



## Models and Effectiveness of Structured Discharge Planning in the Poststroke Care Transition: A Systematic Literature Review

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### Abstract

The transition of care from hospital to home among post-stroke patients is a critical phase associated with risks of functional decline, rehospitalization, and increased caregiver burden. However, limited studies specifically examine the core components of structured discharge planning and its effectiveness across different healthcare contexts. This research aims to synthesize recent evidence on discharge planning models and their effects on post-stroke outcomes, including functional independence, quality of life, rehospitalization, and caregiver-related outcomes. A Systematic Literature Review was conducted following PRISMA 2020 guidelines, with searches in PubMed, Scopus, ProQuest, SAGE, and ScienceDirect for studies published between 2020 and 2025. A total of 22 studies met the inclusion criteria from an initial 641 articles and were analyzed using a narrative-thematic approach. The results indicate that most studies demonstrate high methodological quality, with three main findings: variations in discharge planning models (ESD, TCM, family-based, and telehealth), the central role of nurses in coordination and education, and positive outcomes such as improved activities of daily living, quality of life, self-efficacy, and caregiver resilience, as well as reduced readmission and psychological distress. In conclusion, structured and collaborative discharge planning involving family support is effective in improving transitional care quality, although variations in interventions and outcomes should be considered when interpreting the findings.

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## INTRODUCTION

Stroke is the world's largest cause of death and ranks third based on Disability-Adjusted Life Years (DALYs), although global stroke mortality rates are declining, the number of stroke survivors continues to increase, leading to an increase in the population of people with post-stroke functional impairment (Kim et al, 2025). Post-stroke transition is a critical period that is a burden on stroke patients and their families, due to the consequences of physical, cognitive, aphasia, post-stroke fatigue (Sahely et al., 2024), this condition often causes families to feel unprepared for treatment at home (Khoiriyati et al., 2021). Post-stroke patients' and families' needs for information are very diverse, with some studies reporting a lack of information, support, and skills in managing the recovery phase care as well as anxiety to engage in activities and adjust to new care routines. Patient and family unpreparedness in medication management, rehabilitation, and environmental adaptation is a common problem. Service fragmentation still occurs due to lack of coordination between hospitals, rehabilitation, primary services, and

families, coupled with workload barriers and lack of multiprofessional training (Jin et al., 2025).. Some things such as the lack of systematic follow-up make complications and deterioration of stroke patients' function often go undetected, high rehospitalizations 30–90 days after discharge indicate a weak transition process so that the hospital-to-home phase requires a more structured transition intervention.

Global Burden of Disease data states that more than 100 million people live with a history of stroke and about 6.5 million die each year (WSO, 2022). Ischemic stroke accounts for about 63 million DALYs annually, indicating a huge burden of disability (Feigin et al., 2022). Middle-low-income countries, including Indonesia, bear a high incidence of stroke, which was around 293.3 per 100,000 in 2019 (Sebastian et al., 2023). The national prevalence will reach around 0.8% or 8 per 1,000 population in 2023 (KEMENKES RI, 2024). Although the transitional care model has been shown to reduce readmission <30 days (Septianingrum et al., n.d.) Efforts are still needed to develop interventions and supports to bridge the transition period of post-stroke care from hospital to home. Discharge planning and transition coordination processes between hospitals and patients and families are needed to improve the quality of life of post-stroke patients (Laila et al., 2024; Zhou et al., 2025) .

Meleis' theory explains that the post-stroke phase is a health-illness transition and a situational transition that is influenced by individual readiness, environmental support, and interventions that facilitate adaptation. The transition of post-stroke patients from hospital to home requires major adjustments due to neurological deficits, dependence on family and changes in the care environment. The framework highlights three key elements, namely transition characteristics, facilitating and inhibiting factors (readiness, social support, team competence, home conditions), as well as transition outcomes such as stability, optimal function, and complication prevention. In the perspective of Meleis' theory, discharge planning serves as a key intervention to facilitate the transition through readiness assessment, structured education, interprofessional coordination, caregiver empowerment and systematic follow-up. With optimal implementation, discharge planning can prevent transitional disruption and increase the success of stroke patients when they return home (Amirtharaj et al., 2024) Discharge planning is a structured process to prepare patients and families so that the transition from hospital to home is safe and sustainable. This process includes assessment of patient needs, education related to conditions and rehabilitation, inter-professional coordination, and follow-up after discharge. Structured discharge planning programs have been proven to increase patient activation, strengthen self-care, lower re-admission rates, and improve quality of life (Ruksakulpiwat et al., 2025). In the context of stroke, homecoming planning is especially important due to the high risk of disability, the need for long-term rehabilitation, and the potential for post-relapse complications. Thus, discharge planning is a key component to ensure the continuity of treatment and stability of the condition of stroke patients.

A number of recent studies have shown variations in the model and effectiveness of discharge planning in stroke patients. Studies (Eva Rayanti & Yoel, 2020) report that nurses have implemented discharge planning, but role optimization is still needed. (Muhammad Imron Rosadi Mujib & Fitri Arofiati, 2023) found that audiovisual educational interventions in discharge planning contribute significantly to improving the quality of life of stroke patients (Septianingrum et al., n.d.) showing that the implementation of transitional care is able to reduce the readmission rate <30 days in stroke patients, while (Jin et al., 2025) highlights the challenges of implementing transitional care from a clinical perspective. In addition, a 2025 systematic review reported that multidisciplinary and technology-based discharge planning interventions provide meaningful benefits for stroke recovery, although outcomes between studies still vary (Ruksakulpiwat et al., 2025). Although studies have examined discharge planning and transitional care in stroke patients, there is no comprehensive and focused synthesis of discharge planning models available, both at the global and developing levels. Variations in intervention

models, service settings, and differences in outcome indicators make it difficult to determine best practices that can be widely implemented. In addition, empirical evidence from developing countries, including Indonesia, is still limited, especially in the context of limited resources and the role of families as caregivers in the treatment process. Limitations can also be seen in the lack of long-term data and the lack of optimal use of theoretical frameworks, such as the Meleis Transition Theory, to explain the mechanism of intervention success. Therefore, this study aims to synthesize the latest evidence on the discharge planning model in stroke patients by examining the main components of interventions that include assessment, education, coordination, and follow-up, as well as evaluating various outcomes such as readiness to go home, readmission rates, function, and quality of life, taking into account the influence of the context of service systems in developed and developing countries.

## **RESEARCH METHODS**

This study used a Systematic Literature Review (SLR) design with reference to the PRISMA 2020 guidelines to trace, assess, and synthesize empirical evidence related to the effectiveness of discharge planning in poststroke patients in a systematic and transparent manner. The research protocol includes question formulation, search strategy, inclusion and exclusion criteria, quality assessment, and data synthesis, although not registered with PROSPERO or OSF due to time constraints, but still follows the principle of methodological transparency. Literature searches were conducted on five main databases, namely Scopus, PubMed, ScienceDirect, ProQuest, and SAGE Journals, with a limit to English-language publications for the period 2020–2025 using a combination of MeSH and free-text terms. The included studies involved poststroke adult patients with structured discharge planning interventions, including the Transitional Care Model (TCM), Early Supported Discharge (ESD), and telehealth-based approaches, with primary outcomes of rehospitalization, mortality, function, and quality of life. The selection process produced 22 articles that met the criteria through the PRISMA stage with a moderate level of agreement between reviewers. Quality assessment using JBI Critical Appraisal Tools shows that the majority of studies have good methodological quality. In general, the main potential bias is found in intervention deviation and outcome measurement, while reporting bias is relatively low, so that the synthesis results can still provide a comprehensive and reliable picture.

## **RESULTS AND DISCUSSION**

### **Search Results and Study Selection**

Literature searches on five main databases resulted in a number of articles that were then selected through the stages of removing duplication, filtering titles and abstracts, and reviewing full texts according to the PRISMA 2020 guidelines. After all stages of selection were carried out, a total of 22 studies met the inclusion criteria and were included in the synthesis. This selection process ensures that the analyzed studies consistently represent structured discharge planning interventions in the transition phase of poststroke patient care. The flow diagram of the study selection is presented on the PRISMA Flow Diagram.

### **Synthesis Approach and Theme Formation Process**

Given the heterogeneity of the study design, the variation in the intervention model, as well as the differences in reported outcomes, the synthesis of results was not carried out through quantitative meta-analysis. Instead, the narrative synthesis approach is used for quantitative

studies and thematic synthesis for qualitative studies as well as qualitative components in mixed-methods research. The thematic synthesis process follows the Thomas and Harden framework, which includes three main stages: line-by-line coding of study findings, development of descriptive themes, and formation of analytical themes across studies.

Coding is carried out on two main dimensions, namely the components of discharge planning intervention (e.g. structured education, post-graduate follow-up, cross-professional coordination, ESD, telehealth, and case management) and treatment transition outputs (function, quality of life, depression, rehospitalization, readiness to go home, and unmet needs). Codes that have similarities in mechanism and direction of effect are then grouped iteratively to produce three main analytical themes that represent patterns of cross-study outcomes.

### **Characteristics of Inclusive Studies**

The detailed characteristics of the 22 studies analyzed are presented in Table 1, including author and year of publication, country of origin, study design, sample size, model or main component of discharge planning, as well as outcomes measured. In general, the research design was dominated by randomized controlled trials, followed by observational and mixed-methods studies. The interventions studied showed wide variation, ranging from integrated service-based models (such as ESD and TCM), family-focused interventions, to technology-based approaches and care transition coordination.

### **Analytical Themes of Results Synthesis**

Based on the thematic synthesis process, three main analytical themes were identified:

Theme 1: Optimizing readiness to return home through structured education and strengthening self-management capacity. This theme highlights the role of structured education, increasing self-efficacy, and the use of decision-making tools in increasing the readiness of patients and caregivers to go home. Studies in this theme show that the quality of discharge teaching and active involvement of patients and families contribute significantly to post-graduation transition readiness and adaptation.

Theme 2: Continuity of post-relapse services through follow-up, coordination, and home- or community-based rehabilitation. This theme reflects the importance of continuity of care after patients are discharged, through ESD models, structured follow-up, case management, and cross-service coordination. Studies in this theme show functional improvements and early identification of new or persistent problems, although long-term effects vary between models.

Theme 3: Strengthening family support and technology-based approaches to psychosocial outcomes. This theme includes family-centered and telehealth-based interventions that focus on quality of life, depression, caregiver resilience, and unmet needs. Technology- and family-based approaches have consistently shown benefits on psychosocial outcomes, although the impact on self-management behaviors is not always significant.

### **Intervention Effects and Comparison Between Discharge Planning Models**

A summary of the direction of the intervention effects is presented in Table 2, which distinguishes significant and insignificant outputs according to the subcategory of the discharge planning model. The Early Supported Discharge (ESD) and very early supported discharge models show short-term benefits on function and mobility. The Transitional Care Model (TCM) and care transition coordination tend to improve quality of life and independence of daily activities. Family-centered interventions consistently have a positive impact on caregiver

burden and well-being, while telehealth-based interventions show strong potential in improving psychosocial outcomes and patient satisfaction. The case management model shows the feasibility of implementation, although the effects on hard outputs are still mixed.

### Country Context Variations

Cross-study analysis showed that there were variations in discharge planning approaches based on the country context. Studies from high-income countries generally emphasize integrated systems and technology-based models, such as ESD and multidisciplinary virtual stroke clinics. In contrast, studies from middle-income countries focused more on patient and caregiver education and the use of simpler communication technologies. Although the form of implementation is different, the direction of intervention benefits is relatively consistent, showing that the principle of structured discharge planning is relevant across health care contexts.

**Table 1. Characteristics of Included Studies**

| No | Title, Researcher (First author et al.) and year  | Country | Research Methods (Design) and Samples   | Intervention   | Key Results   | Implications for Nursing   |
|----|---|---------|---|--|---|--|
| 1  | <i>Effect of very early supported discharge versus usual care on activities of daily living ability after mild stroke: a randomized controlled trial</i> (Björkdahl et al., 2023) | Sweden  | Randomized controlled trial (secondary analysis Gothenburg VESD trial) in patients with mild stroke.                            | <i>Very Early Supported Discharge (VESD), Home-based rehab</i> | Very Early Supported Discharge (4-week home rehabilitation by a multidisciplinary team) accelerated recovery and mobility by up to 3 months, but the difference disappeared at 12 months. | Nurses need to initiate and coordinate discharge planning very early with a home-based program, focusing on I-ADL/mobility exercises in the subacute phase to accelerate the independence of mild stroke patients. |
| 2  | <i>The virtual family conference in stroke rehabilitation : Education, preparation, and transition planning.</i> (Ritsma et al., 2023)  | Canada  | Observational cross-sectional study on 87 caregivers who attended 48 virtual family conferences during rehabilitation treatment | <i>Virtual Family Conference</i>                               | Virtual family conferences increase caregivers' knowledge of stroke, satisfaction with information, readiness and confidence to face the transition to the                                | Nurses can use teleconference-based family conferences as a structured educational and home planning intervention to prepare caregivers and reduce distress during the transition home.                            |

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|   |  |       |  |                                | community, and reduce caregiver stress; Consistent community follow-up can be organized within the framework of the conference   |
| 3 | <i>The status of readiness for hospital discharge of patients with post-stroke cognitive impairment and its relationship with post-discharge social isolation.</i> (Guo et al., 2025)  | China | Observational cross-sectional study (STROBE) in 155 PSCI patients in tertiary hospitals; using the MoCA, Readiness for Hospital Discharge Scale, and Lubben Social Network Scale | Readiness discharge assessment | The level of readiness to return home is at a moderate level; 37.4% are not ready. Annual income, residence (urban/rural), and MoCA score were significantly related to readiness. Readiness correlates with the level of social isolation after graduation.   |
| 4 | <i>A WeChat-based caregiver education program improves satisfaction of stroke patients and caregivers, also alleviates poststroke cognitive impairment and depression: a randomized, controlled study.</i> (Kang & Li, 2022) | China | A randomized controlled trial of 170 ischemic stroke patients; caregiver received an educational program via WeChat for 12 months vs control treatment                           | Caregiver education via WeChat | The WeChat group showed an increase in MMSE scores and a decrease in the rates of cognitive impairment, anxiety, and depression, as well as an increase in patient and caregiver satisfaction compared to controls. Nurses can leverage messaging platforms (e.g. WhatsApp/WeChat) for ongoing remote education programs for caregivers, to improve patients' mental health and family satisfaction after discharge. |

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| 5 | <i>Development of a patient decision aid for discharge planning of hospitalized patients with stroke.</i><br>(Prick et al., 2022)   | Netherlands | Convergent mixed-methods design; need assessment of patients and health workers, co-creation, acceptability and usability tests; following the criteria of IPDAS | Patient Decision Aid (PtDA)      | Developed a three-component PtDA (a printed consultation sheet, an online tool with "patients-like-me" outcomes, and a preference summary sheet). All IPDAS criteria are met and PtDA is rated as highly acceptable and useful by patients and HCPs. | Nurses can use decision aid to involve patients and families in the selection of home destinations (home, IRF, SNF) through shared outcome-based decision-making, so discharge planning is more person-centered.                      |
| 6 | <i>Improving the quality of life and resilience of family caregivers of stroke survivors through education based on the Roy's adaptation model: a randomized controlled trial</i><br>(Monjezi et al., 2025) | Iran        | Randomized clinical trial in 104 caregivers; 4 educational sessions + phone follow-up based on Roy's Adaptation Model vs control                                 | Caregiver education (Roy Model)  | After the intervention, there was a significant improvement in quality of life, resilience, and caregiver adaptation in the intervention group compared to the controls.   | Nurses can apply the Roy model in caregiver education to strengthen adaptive responses in four modes (physiological, self-concept, role function, interdependence), so that caregivers' quality of life and resilience are increased. |
| 7 | <i>The Post-Stroke Checklist: longitudinal use in routine clinical practice during first year after stroke.</i><br>(Månsson et al., 2024)   | Sweden      | Longitudinal observational study; nurse-led follow-up with a 14-item Post-Stroke Checklist on 200 patients (3 and 12 months post-stroke)                         | Nurse-led Post-Stroke Checklist. | At 12 months, only 36% had no problems; 24% with persistent issues and 40% with new issues. The new problem is mainly in secondary   | Nurses need to conduct repeated structured follow-ups (minimum 3–12 months) using a checklist to identify new/persistent problems and follow up on  |

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|   |   |           |   |                                    | prevention and "life after stroke". More than half received a new intervention at 12 months, but secondary prevention targets were still not optimal   | cardiovascular risk factors and post-stroke psychosocial needs.   |
| 8 | <i>Factors associated with family caregiver readiness to care for post-stroke patients after hospital discharge</i> (Septianingrum et al., 2024)  | Indonesia | Cross-sectional study in 59 families of stroke patients in the neurological ward; using the Stroke Knowledge Questionnaire and FAM-RHDS   | Caregiver readiness factors        | Age, gender, income, occupation, marital status, and knowledge were significantly related to caregiver readiness; formal education is not. Gender (male) is the most dominant factor influencing readiness.  | Nurses need to screen family readiness before going home, target education, especially male and low-skilled caregivers, and incorporate readiness assessments into standard discharge planning.                     |
| 9 | <i>Factors influencing discharge readiness among patients with mild-to-moderate ischemic stroke: a cross-sectional study.</i> (Wang et al., 2024) | China     | Cross-sectional study of 120 patients with mild-to-moderate ischemic stroke; using the RHDS_C, Self-Efficacy Scale, Perceived Social Support, and Quality of Discharge Teaching Scale | Discharge teaching & self-efficacy | Average readiness to discharge at a moderate level; 75.8% feel ready. Self-efficacy and quality of discharge teaching were significant predictors of readiness, while social support was insignificant; Both factors explain the 64.9% variation in readiness. | The importance of interventions to improve patient self-efficacy (self-management exercises) and improve the quality of structured and individualized homecoming education so that readiness to go home is optimal. |

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| 10 | <i>Discharge intervention to improve outcomes and web-based portal engagement after stroke and transient ischaemic attack: A randomised controlled trial.</i><br>(Fakes et al., 2024) | Australia | Randomised controlled trial (open, parallel-group, multicenter) in stroke survivors/TIA and care partners who received discharge interventions + EnableMe vs usual care web portal | Discharge web Portal +        | Interventions improve quality of life, reduce depression, and reduce unmet needs at 3 and 6 months; Most of the participants who use the portal find it helpful. The intervention group showed a significant improvement in functional status and a significant decrease in depression compared to the control; family function improves, caregiver burden and stress decrease; fewer complications. | Nurses can integrate web-based educational portals and transition support to reduce psychosocial problems (depression, unmet needs) and improve post-stroke self-management/TIA.   |
| 11 | <i>Effectiveness of a family-based program for post-stroke patients and families: A cluster randomized controlled trial.</i><br>(Deepradit et al., 2023)                              | Thailand  | Cluster randomized controlled trial; 62 families (31 interventions, 31 controls); Family-based 12-week program based on the Neuman System Model                                    | Family-based program (Neuman) | The intervention group showed a significant improvement in functional status and a significant decrease in depression compared to the control; family function improves, caregiver burden and stress decrease; fewer complications.  | Demonstrated that family-based interventions are effective in restoring stroke patient function and lowering the burden on caregivers; community nurses can use a family-centered care approach based on Neuman's theory |

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|    |   |           |  |                                  | complications.  |   |
| 12 | <i>Investigating the effect of implementing a program based on transitional care model on the quality of life and the ability of doing activities of daily living among patients with stroke</i><br>(Bavarsad et al., 2022) | Iran      | Intervention studies in 80 stroke patients; Transitional Care Model-based program from day 2 to 10 weeks after graduation                              | Transitional Care Model (TCM)    | The intervention group experienced greater improvements in quality of life and ability to perform daily activities than the controls.   | Emphasizing the importance of the role of nurses in structured transitional care (education, follow-up, coordination) to maintain and improve the QoL and ADL independence of stroke patients after discharge.                                  |
| 13 | <i>Study protocol for a nested process evaluation of a complex discharge planning intervention (HOME Rehab) to improve participation after first-stroke.</i><br>(Reeder et al., 2024)                                       | Australia | Process evaluation protocols nested in the HOME Rehab RCT; mixed methods with the RE-AIM framework   | HOME Rehab (RE-AIM)              | There have been no results of effectiveness; The evaluation process is designed to explain the mechanisms, contexts, and implementation factors that affect the outcomes of HOME Rehab interventions. | Provide guidance for nurses and managers in evaluating the implementation of complex discharge planning interventions (Reach, Effectiveness, Adoption, Implementation, Maintenance) before scale-up.  |
| 14 | <i>Virtual Multidisciplinary Stroke Care Clinic for Community-Dwelling Stroke Survivors: A Randomized Controlled Trial</i><br>(Lo et al., 2023)   | Canada    | Randomised controlled trial; 335 community stroke survivors from 10 hospitals; Virtual Multidisciplinary Stroke Care Clinic vs usual care intervention | Virtual Multidisciplinary Clinic | The intervention group showed greater improvements in self-efficacy, social participation, and decreased depression at 6 months than the controls; The effect on self-management behavior was         | Demonstrate the potential of a multidisciplinary, nurse-led virtual stroke clinic to support the self-efficacy, participation, and mental health of stroke survivors in the community; can be adapted as a model of nursing telerehabilitation. |

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|    |   |                   |   |                                    | not significant.   |   |
| 15 | <i>The Impact of Discharge Planning on Enhancing Independence in Ischaemic Stroke Patients: A Post-hospitalisation Rehabilitation Approach</i> (Rahmi et al., 2025) | Table of Contents | Quasi-experimental; the intervention group received structured discharge planning, control without intervention; independence is assessed by the Barthel Index                        | Structured discharge planning      | Barthel scores increased from 2.8 to 11.3 in the intervention group, and from 5.7 to 10.1 in the controls; Discharge planning has been shown to be effective in increasing ADL independence in ischemic stroke patients. | Reinforcing the evidence that comprehensive discharge planning is a mandatory component of stroke nursing care to reduce dependency and improve quality of life.  |
| 16 | <i>Transitions of Care Coordination Intervention Identifies Barriers to Discharge in Hospitalized Stroke Patients.</i> (Zimmerman et al., 2021)                     | United States     | Single-blind prospective randomized pilot study (40 ischemic stroke patients) evaluated the nurse-led Transition of Care Coordinator (TOCC) program to navigate stroke vs. usual care | Stroke care coordinator (TOCC)     | TOCC program feasible (84.2% of tasks completed), did not significantly decrease LOS, but there was a trend of increasing patient satisfaction; identify patient factors associated with LOS over time.                  | Describe the role of stroke navigator nurses in transition coordination, identification of barriers to homecoming, and increased satisfaction; can be the basis for the formation of the role of "stroke care coordinator". |
| 17 | <i>Feasibility of a self-management intervention to improve mobility in the community after stroke (SIMS): A mixed-methods pilot study.</i>                         | Canada            | Sequential mixed-methods: pilot RCT + focus group; 24 stroke survivors $\leq 6$ months post-discharge   | Self-management + remote follow-up | Good recruitment & retention. Interventions can be delivered remotely; Participants reported increased mobility and positive   | Demonstrate that education-based self-management programs, goal setting, and remote follow-up are feasible to apply to stroke survivors in the community;   |

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|    | (Sahely et al., 2024)  |                |  |                                     | experiences, but the study did not have enough power to conclude clinical effectiveness.   | Nurses can act as coaches.  |
| 18 | <i>Effect of transitional care stroke case management interventions on caregiver outcomes: the MISTT randomized trial.</i><br>(Woodward et al., 2021)                                | United States  | Randomized controlled trial (caregiver sub-analysis) of 169 caregivers in the Michigan Stroke Transitions Trial                        | Transitional stroke case management | Caregivers report slight life changes or depressive symptoms; There were no significant differences between groups over the 90 days. The negative impact of caregiving is likely to develop more slowly. | It shows that very short-term transitional care interventions may not have enough effect on caregiver burden. Nurses need to plan for longer-term support.  |
| 19 | <i>Implementation of a Transitional Care Model for Stroke: Perspectives From Frontline Clinicians, Administrators, and COMPASS-TC Implementation on Staff</i><br>(Lutz et al., 2020) | United States  | Evaluation of RE-AIM-based qualitative processes; Data from 19 intervention hospitals, conference calls, individual & group interviews | Implementation of TCM (RE-AIM)      | Factors influencing implementation on: organizational commitment & capacity, organizational readiness, patient tracking systems, support for clinical autonomy, and ability to overcome barriers.        | Emphasizing that the success of the transitional care stroke model also depends on system readiness and organizational support; Nurses as care coordinators need adequate structure and information system support. |
| 20 | <i>Evaluating the implementation of an early supported discharge (ESD) program for stroke survivors: A mixed methods</i>   | United Kingdom | Mixed-methods longitudinal case study based on the CFIR framework; Staff Survey + Focus Group  | ESD Implementation (CFIR)           | Staff's perception of ESD programs is generally positive; the dominant theme related to patient needs & resources; Perception of   | ESD can work well if there is cross-service collaboration, clarity on the role of community nurses, and organizational support. Nurses need to be involved in the   |

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|    | <i>longitudinal case study</i><br>Hitch Id et al., 2020)  |               |   |                               | the implementation process improves over time.   | design of referral flows and RS–community communication.   |
| 21 | <i>Transitioning to home and beyond following stroke: a prospective cohort study of outcomes and needs</i><br>(O'Callaghan et al., 2024)  | Ireland       | Prospective cohort: 72 stroke patients were followed at discharge, 3 & 6 months   | Transition home & unmet needs | At the time of returning, 51% still had a significant disability; HARI-QoL remains disrupted; 40% experience cognitive impairment at 6 months. Median unmet needs are high, especially related to transition planning, rehabilitation, information, and support. | Shows that the transition home after a stroke is very challenging and full of unmet needs. Nurses need to strengthen structured education before discharge, patient & family engagement, advanced rehabilitation plans, and follow-up systems. |
| 22 | <i>Using Mobile Video-Teleconferencing to Deliver Secondary Stroke Prevention Interventions: A Pilot Study</i><br>(Anderson et al., 2022) | United States | Pilot pre-post (within-subjects) in 106 stroke survivors with $\geq 2$ uncontrolled risk factors; 6-week Self-Management Support program via video call | Video-telehealth prevention   | High satisfaction with the program; stroke knowledge, self-efficacy, sports behavior, QoL increased; symptoms of depression & anxiety decrease; save travel distance.  | Video-based telehealth is effective and feasible to support secondary self-management. Nurses can use it for risk factor education, lifestyle coaching, and mood/disability monitoring.  |

Source: Author's synthesis from 22 included studies (2020–2025)

**Table 2. Effects of Discharge Planning Interventions by model**

| Model Discharge Planning        | Study          | Significant Effects                             | Insignificant Effects / Notes           |
|---------------------------------|----------------|---|---|
| Early Supported Discharge (ESD) | Björkdahl 2023 | Improves function & mobility ( $\leq 3$ months) | Effects don't last 12 months            |
| Transitional Care Model (TCM)   | Bavarsad 2022  | Increase QoL and increase ADL                   | Depending on the intensity of follow-up |

|                                     |                                      |   |  |
|-------------------------------------|--------------------------------------|---|--|
| Family-centered                     | Deepradit 2023; Monk 2025            | Lowers depression & caregiver burden, Increases QoL       | None   |
| Telehealth-based                    | Fakes 2024; The 2023; Kang & Li 2022 | Lowers depression, increases self-efficacy, Increases QoL | Self-management behavior is not always significant |
| Case management / Care coordination | Zimmerman 2021; Woodward 2021        | Feasible, the trend of increasing satisfaction            | LOS & caregiver non-significant                    |
| Structured tools & follow-up        | Månsson 2024; Prick 2022             | Identify problems & improve HR                            | No clinical effectiveness test                     |

Source: Author's synthesis from included studies based on intervention model categorization and reported outcomes

Cross-study analysis showed that differences in discharge planning effectiveness were mainly determined by intervention mechanisms and service continuity intensity. The ESD model is effective in accelerating short-term functional recovery through team-based home rehabilitation, but the long-term benefits require advanced follow-up integration. The TCM model emphasizes coordination and continuity of nurse-led care, with a relatively consistent positive impact on quality of life and independence of daily activities.

The family-centered approach showed the most consistent effect on psychosocial outcomes, especially in reducing the burden and increasing caregiver resilience. Meanwhile, the telehealth-based model expands access to post-relapse support and is effective in improving self-efficacy, satisfaction, and lowering depression, although the impact on long-term behavior change still varies. Case management and transition coordination models demonstrate feasibility of implementation and improvement of patient experience, but the effects on hard outcomes such as length of treatment and rehospitalization are still inconsistent.

#### Synthesis of Key Findings

This systematic review shows that structured discharge planning is a crucial nursing intervention in improving the quality of transition care for stroke survivors. Overall, the results show that interventions consisting of several components, namely integrating structured education, cross-professional coordination, family involvement and follow-up at home are more effective than single interventions (Björkdahl et al., 2023; Deepradit et al., 2023; Lo et al., 2023). Meanwhile, technology-based research such as WeChat interventions or web portals shows that telehealth has the potential to expand access to education, especially in resource-constrained settings (Kang & Li, 2022; Fakes et al., 2024). This pattern is seen in various models, including Early Supported Discharge (ESD), nurse-led transitional care, family-centered rehabilitation, and technology-based discharge planning or telehealth-based follow-up.

Most randomized controlled trials and included studies reported increased independence in daily activities (ADLs), improved quality of life, and decreased rehospitalization rates within 30-90 days of discharge. In addition to clinical outcomes, several interventions have also shown positive impacts on psychosocial aspects including increased self-efficacy as well as decreased anxiety and depression in patients and caregivers (Bavarsad et al., 2022; Deepradit et al., 2023). These findings make it clear that discharge planning does not only

function as an administrative, but as a nursing intervention that plays a role in improving transition readiness and sustainability of care.

Compared to several previous systematic review publications in the 2022-2025 period, this review presents a synthesis that is more focused on mapping the core components of structured discharge planning and the variations in their effectiveness in various healthcare contexts. Previous reviews generally emphasized the general effectiveness of transitional care or specific intervention models such as ESD, without elaborating more deeply on the role of caregivers, family involvement, and mechanisms of continuity of care, as key factors for the success of interventions. By integrating various models and outputs, this review expands the understanding of how structured discharge planning is implemented and adapted in today's nursing practice.

In addition, the findings in this review show that the success of discharge planning is strongly influenced by the context of implementation. Studies from high-income countries generally report more consistent outcomes, as they are supported by well-functioning community rehabilitation systems and post-acute service coordination (Björkdahl et al., 2023; Fakes et al., 2024). In contrast, studies from middle-income countries show larger and more diverse outcomes, with the success of interventions highly dependent on the role of nurses, family involvement, and adaptation of interventions to existing health care resources and infrastructure (Deepradit et al., 2023; Kang & Li, 2022).

### **Mechanism of Effectiveness of Structured Discharge Planning.**

The findings in this review suggest that structured discharge planning is more effective when designed as a multicomponent intervention than a single-component approach. Its effectiveness is determined not only by the type of intervention, but also by the way it works that supports transition readiness, continuity of care, and the ability of patients and families to adjust to poststroke conditions. Models such as Early Supported Discharge (ESD) and nurse-led transitional care have consistently shown better outcomes because they combine several key elements simultaneously, including thorough assessment, structured education, interprofessional coordination, and follow-up after patient's discharge (Björkdahl et al., 2023; Deepradit et al., 2023; Lo et al., 2023).

One of the main mechanisms that explains the effectiveness of multicomponent interventions is continuity of care. Interventions such as ESD and the Transitional Care Model reduce the gap between acute care and home care through home visits, community-based rehabilitation, or scheduled follow-ups. This mechanism allows for early detection of complications, adjustment of treatment plans, and strengthening of patients' ability to carry out daily activities, thereby contributing to a reduction in the rate of rehospitalization and an increase in functional independence (Bavarsad et al., 2022; Björkdahl et al., 2023).

Another important mechanism is strengthening the ability of patients and caregivers through structured education and family involvement. Several studies show that education provided repeatedly, tailored to individual needs, and equipped with written or digital materials can improve the self-efficacy of patients and caregivers in managing poststroke conditions (Deepradit et al., 2023; Kang & Li, 2022). The involvement of families as partners in treatment also plays a role in reducing anxiety, increasing adherence to rehabilitation programs, and strengthening emotional support during the transition.

The use of technology, such as telehealth and digital platforms, serves as a supporting mechanism that strengthens access to education and follow-up, especially in conditions with limited resources (Burrell, 2024; Chandrakar, 2024; Ezeamii et al., 2024). WeChat-based interventions or web portals allow for continuous communication between patients, caregivers, and healthcare workers, and support more flexible monitoring of patient conditions (Kang & Li, 2022; Fakes et al., 2024). However, the effectiveness of the use of technology depends on the level of integration with other components in discharge planning, as well as the readiness of the service system and the digital literacy of its users.

Overall, the mechanism of effectiveness of structured discharge planning lies in the synergy between intervention components that support transition readiness, patient and family empowerment, and continuity of care in various service settings. These findings explain why multicomponent models such as ESD are more likely to show better outcomes than single interventions, and serve as a basis for linking these findings to the nursing theoretical framework in future discussions.

Based on the synthesis of findings, a narrative logic model can describe how structured discharge planning produces positive outcomes in stroke survivors. Key inputs include the role of trained nurses, multidisciplinary team engagement, family support, as well as supporting resources such as educational materials and communication technology. This input is operationalized through a structured discharge planning process which includes a readiness assessment, continuous education, coordination across service settings, and post-discharge follow-up. This process produces short-term outputs in the form of increased knowledge, transition readiness, and self-efficacy of patients and caregivers, which further contribute to medium- and long-term outcomes, including increased functional independence, quality of life, reduced rehospitalization, and reduced caregiver burden.

### **Integration of Findings with Meleis Transition Theory**

Meleis' Transition Theory provides a relevant conceptual framework for understanding the process of transition of care experienced by stroke survivors from hospital to home. Poststroke transition is a form of health transition, a complex disease, characterized by changes in physical, psychological, and social roles, as well as increased dependence on caregivers. The findings in this review show that structured discharge planning plays a role as a nursing intervention (nursing therapeutics) that facilitates a healthy transition through planned, sustainable, and focused actions that focus on the needs of patients and families.

From Meleis' perspective, transition conditions include personal, community, and system factors that affect the quality of the transition. The results of this review identified that factors such as patient and caregiver health literacy, family readiness, organizational support, and availability of healthcare resources significantly moderated the effectiveness of discharge planning (Lutz et al., 2020; Hitch et al., 2020). Successful interventions generally tailor the approach to these conditions, for example through active family involvement or the use of simple technology in resource-constrained settings.

The patterns of response component in Meleis' theory are reflected in the various outputs reported by the included studies. Increased independence in daily activities, quality of life, self-efficacy, and reduced anxiety, depression, and rehospitalization are indicators of a healthy transition response. In contrast, inconsistent findings in some studies with limited

interventions indicate a suboptimal transitional response, characterized by continued dependency and unmet needs during the post discharge phase (Woodward et al., 2021).

Nurses have a central role in facilitating the transition process through nursing therapeutics, as described in Meleis' Transition Theory. The findings in this review confirm that nurses play the role of care coordinators, educators, and liaison between acute services and community services. This role is evident in the nurse-led transitional care and Early Supported Discharge models, where nurses conduct discharge readiness assessments, provide education on an ongoing basis, coordinate multidisciplinary teams, and ensure consistent post-discharge follow-up (Björkdahl et al., 2023; Deepradit et al., 2023; Lo et al., 2023).

The integration of the findings with Meleis' Transition Theory shows that structured discharge planning is not only an administrative process, but a nursing intervention that actively influences the quality of poststroke patient transition. By supporting transition readiness, strengthening the adaptability of patients and caregivers, and ensuring continuity of care, structural discharge planning contributes to the achievement of a healthy transition. This framework provides a strong theoretical foundation for the development of more contextual and sustainable discharge planning interventions, particularly in community nursing practice and in re-resourced service systems.

### **Heterogeneity of Interventions, Outcomes, and Contexts (HIC vs LMIC)**

The implementation of discharge planning in stroke survivors is influenced by a combination of systemic, organizational, and individual factors. The most commonly reported obstacles include limited human resources, high workload of nurses, low health literacy of patients and families, and suboptimal interprofessional coordination (Lutz et al., 2020; Hitch et al., 2020). These qualitative studies confirm that the success of discharge planning is highly dependent on organizational readiness, clarity of communication flows, and management support in strengthening the role of nurses during the care transition phase.

On the other hand, the main supporting factors for the successful implementation of discharge planning include active family involvement, institutional support for the role of nurses as care coordinators, and the use of simple technology for post-discharge education and follow-up, such as telemonitoring based on short messages or video calls. In addition, the use of structured tools, such as the post-stroke checklist, has been shown to help identify patient needs repeatedly and prevent unmet needs during the transition phase from hospital to home (Månsson et al., 2024).

These findings confirm that the effectiveness of discharge planning is not only determined by the quality and type of intervention provided, but is also greatly influenced by the context of implementation and the readiness of the health care system. Therefore, a flexible and contextually adjusted discharge planning approach is very important, especially in service systems that have limited resources.

## **CONCLUSION**

Based on a synthesis of 22 studies, structured discharge planning has been shown to be a key component in improving the quality of the transition of poststroke patient care from hospital to home, where success is determined by a combination of core components and continuity of service, rather than just one particular intervention model. Comparatively, the Early Supported Discharge (ESD) and Transitional Care Model (TCM) models showed the

most consistent effectiveness in improving function and quality of life, especially when started from the hospitalization phase and continued after graduation, while the family-centered approach contributed more to psychosocial outcomes such as reduced caregiver burden and increased family resilience. Telehealth-based approaches have also been shown to increase self-efficacy and satisfaction and reduce depression, especially in conditions of limited access to services. The cross-model synthesis identifies four key components that determine effectiveness, namely structured education, ongoing follow-up, nurse-led cross-professional coordination, and active family involvement. Therefore, the implementation of discharge planning needs to be tailored to the context of the service system, with the integration of a comprehensive model on high resources, and a family-based approach and simple telehealth on limited resources, with nurses as the main coordinator in ensuring continuity of care.

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