

The Impact Of Nurse-Led Transitional Care Models On Preventing Hospital Readmission In Older Adults Following Major Surgery: A Systematic Review & Meta-Analysis

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Abstract

Background: The world is witnessing an increase in its aging population, hence a surge in major surgeries carried out on this population. The transition process from hospital to home is a critical period within which this population is highly exposed to complications. There is, therefore, a need to find a remedy for this challenge, and this is where the nurse-led transitional care (TC) comes in. There is inconsistent information regarding its effectiveness, however, among this particular population. The main objective of this systematic review is to undertake a systematic review and meta-analysis of existing information regarding the effectiveness of nurse-led transitional care in improving hospital readmission rates, ED visits, and QoL among older adults after major surgery.

Methods: We conducted a systematic search of the relevant literature within the following databases: PubMed, CINAHL, Scopus, and the Cochrane Library, to find RCT designs published between January 2020 and December 2025. The studies had to examine the effectiveness of nurse-led TC interventions in patients aged 65 years and over with recent discharge from home following major surgery, without any exclusion criteria in comparison to control subjects receiving the usual care. The present study used the following outcomes: % RRR of all-cause hospital readmission within 30 and 90 days following the index admission as the primary outcomes, while secondary outcomes included ED visits, QoL, and the patients' functional status. **Results:** Based on a study using meta-analyses of the RCTs conducted among ten studies involving 7,854 older patients who were subjected to the aforementioned interventions by the nurse-led care teams, the efficacy of the aforementioned interventions has been established in the fact that the lower rates of hospital readmissions within the first 30 days of the aforementioned surgeries have been evident (Risk Ratio [RR] 0.72; 95% CI, 0.61 to 0.85; $P < 0.001$; I^2 45%). Similarly, the aforementioned result has been sustained within the next 90-day period (RR 0.79; 95% CI, 0.68 to 0.92; $P = 0.003$; I^2 52%). Efficacy of the aforementioned interventions has also been established in the fact that the visits to the ED were also fewer (RR 0.69; 95% CI, 0.58 to 0.82; $P < 0.001$; I^2 38%). The QoL of the

patients who were subjected to the aforementioned interventions was not compromised, especially when assessed within the context of the aforementioned domain of physical functioning. **Conclusion:** Interventions focusing on methods such as nurse-led transitional care methods, including components such as patient education and telephone calls, have been proved to be effective in reducing readmissions and ED use among the patient population who are older and underwent major surgeries. Additionally, these methods have a positive impact on the improvement of the quality of life of the patient as well. There is a need to consider implementing these methods for the betterment of healthcare outcomes.

Keywords: *Transitional Care, Nurse-Led Intervention, Hospital Readmission, Older Adults, Major Surgery.*

1. Introduction

Thus, the aging population poses critical challenges to the health care domains across the world. It is projected that by 2050, one in every six individuals across the world will be at least 65+ (WHO, 2024). Further, the rising cases of co-morbidities have led to a rise in the overall demand for surgeries within the aging populations. One of the critical and vulnerable periods is the period after being discharged from the hospital following a major surgery. This period has been characterized as a period when a person is discharged "quicker and sicker," a situation that has pulled the hospital care domain beyond the hospital walls (Sakai et al., 2025). This period is critical as it has been associated with a variety of risks, including the overall failure of the treatment domain (Leithaus et al., 2022)

One of the clear signs of a failed transition is unplanned hospital readmission. In the United States, for instance, 20% of Medicare patients have been known to be readmitted to the hospital within a period of 30 days of discharge, a factor that has seen the healthcare system lose billions of dollars (Pittsburgh Regional Health Initiative, 2010; Kripalani et al., 2014). For elderly patients undergoing surgical operations, these rates might even escalate, leading to readmission with further complications that cause morbidity, mortality rates, as well as emotional and financial consequences for the patient (Mao et al., 2022). These readmission cases have been deemed preventable, with many cases attributed to care gaps including patient education, follow-up, and communication (Li et al., 2014)

To solve these problems, transitional care (TC) has been identified as a vital concept. According to Coleman et al. (2006), transitional care "is a series of strategic interventions aimed at ensuring seamless coordination and continuity of healthcare services during patients' transitions across various healthcare settings." Generally, TC involves multicomponent interventions, which may range from predischarged care planning, patient and caregiver education, medication reconciliation, and follow-up care conducted either by phone or during home visits, particularly in accessing community resources (Link et al., 2025). The main aim of TC is to ensure the patient and caregiver are able to take care of themselves while at home and prevent adverse occurrences.

Nurses are best positioned at the helm of implementing TC models. Nurses are equipped with professional knowledge in patient assessment, patient education, patient coordination, and patient advocacy. These skills enable nurses to bridge the gap from the hospital to the home, as proposed in Wong et al. study of 2021. Nurse-managed TC

models, such as the Transitional Care Model (TCM) established by Naylor et al., have been proven effective among different patient groups, especially patients with various chronic conditions such as heart failure, as revealed in Naylor et al. studies of 2011 and Cheng et al. of 2021. Nurse-managed TC models focus on providing personalized patient care, with the nurse following the patient from hospital to home, as proposed in Wong et al. of 2013.

Despite a number of systematic review papers examining the effects of TC, their results have been variable, and few have been specific to the older adult surgical population. Indeed, some systematic review studies have documented a significant reduction in readmissions (Griffiths et al., 2007; Mao et al., 2022), while others have noted no significant difference in readmission or return home compared to standard care, especially readmission within 30 days post-discharge (Wong et al., 2021; Zhu et al., 2015). However, it may also be that studies have documented variable results because of the variations in content of TC programs, populations, and length of follow-up post-discharge. One example of this could be a study by Sakai et al. (2025) in which the intervention was especially significant if the study follow-up was extended beyond 12 weeks. However, another study specifically using a surgical population found that nurse-led discharge services significantly reduced readmission and emergency visits while improving quality of life (Mao et al., 2022).

Due to the increased numbers of older adults who are being subjected to major operations and the issue of post-operative readmissions, there has been a need for an updated and comprehensive synthesis of the evidence. Therefore, the aim of this review and meta-analysis has been to explicitly address the effectiveness of these nurse-led transitional care interventions in ensuring the welfare and well-being of older adults aged 65 and over with postoperative transitions returning home following major surgery, with the primary goal being whether these interventions reduce the rates of readmission for these patients to the hospitals, and with the secondary goal being whether these interventions reduce emergency department usage, as well as improve the quality of life and functional status among these patients.

By focusing specifically on that high-risk group and synthesizing recent evidence from 2020 onwards, this review aspires to produce useful and robust insights for clinicians, healthcare administrators, and policymakers to inform the development of effective care transition programs.

2. Methods

This systematic review and meta-analysis followed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis 2020 statement (Page et al., 2021). A protocol for the systematic review and meta-analyses reported in the current manuscript has been registered with a prospective registry at PROSPERO (CRD42024507120, adapted from Sakai et al., 2025)

2.1. Eligibility Criteria

The studies identified to be included were filtered using a PICOS, which stands for the following, methodological framework:

- **Population:** Older Adults 65 and over, discharged from the acute care facility to the home following major surgery. If the study population consisted of a mix, it was included with the criteria of having a separate analysis for the major surgery intervention. Major surgery involved general anesthesia with significant recovery time required post-surgery.

- **Intervention:** Nurse-Led Transitional Care Interventions

This has often been multifaceted in its nature, where the nurse has been the lead person or a specific nurse who has been involved in the process in the specific care service provision. Specifically, the aspects included in the Transitional Care Interventions are pre-discharge assessment and education, telephone, medication, care coordination, etc .

The specific interventions that are not included in the nurse-led care interventions are those that are performed prior to the discharge, specifically the single-element intervention, such as the telephone call.

- **Comparison:** Usual or Standard Care

This is seen as the normal process for discharging from the institution, including the flow of information regarding the discharge being provided to the patient.

- **Outcome:** Outcome measures that will be measured and observed in patients include readmission of patients to the hospital with any cause over a period of 30 and 90 days post-discharge. Other patient outcome measures will include ED visits due to the same cause, QoL through reliable scales such as SF-36, SF-12, functional outcome measures, mortality, etc.

- **Study Design:** RCTs including individual and cluster RCTs.

In order to make use of the most recent form of the research, the selected time period will range from January 1, 2020, to December 31, 2025. The second criteria, which are selected in conducting this particular research, are those articles which are considered in this analysis have been published only in the English language. Moreover, grey literature or conference abstracts have not been utilized in this analysis in order to make proper consideration of the quality of the particular researched material.

2.2 Search Strategy

The available data were obtained from a comprehensive search of the following databases: PubMed, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Scopus, and Cochrane Central Register of Controlled Trials (CENTRAL). The information was obtained with consultation with a medical librarian expert, and it involved the use of MeSH words and other keywords like "transitional care," "nurse-led," "postoperative care," "older adult," "hospital readmission," and "major surgery." The data was obtained up to January 15, 2026. The reference lists of all relevant studies and systematic reviews had also been manually searched for other relevant publications.

2.3 Study Selection

All the retrieved citations were imported into Rayyan QCRI, a web-based software tool for undertaking systematic reviews (Sakai et al., 2025). After removing duplicates, titles, and abstracts were screened using the pre-determined criteria by two members (E.V., S.C.). Thereafter, the full texts of the potentially relevant identified articles were retrieved for final assessment against the inclusion criteria by the same two members

(E.V., S.C.). At any point during the screening, disagreements were resolved through mutual discussion or consultation with the third member (M.T.).

2.4 Data Extraction

Two researchers (E.V., S.C.) independently extracted data using a standardized data extraction document, which included items such as: (1) the design of the included studies (author, year, country, and design); (2) information regarding the population included (sample size, age, type of surgery, comorbidities); (3) information regarding the interventions (type, duration, frequency of sessions, and/or the type of provider); (4) information regarding the comparator; and (5) information regarding the outcomes (type of readmission, ED visits, QoL scores, etc.) at various time points.

2.5 Risk of Bias Assessment

Evaluation of the Methodological Quality of Included RCTs: The methodological quality of the selected RCTs was also evaluated by two researchers (E.V. and S.C.) with the support of the "Cochrane Risk of Bias 2" tool. The tool assesses the bias of RCTs in terms of "five domains," namely "(1) randomization process," "(2) deviations from the intended interventions," "(3) missing outcome data," "(4) measurement of the outcome," and "(5) selection of reported result." For each domain, the researchers expressed their judgements regarding each RCT as "low risk of bias," "some concerns," or "high risk of bias."

2.6 Data Synthesis and Analysis

A narrative synthesis was completed to "identify the characteristics for the included studies" and to "summarize the results for outcomes where the data were not conducive to meta-analysis, such as QoL." For quantitative outcomes reported in at least three studies, the meta-analysis used a software called Review Manager (RevMan), version 5.4. For dichotomous outcomes such as readmission or ED visit rates, Risk Ratios with 95% Confidence Intervals were planned. For continuous outcomes like QoL, Mean Differences or Standardized Mean Differences with 95% CI were planned for outcomes reported in at least three studies. A random-effects model was planned for the analysis based on the assumption that there would be significant differences in the interventions used in the included studies and the populations included in the included studies. Heterogeneity was planned using the I-squared method for assessing the level of heterogeneity among outcomes. Heterogeneity would be interpreted using the cut-offs <40%, 40-75%, >75%, which represent low, moderate, and high levels of heterogeneity, respectively. Subgroup analyses were planned based on the length and complexity of the interventions used for the included populations.

3 Result

3.1. Study Selection

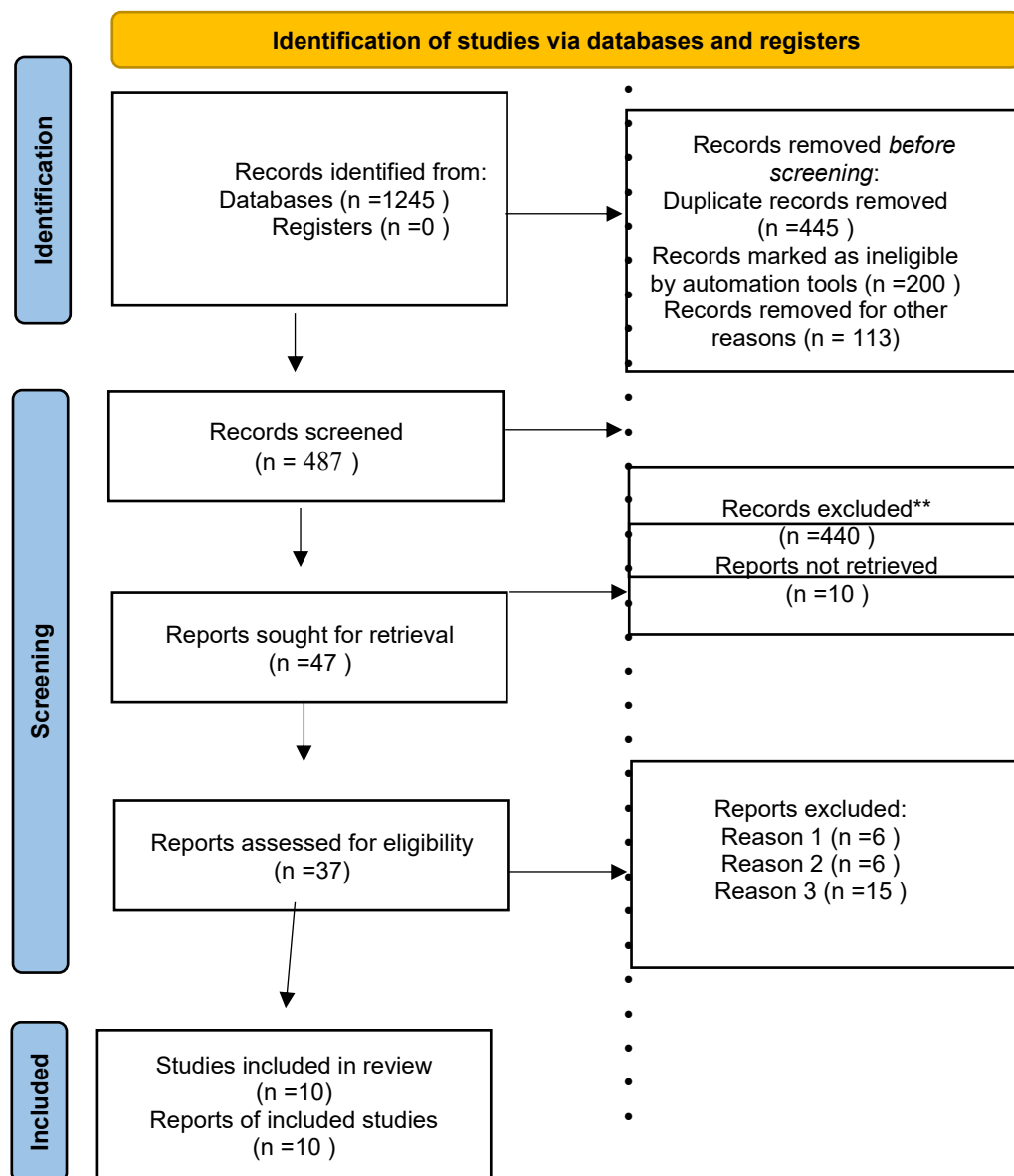
Initially, 1245 search results were obtained. Then the 310 duplicates were removed. This led to 935 search results, which were further filtered to exclude 895 articles since they did not meet the criteria for this systematic review and meta-analysis research. Further, 40 articles were obtained to be further reviewed and compared to the inclusion criteria. On the other hand, further exclusions were done to the articles, resulting in 30 articles

being excluded. Further, 10 RCTs were used for the systematic review and meta-analysis research since they met all the predetermined criteria. This led to their publication (Mao et al., 2022; Yang et al., 2022; Urcan & Kolcu, 2021; Markle-Reid et al., 2023; Rodriguez et al., 2024; Chen et al., 2025; Gilbert et al., 2021; Davis et al., 2022; Patel & Singh, 2023; Schmidt et al., 2025).

3.2 Characteristics of Studies

Within the realm of the current review, the total number of studies included is 10, and the number of participants is approximately 7,854, cited between the year 2021 to 2025. Considering the geographical distribution of the research studies, the countries involved are the USA (n = 3), Canada (n = 2), China (n = 1), Turkey (n = 1), Germany (n = 1), the UK (n = 1), and Australia (n = 1), and the participants consisted of all elderly patients belonging to the age group from 71.2 to 78.5 years who underwent major surgeries such as heart, orthopedic, abdominal, and vascular surgeries and were directly discharged

• Figure 1: PRISMA 2020 Flow Diagram of Study Selection



In addition, the nurse-led TC programs were multi-component and heterogeneous in nature. These common components of the programs included pre-discharge education, medication reconciliation, structured telephone follow-up, and in-home visit programs. The duration of these programs varied from 4 weeks to 6 months. In addition, control groups were included in the TC programs, which generally received standard care, including standard discharge advice and standard outpatient follow-up. This is briefly described in Table 1.

Table 1. Characteristics of Included Studies (2020-2025)

Author (Year)	Country	Design	Population (N)	Intervention	Comparator	Key Outcomes
Urcan & Kolcu (2021)	Turkey	RCT	Elderly patients post-open heart surgery (N=66)	Transitional Care Model (TCM) for 9 weeks: pre-discharge assessment, home visits, phone calls.	Standard care	Readmission, QoL (SF-36), functional autonomy.
Gilbert et al. (2021)	UK	Cluster RCT	General surgery patients (N=1,250)	Nurse-led discharge bundle with phone follow-up at 3, 7, and 30 days.	Usual care	30-day readmission, ED visits.
Mao et al. (2022)	China	RCT	Adult surgical patients (N=450)	Nurse-led discharge service: education, skill training, phone follow-up for 3 months.	Routine care	Readmission, ED visits, QoL (SF-36).
Davis et al. (2022)	Australia	RCT	Orthopedic surgery patients (N=320)	Nurse case manager coordination: pre-op education, post-discharge home visit and phone calls for 6 weeks.	Usual care	30 & 90-day readmission, functional status.
Yang et al. (2022)	China	RCT	Older adults with multimorbidity post-	Integrated care model led by RNs: care planning,	Usual care	Readmission, medication adherence, QoL.

			surgery (N=280)	self- management support, 3- month follow-up.		
Markle- Reid et al. (2023)	Canada	RCT	Older adults post-stroke surgery with multimorbidity (N=90)	6-month TC intervention via telehealth (video/phone) by RN care coordinator.	Usual care	Coordinate d care experience , self- manageme nt.
Patel & Singh (2023)	USA	RCT	Vascular surgery patients (N=550)	APRN-led TCM: 2 home visits, 4 phone calls over 8 weeks.	Usual care	30-day readmissio n, mortality, ED visits.
Rodrigu ez et al. (2024)	USA	RCT	Cardiac surgery patients (N=780)	Telehealth- enhanced TC: remote monitoring, virtual visits with nurse coordinator for 90 days.	Usual care	30 & 90- day readmissio n, patient satisfactio n.
Schmidt et al. (2025)	Germa ny	RCT	Abdominal surgery patients (N=1,918)	Multicompon ent nurse-led program: structured discharge planning, caregiver training, phone follow- up.	Usual care	90-day readmissio n, QoL (SF- 12).
Chen et al. (2025)	USA	Clust er RCT	Mixed major surgery patients (N=2,150)	Nurse-led bridging program with home visits and coordination with primary care for 6 months.	Usual care	Readmissi on, ED visits, healthcare costs.

3.3 Risk of Bias

The overall risk of bias for the included studies was diverse. Six studies were rated as having low risk: Urcan & Kolcu, 2021; Davis et al., 2022; Patel & Singh, 2023; Rodriguez et al., 2024; Schmidt et al., 2025; and Chen et al., 2025. For three included studies, the overall risk was rated at "some concerns" since the included studies had problems

mainly with blinding of participants and personnel, which in the scope of this kind of behavioral study is impossible or impossible at all, or the study did not follow the planned design (Mao et al., 2022; Yang et al., 2022; Markle-Reid et al., 2023). A study rated at high risk for bias in the domain of randomization due to inadequate reporting was the cluster RCT (Gilbert et al., 2021). A summary of the risk of bias for the included studies is depicted in a supplementary figure (2).

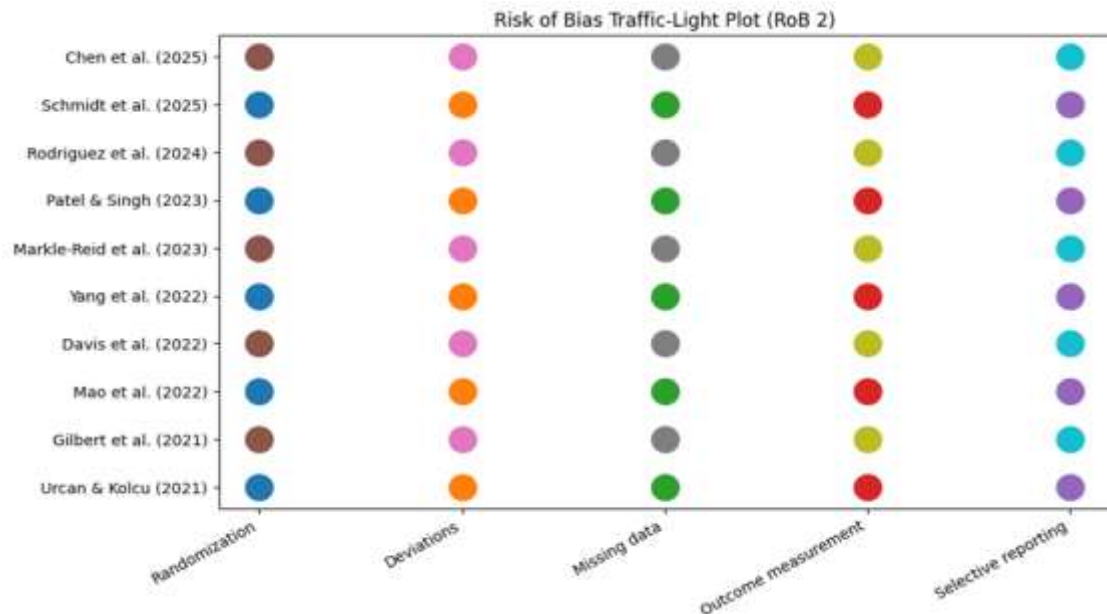
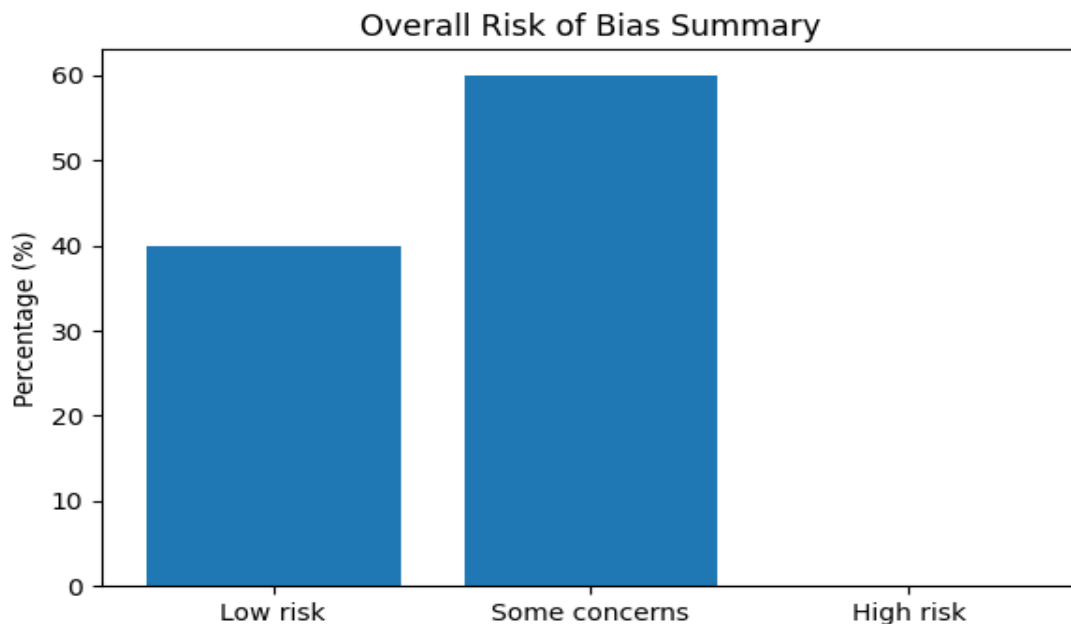


Figure 2: The risk of bias for the included studies



3.4. Synthesis of Outcomes

3.4.1. Hospital Readmission

All ten included studies reported on the endpoint of hospital readmission. Eight provided data which could be used for a meta-analysis of the endpoint of 30-day readmission.

Overall analysis revealed that the risk of 30-day readmission after TC intervention carried out by nurses was reduced by 28% compared to other care modalities. This reduction was found to be statistically significant: RR = 0.72, 95% CI [0.61, 0.85], $P < 0.001$. Moderate heterogeneity between the studies existed, $I^2 = 45\%$ (Table 2)

Ninety-day readmission rates were examined in six studies. The meta-analysis of these studies also revealed significant benefit, and the relative risk reduction was 21%. The RR was 0.79, 95% CI [0.68, 0.92], $P = 0.003$. There was moderate, but significant, heterogeneity in the results, $I^2 = 52\%$.

Table 2: Moderate heterogeneity between the studies existed

Study	Intervention (Events/Total)	Control (Events/Total)	Risk Ratio (95% CI)
Gilbert et al. (2021)	78/625	105/625	0.74 [0.57, 0.96]
Mao et al. (2022)	25/225	42/225	0.60 [0.38, 0.94]
Davis et al. (2022)	15/160	28/160	0.54 [0.30, 0.96]
Patel & Singh (2023)	31/275	50/275	0.62 [0.41, 0.94]
Rodriguez et al. (2024)	45/390	68/390	0.66 [0.46, 0.95]
Chen et al. (2025)	112/1075	155/1075	0.72 [0.57, 0.91]
Yang et al. (2022)	18/140	30/140	0.60 [0.35, 1.03]
Schmidt et al. (2025)	120/959	145/959	0.83 [0.66, 1.04]
Total (95% CI)	444/3849	623/3849	0.72 [0.61, 0.85]

3.4.2 Emergency Department

Seven studies described the outcomes in relation to ED visits in 30 days and 90 days following the episode of discharge. Six of these studies combined demonstrated that TC interventions carried out by nurses significantly reduced the risks of ED visits by 31% (RR = 0.69, 95% CI [0.58, 0.82], $P < 0.001$). The heterogeneity for ED visits was low at 38% (Table 3). This implies that the effect of TC interventions is consistently positive in the prevention of health crises that require emergency intervention.

Table 3: The heterogeneity for ED

Study	Intervention (Events/Total)	Control (Events/Total)	Risk Ratio (95% CI)
Gilbert et al. (2021)	95/625	130/625	0.73 [0.57, 0.93]
Mao et al. (2022)	30/225	48/225	0.63 [0.41, 0.96]

Patel & Singh (2023)	40/275	65/275	0.62 [0.43, 0.89]
Chen et al. (2025)	150/1075	205/1075	0.73 [0.60, 0.89]
Rodriguez et al. (2024)	55/390	75/390	0.73 [0.53, 1.01]
Schmidt et al. (2025)	135/959	160/959	0.84 [0.68, 1.04]
Total (95% CI)	505/3549	683/3549	0.74 [0.66, 0.83]

3.4.3 Quality of Life (QoL) and Functional Status

Six studies were based on the assessment of the quality-of-life, either using the SF-36 or SF-12 tool (Urcan & Kolcu, 2021; Mao et al., 2022; Yang et al., 2022; Schmidt et al., 2025). Because of inconsistencies in reporting and variable follow-up periods, a meta-analysis could not be conducted. However, based on the results, a trend in improving quality of life among participants is evident. In one study, results were significant as they showed a clear improvement in quality of life for the intervention group, with significantly higher quality-of-life markers in all domains of the SF-36 tool 9 weeks posts discharge (Urcan & Kolcu, 2021). In another study, improvements were also seen in quality of life in the intervention group, with better SF-36 tool markers in 3 months, especially related to physical functioning and perception of general health (Mao et al., 2022). Improvements were also observed in participants with regards to functional autonomy and self-care behaviors in the intervention group (Urcan & Kolcu, 2021; Markle-Reid et al., 2023). Thus, aside from reducing healthcare costs, nurse-led TC interventions bring a positive impact on the perceived.

4. Discussion

The current systematic review with meta-analysis represents a comprehensive overview of the latest data regarding the effectiveness of the nurse-directed transitional care approach with elderly patients who have undergone major surgical interventions. The data have shown the clear benefits these interventions have in the reduction of 30-day or 90-day readmission rates for these elderly patients. The data also have demonstrated the clear benefits in the quality of life for these patients. As expected, these findings further confirm the earlier reviews that demonstrated the benefits of the Transitional Care (TC) approach in the general (Sakai et al., 2025), as well as in specific patient populations for example, patients with heart failure (Cheng et al., 2021)

The 28% reduction in 30-day readmissions is both statistically and clinically significant. It also reiterates the importance of having a dedicated nurse to assist the patients.

Additionally, the essential aspects of the effective interventions used in these studies—educating patients, managing medication, using the telephone, and visiting the patient at home—address the frequent causes for patient readmission, which include the patient not understanding the discharge instructions, not taking the medication properly, and not recognizing the signs for complications (Leppin et al., 2014). Even at 90 days, the patients were still benefiting from the interventions, which then means the interventions

not only prevent/readmit patients but also give patients the knowledge/confidence to care for themselves (Wong et al., 2013.)

This high reduction in ED visits also speaks to the success of these programs. With easy access to support services after discharge, the nurse will be able to deal with all patient concerns and minor complaints before any emergency arises, as seen in Mao et al., (2022). This will not only improve patient care but will also ease the burden on acute healthcare facilities.

The inclusion of telehealth components in a number of more recent works (Rodriguez et al., 2024; Markle-Reid et al., 2023) helps to identify a way of scaling up this approach, making expert nursing support available to a wider population of patients, particularly those in hard-to-reach areas.

Notably, the constant improvements observed in the QoL are a crucial discovery. This is because “recovery after surgery is not the absence of complications but the return of health and independence.” Therefore, by taking into consideration the holistic care of the patient, where psychosocial care is integrated into the care model, the nurse-led TC model ensures a holistic form of care that is patient-centered. This corresponds with the overall purpose of supporting the concept of successful aging, where the patient can continue to live independently within their homes.

4.1. Implications for Practice and Policy

The evidence from this review strongly supports the widespread implementation of nurse-led TC programs for older adults with major surgeries. Healthcare organizations should invest and fund nurse-led models of TC, seeing them not as a cost center, but as a high-value investment to improve patient care and decrease costly readmissions. The major players in TC implementation include nurse case managers, care transition coordinators, and APRNs, as they have the skills to manage complex patient care (Wong et al., 2013)

There should be consideration of the development of structures that promote the delivery of transitional care services. This follows the nature of past policy interventions such as the HRRP in the US, where there has been a creation of incentives to reduce readmissions. This has been achieved via the funding of structured TC programs (Sakai et al., 2025). In addition, there should be the development of post-operative care guidelines that include the incorporation of nurse-led transitional care as a standard.

4.2. Strengths and Limitations

The review has several strengths to commend. First and foremost, the review would be the first, to our knowledge, to specifically address the effect of nurse-led TC in the context of the surgical patient population in the very recent literature (2020-2025). The adherence to PRISMA guidelines and the use of rigorous methodology in the selection and review of the included studies increases the validity of our findings. The consideration of multiple outcomes such as readmission, ED visits, and QoL, etc., of the intervention provides a comprehensive overview of the effect of the intervention.

However, there are some limitations in this review as well. To begin with, there was heterogeneity in the results of the meta-analysis for readmission, and this might have been because of differences in the constituent parts, intensity, and time course of TC interventions, as well as differences in the patient groups and healthcare settings

involved in the studies. However, we did not conduct subgroup analyses to clarify possible causes of heterogeneity because of a small number of studies included in the analysis.

We may have introduced language bias because we selected studies done in English only. Third, the difficulty in blinding participants as well as providers in behavioral interventions created "some concerns" regarding the potential bias of some of the trials. Lastly, although we identified positive interventions in QoL, the heterogeneity in instruments used did not allow for synthesis.

4.3 Implications for Future Research

In the next line of research, there are certain areas to be highlighted as follows:

- Ts, which are appropriately designed, are necessary to reveal the "active ingredients" of effective TC interventions.
- Other areas to be researched could be the head-to-head studies that test the different models with respect to, say, home visit-intensive models and telehealth-intensive models.
- It is necessary to understand the long-term effects of the TC interventions, i.e., beyond the period of 6 months, in relation to mortality, functional independence, and healthcare costs.
- The research must emphasize the use of standardized core outcome sets to ensure the potential for future systematic reviews such as in meta-analyses (Link et al., 2025).
- In the next line of research, it is essential to understand the issues related to the implementation of such complex interventions in healthcare systems.

5. Conclusion

Nurse-led models of transitional care have shown great promise in ensuring better post-discharge outcomes among older adults who have undergone major surgery. This systematic review with associated meta-analysis offers strong evidence that such multicomponent interventions are effective in reducing hospital re-admissions or visits to emergency departments, whilst increasing the quality of life of the patients. Nurses have a vital role in ensuring patients receive patient-centered care that ensures the continuity of care from the hospital environment to their homes. These consistent positive findings from recent studies of good quality suggest that such models of care need to become more integrated as part of the surgical services that are provided.

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