Status, FI-ED; Frailty Index for Emergency Department.

4.3. Retention

One hundred and six participants received at least one intervention call. A total of 101 participants (95%) received 'Contact 1', participants who did not were either readmitted to hospital (n = 1) or were not reachable by telephone (n = 4). Ninety-nine participants (93%) received 'Contact 2', participants who did not were either readmitted to hospital (n = 3) or were not reachable by telephone (n = 4). One month follow-up was collected from 104 participants, 3 months on 99 participants, and 6 months on 97 participants. Reasons for discontinuation are summarised in Fig. 1.

4.4. Feasibility and acceptability of the intervention

Feasibility and acceptability of the intervention was high (Table 2). A total of 105 (99%) of participants were able to agree to the three patient-centred priorities derived from the discharge summary. Ninety-nine (93%) participants were able to achieve these three priorities. One participant (1%) was unable to agree to the priorities due to post-discharge weakness contributing to their inability to follow-up with their General Practitioner (GP). Among participants who did not achieve the agreed priorities (7%), contributing factors included GP disagreement with the hospital discharge plan, GP on leave, incorrect specialist details on the discharge summary, and missed follow-up clinic appointments due to barriers with transportation. Median intervention calls at Contact 1 and 2 for both patients and family was one, and average call length for Contact 1 and 2 was 5.92 (SD 3.15) minutes and 4.54 (SD 2.56) minutes, respectively.

4.5. Fidelity and sustainability

TRANSFER-II had high fidelity to the intervention, key aspects and general principles of the intervention were adhered to throughout the study duration. However, as the nurse navigator was employed for two days a week, the 'plan for home' sheet and initial intervention conversation was often conducted over the phone during Contact 1 (n = 100, 94%), not in hospital during admission (n = 6, 6%). Discharge summaries are often signed and authorised late in the patient's hospital admission, not long before returning home, which was another factor affecting this intervention activity. Flexibility was also required during intervention contact time points as some participants would not answer their phone on the first attempt, and hence both Contacts 1 and 2 had to be conducted together.

4.6. Baseline to one month patient-reported outcomes measures

Quality of life, anxiety, and depression were measured at baseline and 1- month, as shown in Table 3 below. A protocol deviation occurred during the 1-month follow-up period, whereby the administration of some of the Patient-Reported Outcome Measures could not be verified. Following advice from a biostatistician, we used per protocol analysis (verified sample only).

Mean scores for HADS reduced from baseline to 1-month, demonstrating improvement in anxiety and depression after the intervention, although this was insignificant. Quality of life mean scores as per the EQ-5D-5L improved at 1-month, apart from 'Pain/Discomfort'. Change scores of 'Mobility' and 'Self-Care' were statistically significant. EQ-VAS scores improved at 1-month, but these were not statistically significant.

Table 2
Intervention feasibility and acceptability.

Feasibility outcomes			
Was the patient able to agree to 3 priorities? (N = 106)	1	n = 0	0%
	2	n = 1	1%
	3	n = 105	99%
Was the patient able to achieve 1, 2 or 3 priorities? (N = 106)	1	n = 1	1%
	2	n = 6	6%
	3	n = 99	93%
Where were the priorities set with the patient? (N = 105)	In-person	n = 6	6%
	Over the phone	n = 100	94%

Contact 1			
Number of calls to patient	N = 88	Median	1
Number of calls to family members	N = 25	Median	1
Total time of calls during Contact 1 (min)	N = 101	Mean (SD)	5.92 (3.15)
		Median (IQR)	5 (4,7)
		Min, Max	2, 27

Contact 2			
Number of calls to patient	N = 81	Median	1
Number of calls to family members	N = 23	Median	1
Total time of calls during Contact 2 (min)	N = 99	Mean (SD)	4.54 (2.56)
		Median (IQR)	4 (3,5)
		Min, Max	1, 15

Note: Percentages rounded to nearest whole number.

4.7. One, three and six month follow up

At 1-month follow-up, 25 participants (24% of total) had represented to hospital and, for these 25 participants, six (24%) were for elective admissions, nine (36%) for non-elective admissions, and 10 (40%) via the emergency department only. Of these 25 individuals who had one readmission, nine (36%) experienced a second all-cause readmission within the same one-month period. At 3-month and 6-month follow-up, the proportion of participants with an all-cause readmission increased to 32% and 33%, respectively. By 6 months, the survival rate was 95%, and 80% of participants remained living at home. Further data points are presented in Table 4 below.

5. Discussion

The TRANSFER-II Study evaluated a nurse-coordinated, transitional care intervention that integrated patient-centred priorities into discharge communication. Findings demonstrated high feasibility and acceptability, with 99% of participants able to agree to the three priorities and 93% successfully achieving these priorities. Intervention fidelity was high, and participants responded well to the targeted and patient-centred discharge communication. Although deliberately light-touch and brief, the intervention required active participant engagement and functioned as a structured "check-in" on post-discharge progress. Its high feasibility and acceptability were attributable to the absence of additional activities, instead reinforcing and clearly communicating existing discharge plans. This simplicity highlights the intervention's suitability for time-challenged clinical settings and its ease of integration into routine nursing workflows.

The high feasibility observed in the TRANSFER-II Study aligns with previous research demonstrating the practicality of structured, person-centred interventions in acute and post-discharge settings. For example, Westgård et al. (2018) reported the feasibility of implementing a multidisciplinary comprehensive geriatric assessment in hospital, while another recent trial of home visits and telehealth follow-up improved adherence to outpatient follow-up, and improved understanding of discharge instructions, despite no reduction in 30-day representations (Jacobsohn et al., 2022). Another feasibility study also provided preliminary evidence for improved discharge and transition planning for patients with complex needs (Davis et al., 2024), reinforcing the value of structured approaches to discharge, supporting the feasibility and acceptability demonstrated in the TRANSFER-II Study. However, further research is required to establish the effectiveness, cost-

Table 4
Secondary outcomes by follow-up timepoint.

Outcome		1 month	3 months	6 months
Alive, n/N (%)		104/105 (99%)	99/104 (95%)	97/102 (95%)
Residential status, n/N (%)	Home	96/104 (92%)	91/99 (85.8%)	85/97 (80%)
	Residential aged care facility	2/104 (2%)	5/99 (5%)	7/97 (7%)
	In-hospital patient	6/104 (6%)	3/99 (3%)	5/97 (5%)
Readmissions during entire follow-up, n/N (%)		25/104 (24%)	32/99 (32%)	32/97 (33%)
Readmission status, n/N (%)	Elective	6/25 (24%)	4/32 (12%)	6/32 (19%)
	Non-elective	9/25 (36%)	14/32 (44%)	17/32 (53%)
	Emergency department only	10/25 (40%)	14/32 (44%)	9/32 (28%)
Additional readmissions, n/N (%)		9/25 (36%)	12/32 (38%)	9/32 (28%)

Note: Percentages rounded to nearest whole number.

Table 3
Mean and change scores between baseline and one-month Patient Reported Outcome Measures.

Variable	Per protocol mean (SD)				
	Number	Baseline	1-month	Change score	P-value
EQ-5D-5L					
Mobility	n = 48	2.71 (1.15)	2.23 (1.26)	0.78 (1.38)	.020
Self-care	n = 48	2.83 (1.29)	2.00 (1.19)	0.83 (1.36)	<.001
Usual activities	n = 48	2.96 (1.20)	2.54 (1.37)	0.42 (1.46)	.053
Pain/discomfort	n = 48	2.21 (1.15)	2.46 (1.20)	−0.25 (1.45)	.239
Anxiety/depression	n = 48	2.08 (0.99)	1.88 (1.08)	0.21 (1.13)	.207
EQ-VAS	n = 48	57.4 (18.97)	61.88 (23.6)	−4.479 (27.38)	.263
HADS					
Anxiety score	n = 42	5.31 (4.79)	5.02 (5.14)	0.29 (3.85)	.633
Depression score	n = 45	5.98 (4.37)	5.26 (5.03)	0.82 (4.70)	.247
HADS Total score	n = 41	11.63 (8.51)	10.68 (9.71)	0.95 (7.78)	.439

EQ-5D-5L; EuroQol Five-Dimensional Five-Level questionnaire, EQ-VAS; EuroQol Visual Analogue Scale, HADS; Hospital Anxiety and Depression Scale,

effectiveness, and appropriate primary outcomes for this population. While readmission rates are commonly used, measures such as quality of life, perceived safety, and post-discharge confidence may better capture patient-centred impact. Notably, our consumer advisory group for the Frailty Register considered a readmission a "right" rather than a poor outcome, for example. Overall, results highlight the intervention's strong potential for broader implementation, particularly given the well-established link between effective discharge communication and improved patient safety outcomes (Schwarz et al., 2019; Jack et al., 2009; Gonçalves-Bradley et al., 2016; Hahn-Goldberg et al., 2021; Buckley et al., 2024).

Several practical insights emerged from the study. Transitional care interventions are known to benefit older adults with complex needs, with nurses playing a central role in these interventions through coordination and communication (Verhaegh et al., 2014). While this is the case, the benefit of utilising the greater multidisciplinary team in care navigation cannot be ignored (Pang et al., 2025). In the TRANSFER-II Study, the part-time nurse navigator operated outside the multidisciplinary team, limiting in-hospital engagement and pre-discharge planning. Consequently, the initial conversation regarding the patient-centred discharge priorities often occurred during the first intervention contact, rather than prior to hospital discharge. Embedding the nurse navigator within the geriatric care team and expanding their role to full-time would enhance integration into discharge workflows, facilitating the development of therapeutic relationships and continuity of care, essential components of person-centred care interventions (Doherty and Thompson, 2014). Furthermore, the involvement of family members and carers had a positive influence on the feasibility and acceptability of the TRANSFER-II intervention. This finding reflects evidence from other studies, which consistently highlight the critical role of family carers in supporting safe and effective hospital to home transitions (Liebzeit et al., 2024). Carer engagement not only facilitates communication and continuity of care but also enhances adherence to discharge instructions.

The telehealth follow-up component of the intervention revealed practical challenges, particularly regarding participants' adherence to calls, which can be attributed to a number of factors (Bertolazzi et al., 2024). Recent research on older adults' communication during the COVID-19 pandemic supports the observation that older adults often hesitate to engage with unfamiliar contacts, including phone calls from unknown numbers (Berg-Weger and Morley, 2020). Integrating digital tools, such as electronic discharge summaries and text message-based reminders, may improve accessibility and engagement, especially for patients with limited digital literacy. Using age-inclusive telehealth platforms that incorporate user-friendly design and support mechanisms suggests perceived advantages that outweigh the challenges (Wardlow et al., 2022). Furthermore, no urgent or emergency clinical escalation events were recorded during the study period. However, a small number of participants presented to the Emergency Department within days of hospital discharge and prior to receiving their first intervention follow-up contact, highlighting the vulnerability and complexity of this cohort. These findings are consistent with recent evidence indicating that older adults with multimorbidity and high symptom burden require timely and coordinated post-discharge support to prevent avoidable acute care use (Davis et al., 2024). Future iterations of the intervention should consider ethically sound strategies to proactively support engagement.

5.1. Future directions

Future research should rigorously evaluate the effectiveness of discharge communication interventions that utilise plain, patient-friendly (health literate) language to convey essential aspects of care. Tailored communication strategies that enhance health literacy, patient activation, and carer engagement are critical to improving transitional care for older adults with complex needs (Werner et al., 2018). Evidence indicates that when discharge summaries are written in accessible and targeted language, they significantly improve patient comprehension, satisfaction, and adherence to post-discharge plan (Jack et al., 2009; Hahn-Goldberg et al., 2021). The increasing use of generative Artificial Intelligence (AI) cannot be ignored, with recent studies highlighting their value in patient-friendly discharge communication (Zaretsky et al., 2024). Specifically, a recent feasibility study found AI-written discharge summaries had higher levels of acceptable quality than those written by junior doctors, as rated by community GP's (Clough et al., 2024). As digital technologies become increasingly integrated into healthcare, leveraging AI to produce patient-friendly discharge communication represents a promising frontier for enhancing comprehension, and should be further evaluated in future research. To advance this field, a Phase II to III randomised controlled trial is recommended to assess the effectiveness of patient-centred discharge communication on clinical outcomes, such as hospital readmissions, as well as patient-reported measures of safety, security, and quality of life post-discharge. Embedding the intervention within inpatient geriatric services, where multidisciplinary teams and referral pathways are already established, would provide a supportive context for implementation and evaluation. Further research should also explore how setting clear expectations around discharge planning and employing patient-centred communication strategies can strengthen patient agency, engagement, knowledge retention, and self-management capabilities (Pratt et al., 2021). Such a trial should also investigate the integration of digital tools, including telehealth follow-ups and electronic discharge summaries, to enhance scalability and reach.

5.2. Strengths and limitations

The study was designed as a 'proof-of-construct' in evaluating patient-centred discharge communication. A key strength was the high fidelity of the intervention, particularly in agreement and achievement of the patient-centred priorities. Another strength is the inclusion of an older, more complex cohort of patients (as evidenced by the mean age of 80.4 years) who are often excluded from clinical trials and research. There were also several limitations that require consideration. The study was conducted in two metropolitan hospitals with a relatively small sample size, limiting the generalisability of findings to broader populations or different healthcare settings. While the primary outcomes are patient-centred, the lack of a formal, validated instrument necessitated subjective assessment, which may introduce measurement bias and is a limitation of the study. Furthermore, selection bias may have occurred, as the older adults who consented to the study might represent a cohort with higher baseline motivation or health literacy than the general frail population. Additionally, without a comparator or control group, the study is susceptible to bias from unmeasured confounding and contextual influences, limiting the ability to attribute observed effects directly to the intervention. Future research should incorporate a comparator to better understand intervention impact and reduce potential bias.

A protocol deviation occurred during the 1-month follow-up period, whereby the administration of Patient-Reported Outcome Measures could not be verified. In response, follow-up procedures were reassigned to another research nurse, who received tailored training, simulations completing the tools with the study coordinator, and a period of supernumerary shadowing. Oversight was maintained through rigorous monitoring and regular check-ins to ensure consistency throughout study duration. This breach was formally reported to the governing ethics committee, and corrective actions were implemented to uphold data integrity. Consequently, only per protocol 1-month Patient Reported Outcome Measures were reported.

6. Conclusion

Feasibility and acceptability were high for this nurse-coordinated, transitional care intervention for hospitalised older adults with complex health needs being discharged home. By addressing long-standing

gaps in discharge communication and continuity of care, these findings strengthen the evidence base for models that prioritise patient experience, safety, and system efficiency. These results provide a strong foundation for future Phase II and III trials to evaluate patient-reported outcomes, clinical effectiveness, and sustained health impacts. Looking ahead, scaling and adapting such interventions across diverse healthcare contexts will be critical to achieving sustainable, equitable, and person-centred transitions in care.

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CRediT authorship contribution statement

Kirsten J. Parker: Writing – original draft, Visualization, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Louise D. Hickman:** Writing – review & editing, Visualization, Supervision, Methodology, Funding acquisition, Conceptualization. **Julee McDonagh:** Writing – review & editing, Visualization, Supervision, Methodology, Funding acquisition, Conceptualization. **Richard I. Lindley:** Writing – review & editing, Supervision, Resources, Methodology, Conceptualization. **Caleb Ferguson:** Writing – review & editing, Visualization, Supervision, Resources, Methodology, Investigation, Funding acquisition.

Patient public involvement

Patient and public involvement was integrated into the design and development phases of this study. The Blacktown Frailty Consumer Advisory Group provided feedback on the proposed study design to ensure its relevance and acceptability to patients and carers. Preliminary findings were subsequently reported back to the group for discussion and reflection.

Ethics statement

This study received ethics approval from the Western Sydney Local Health District Human Research Ethics Committee (Reference number: 2024/ETH01032) on July 3rd 2024.

Declaration of competing interest

None declared.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ijnurstu.2026.105521.

Data availability

The datasets generated and analysed during the current study are not publicly available due to ethical and privacy restrictions.

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