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#### REVIEW

# Application of Normalization Process Theory in Discharge Planning: A Systematic Review of Implementation Strategies and Outcomes

Urip Rahayu<sup>1,2</sup>, Kusman Ibrahim<sup>2</sup>, Herry Herman<sup>3</sup>

<sup>1</sup>Doctoral Program, Faculty of Medicine, Universitas Padjadjaran, Sumedang, West Java, Indonesia; <sup>2</sup>Department of Medical-Surgical Nursing, Faculty of Nursing, Universitas Padjadjaran, Sumedang, West Java, Indonesia; <sup>3</sup>Department of Orthopaedic Surgery, Universitas Padjadjaran – Hasan Sadikin General Hospital, Bandung, Indonesia

Correspondence: Urip Rahayu, Faculty of Nursing, Universitas Padjadjaran, Jl. Raya Ir. Soekarno KM. 21 Hegarmanah, Jatinangor, Sumedang, West Java, 45363, Indonesia, Tel +6281220201942, Fax +6202287793411, Email urip.rahayu@unpad.ac.id

**Background:** Discharge planning is an important aspect of healthcare to ensure continuity of patient care after hospital discharge. Normalization Process Theory (NPT) has been used to understand how discharge planning interventions can be implemented effectively in clinical practice.

**Purpose:** This review aimed to explore the use of Normalization Process Theory (NPT) in patient discharge planning and how this theory is applied in various healthcare contexts.

**Methods:** A systematic review was conducted using the PRISMA method, using four international databases: PubMed, Scopus, Taylor & Francis, and EBSCO-host. Articles were selected based on inclusion criteria and evaluated using JBI Critical Appraisal Tools and MMAT. The keywords used were patient discharge OR patient transfer/organization and administration OR discharge plan OR patient transfer OR discharge planning AND Normalization process theory OR normalization process model OR NPT OR NPM. The analysis was carried out using descriptive qualitative and thematic analysis.

**Results:** A total of 8 articles that fulfilled the criteria were included in the analysis. The results suggest that implementing NPT enhances the discharge planning process and facilitates the development of more effective intervention models. NPT was utilized as a framework for data collection, coding, and analysis of the discharge planning implementation process. In addition, NPT is associated with improved coordination among healthcare workers, more effective psychosocial support for families, and increased patient compliance with treatment.

**Conclusion:** The application of NPT inpatient discharge planning allows a deeper understanding of the factors that influence the successful implementation of interventions. The use of NPT in research can help improve the quality of discharge planning by considering aspects of team coordination, patient support, and the effectiveness of evidence-based interventions.

Keywords: discharge planning, normalization process theory, patient transition, healthcare coordination

### Introduction

Patient discharge planning is crucial to the healthcare system to ensure a safe and effective transition from hospital to home or continuing care facility.<sup>1</sup> Discharge planning is defined as a key process in a patient's transition from hospital to the next stage of care, which includes a thorough understanding of discharge planning, involving not only formal steps but also informal factors that influence discharge decisions.<sup>1–3</sup> This process starts from patient admission and continues until the disposition decision, which involves various stages that need to be managed carefully.<sup>1,2</sup> This process includes identifying patient needs, coordinating health professionals, and educating patients and families to increase compliance with treatment and post-hospitalization care.<sup>1,4</sup> Implementation of effective discharge planning has been proven to improve continuity of care, reduce the number of unnecessary readmissions, and improve patient quality of life.<sup>5</sup>

However, despite implementing various strategies in the last decade, failure in discharge planning remains a significant contributing factor to poor care transitions and increased burden on health services.<sup>6,7</sup>

One of the main goals of discharge planning is to ensure continuity of care between the healthcare facility and the patient's home environment.<sup>8,9</sup> When discharge planning is done well, patients can experience significant improvements in quality of life, better adherence to therapy, and a lower risk of complications.<sup>10–12</sup> In addition, effective discharge planning can also reduce length of stay and costs and improve patient mental health and family satisfaction.<sup>13</sup> Conversely, poor discharge planning can lead to increased rates of preventable readmissions, medication errors, and higher levels of stress in patients and families.<sup>10,14,15</sup>

However, the implementation of discharge planning still faces several significant challenges. One of the main obstacles is the lack of effective coordination between health workers at various service levels, including doctors, nurses, pharmacists and social workers.<sup>16,17</sup> Collaboration between professionals also ensures that the discharge planning is comprehensive, reflecting the complex needs of the patient, which may involve medication management, rehabilitation, and social support.<sup>18,19</sup> Interprofessional teamwork helps bridge gaps between organizations and specialties, reducing the risk of fragmented care.<sup>18,19</sup> In addition, limited resources, whether in the form of medical personnel, time, or financial support, are often an inhibiting factor in implementing effective discharge planning.<sup>17,20</sup> These challenges not only hinder discharge planning but also affect the quality of healthcare more broadly. Therefore, it is important to consider how hospital policies, healthcare funding systems, and organizational culture play a role in the success or failure of discharge planning. Low involvement of patients and families in the planning process is another factor contributing to the failure of optimal discharge planning.<sup>20,21</sup> Therefore, a theory-based approach such as Normalization Process Theory (NPT) can be used to evaluate the extent to which discharge planning has been integrated into the daily practice of healthcare workers and thus can help overcome existing barriers.

NPT is a framework that can be used to understand how new interventions can be integrated into health system routines.<sup>22</sup> NPT focuses on how individuals and groups of health workers understand, adopt, and maintain new interventions as part of their daily practice.<sup>22</sup> NPT consists of four key components: coherence (or understanding); cognitive participation (or involvement); collective action (the efforts made to implement the intervention); and reflexive monitoring (both formal and informal evaluations of the intervention's benefits and drawbacks).<sup>22</sup> In the context of discharge planning, NPT is used to assess whether health workers have reached an understanding of the meaning and purpose of this process (coherence), whether they actively participate and support its implementation (cognitive participation), how discharge planning is implemented in their work system (collective action), and how they evaluate its effectiveness (reflexive monitoring).<sup>23</sup> Thus, the application of NPT in discharge planning not only helps in understanding existing barriers but also guides the development of more effective strategies to make this process part of the routine in the health system.

Although many studies have discussed the effectiveness of discharge planning, limited studies still use NPT as an analytical framework. A more in-depth study using NPT can help systematically identify barriers and facilitators in discharge planning.<sup>22,23</sup> By using NPT, the research focus is not only on the outcomes of discharge planning, such as reduced readmission rates or increased patient satisfaction, but also on the social processes, interprofessional interactions, and organizational factors that influence the integration of discharge planning into the daily practice of health workers.<sup>22</sup> Therefore, there is still a gap in understanding regarding how NPT can be applied to improve the effectiveness of discharge planning implementation in various healthcare systems.

One aspect of NPT that remains underexplored is the influence of organizational culture and healthcare policies on the normalization of discharge planning practices. This gap highlights the need for further research on the institutional and policy-related barriers that affect how NPT can be effectively applied across different healthcare settings. To address this gap, a systematic review is needed to identify empirical evidence supporting the application of NPT in inpatient discharge planning. By conducting an in-depth analysis of existing research, this study aims to explore how NPT principles can be applied in discharge planning to increase the effectiveness of patient discharge planning in various healthcare contexts.

### Materials and Methods Design

The design used was a systematic review that followed the guidelines of the Cochrane Handbook for Systematic Reviews of Interventions and the Preferred Reporting Item for Systematic Reviews and Meta-analysis (PRISMA).<sup>24,25</sup> A systematic review synthesises evidence that has been identified and critically assessed to understand a particular topic.<sup>26</sup> This review has not been registered in any database.

### Eligibility Criteria

The articles for this review are selected based on the PRISMA Extension (PRISMA) (see Figure 1).<sup>24</sup> Research questions and eligibility criteria for research articles using the PCC approach (Population, Concept, and Context).

- P (Population): Patients and health workers (nurses, doctors, other medical personnel).
- C (Concept): Normalization Process Theory
- C (Context): Discharge Planning

This review excluded articles with full-text not available, not written in English, and secondary research. Inclusion criteria in this review include accessible full-text articles published in English and primary research that discusses the



Figure 1 PRISMA Flow Diagram. Adapted from Page MJ, McKenzie JE, Bossuyt PM et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ. 2021;372:n71. Creative Commons.<sup>24</sup>

application of Normalization Process Theory (NPT) in inpatient discharge planning. In addition, there was no limitation on the year of publication to ensure broad coverage of studies and to identify relevant studies on this topic. The authors also did not limit the geography, gender, culture, or ethnic population of the articles to allow for an exhaustive exploration of discharge planning as it should be done in all healthcare settings around the world.

The phenomenon of concern focuses on discharge planning developed with NPM/NPT. The authors define discharge planning as an interdisciplinary approach to continuity of care. This process includes identification, assessment, goal setting, planning, implementation, coordination, and evaluation that also serves as a quality interface between the hospital, community-based services, nongovernmental organizations, and caregivers.

### Data Collection and Analysis

#### Search Strategy

Articles were identified systematically using four central databases: EBSCOhost, PubMed, Scopus, and Taylor and Francis. The keywords used were "patient discharge OR patient transfer/organization and administration OR discharge plan OR patient transfer OR discharge planning AND Normalization process theory OR normalization process model OR NPT OR NPM". Each term was verified using MeSH (Medical Subject Headings). Synonyms were implemented to ensure all relevant articles were captured. In addition, the author uses Boolean operators such as "AND" and "OR" to filter or expand search results based on various word variations.

#### Study Selection and Quality Appraisal

All authors independently selected studies that met the eligibility criteria. Using the Mendeley reference manager, the authors checked for duplication in the initial selection process. They then checked the titles, abstracts, and full texts for relevance to the research topic and set inclusion and exclusion criteria. The authors checked each full text using the Joanna Briggs Institute critical appraisal checklist (JBI) in the final process.<sup>27</sup> There are 10 statements on the JBI Checklist for Qualitative Research.<sup>28</sup> Meanwhile, a checklist from MMAT (Mixed Methods Appraisal Tools), which consists of 5 statement items, is used for the mixed method design.<sup>29</sup>

Each question has answer options: yes, no, and cannot tell. Each statement has answer options: Yes, No, Not Applicable, and Unclear. The answer "Yes" is given a score of 1, and other answers are given a 0. All articles with a total score of at least 70% are categorized as having suitable methodology. The 70% benchmark for the JBI index was also selected because it aligns with commonly accepted standards in systematic reviews and evidence synthesis. This threshold strikes a balance between excluding studies with methodological concerns and maintaining an adequate number of studies for meaningful analysis. It is a commonly used threshold in systematic reviews across various healthcare and social science fields. Furthermore, studies that score below this threshold are generally considered to present significant methodological limitations that could affect the reliability of the review's conclusions. Furthermore, the author decides if there is a discrepancy in the election results. All authors did not experience any differences of opinion regarding the feasibility of this study.

### Data Extraction and Analysis

Data was extracted using an extraction table designed according to the review objectives. The extraction process includes article characteristics, research objectives, samples, and aspects of discharge planning under study. The characteristics of the article included the author's name, year of publication, research design, and research location. Meanwhile, the aspects of discharge planning analyzed include the model used, implementation objectives, research focus, level of NPM/NPT used, and implementation of NPM/NPT.

Discharge planning is categorized into two models, namely, formal and informal.<sup>30</sup> The informal model refers to discharge planning carried out without communication between the hospital and the community and without following specific procedures or guidelines.<sup>30</sup> In contrast, the formal model involves patient and family participation in the discharge planning, with guidelines, clear procedures, structured communication, and detailed discharge planning documentation.<sup>30</sup> Any differences of opinion among authors in the data extraction process were resolved through discussion. The extracted data are presented in tabular form, accompanied by a descriptive summary of the findings of the reviewed articles. The data were analyzed using qualitative descriptive and thematic analysis.

## Results

### Study Selection

In the identification stage, a literature search was conducted in four major databases, namely PubMed (n = 46), Scopus (n = 337), Taylor and Francis (n = 728), and EBSCO-host (n = 25), so that the total number of articles identified was 1,136. After the deduplication process, 106 duplicate articles were removed before further screening. Furthermore, in the screening stage, the selection was based on the title and abstract of the remaining 1,030 articles. From this process, 982 articles were eliminated because they did not meet the initial criteria. Further screening was carried out on 14 articles, considering the completeness of the information and suitability with the inclusion criteria. Of these, six articles were removed, mainly because they did not focus on the context of patient discharge planning (n = 5) and were not published in English.

Eight full-text articles were assessed using the JBI Critical Appraisal Tools and MMAT to assess methodological quality and appropriateness in the eligibility stage. After this stage, all eight assessed articles met the criteria and were further analyzed in this study (see Figure 1). Overall, this process ensured that only studies that were relevant, of good quality, and in line with the research focus were included in the final analysis.

### **Study Characteristics**

Based on the analysis of Table 1, most of the studies were conducted in Europe, especially in Sweden,<sup>23</sup> and the United Kingdom.<sup>31–33</sup> Meanwhile, several other studies were conducted in the United States,<sup>34,35</sup> and China.<sup>36</sup> The research

Authors/ Year	Design	Location	Objective	Sample	Results	JBI
Nordmark et al 2016 <sup>23</sup>	Exploratory study	Northern Sweden	Exploring the application and integration of the Discharge Planning Process (DPP) using NPT	Nurses, homecare organizers	The study found that although staff had a shared understanding of the process objectives (coherence) and were able to evaluate its effectiveness (reflexive monitoring), there were still gaps in collective participation (cognitive participation) and implementation in daily practice (collective action).	70%
Duke et al 2020 <sup>31</sup>	Participatory learning and action research	United Kingdom	Develop and undertake pilot implementation of the family- focused support conversation.	Nurses, occupational therapists, patients, family members, health and social care experts	<ul> <li>NPT-based interventions change the role of staff from being information providers to facilitators of family discussions (coherence).</li> <li>Although staff showed high engagement (cognitive participation), further efforts are needed to make this intervention a standard practice (collective action).</li> </ul>	80%
Duke et al 2021 <sup>32</sup>	Participatory learning and action research	United Kingdom	Evaluate the usability, accessibility, acceptability, and factors which promoted and inhibited the implementation of the family- focused support conversation.	Nurses, occupational therapists, patients, family members, health and social care experts.	NPT helped identify that these interventions clarify the meaning of family support (coherence), increase staff engagement (cognitive participation), and integrate family discussions into the workflow (collective action).	80%

#### Table I Characteristics of Study

(Continued)

### Table I (Continued).

Authors/ Year	Design	Location	Objective	Sample	Results	JBI
Ferguson et al 2018 <sup>33</sup>	Descriptive qualitative	United Kingdom	Examine factors that promoted or inhibited the implementation of Refer-to-Pharmacy in hospital and community setting.	Pharmacists, hospital technicians	The study found that while this system is beneficial (coherence), implementation in communities is slower than in hospitals due to a lack of involvement of community health workers (cognitive participation).	80%
Vandenberg et al 2021 <sup>34</sup>	Qualitative Study	United States	Evaluate the perceived coherence of Dialysis Connect to key clinical stakeholders.	Physicians, social workers, nurses, pharmacists, nephrologists.	<ul> <li>NPT helps evaluate how technology can be integrated into daily practice.</li> <li>The study found that understanding benefits was high (coherence), but adoption was limited due to technical barriers and organizational culture (collective action).</li> </ul>	80%
Peng et al 2020 <sup>36</sup>	Qualitative Study	China	Evaluating the implementation of a multidisciplinary co- management program for hip fracture patients with NPT	Doctors, nurses, anesthesiologists and physiotherapists	This study uses NPT to highlight that although the program is of high value (coherence), significant constraints include high workload and inadequate supervision systems (collective action).	80%
Keniston et al (2023) <sup>35</sup>	Mixed Method	USA	Evaluating patient discharge communication readiness in a hospital care setting	Physicians, advanced practice providers, and Clinical Staff	The implementation strategies used effectively increased the use of the Discharge Today tool by hospital medicine physicians and advanced practice providers during both active and passive implementation.	80%
Ibrahim et al (2018) <sup>37</sup>	Mixed Methods	UK	Evaluating the implementation of grip strength measurement into routine clinical practice. Intervention design and implementation evaluation were based on the NPT.	155 nursing staff and five medical wards	<ul> <li>The NPT showed that while successful training increased staff understanding (coherence) and high initial engagement (cognitive participation), there were still challenges in making these measures part of clinical routines (collective action).</li> <li>The NPT offers a framework for identifying specific factors that enable implementation and areas for future research.</li> </ul>	80%

Abbreviations: NPM, Normalization Process Model; NPT, Normalization Process Theory.

design used includes an exploratory study,<sup>23</sup> descriptive qualitative research,<sup>33</sup> and the Participatory Learning and Action Research research approach.<sup>31,32</sup> Several other studies used a mixed methods approach to evaluate the implementation of specific strategies in patient discharge planning.<sup>35,37</sup>

Most of the population or research samples are health workers, especially nurses.<sup>23,31,32,37</sup> However, some studies also involve other health workers, such as doctors, occupational therapists, pharmacists, social workers, and anesthesiologists.<sup>33,34,36</sup> In addition, several studies have considered the views of patients and family members in evaluating discharge planning interventions.<sup>31,32</sup>

### Quality Appraisal Results

Based on the evaluation results using the JBI Checklist for Qualitative Research and MMAT (Mixed Methods Appraisal Tool) (see Table 1), it was found that the majority of the reviewed studies had good methodological quality with some limitations. Qualitative studies showed clarity in research design and the use of Normalization Process Theory (NPT) as an analytical framework. However, there were still challenges in reporting research bias and reflection on the role of researchers. Most qualitative studies achieved a feasibility level between 70% and 80%, indicating good compliance with JBI standards. Studies using the Participatory Learning and Action Research (PLAR) method showed high validity but lacked discussion of data triangulation and reflection on the role of researchers.<sup>31,32</sup> Exploratory studies have a strong methodological approach but lack internal reflection.<sup>23</sup>

For the Mixed Methods study, the assessment results using MMAT show that the integration between qualitative and quantitative data still requires improvement. The study by Keniston et al (2023) scored 80% but experienced challenges in comprehensively connecting the two types of data.<sup>35</sup> Meanwhile, a study by Ibrahim et al (2018) showed a strong approach to implementing mixed methods, but further analysis is needed on the differences in impact between participant groups.<sup>37</sup>

### Characteristics of NPT on Discharge Planning

Based on the analysis of Table 2, it is known that most of the studies reviewed examined formal patient discharge planning, except for one study that examined informal discharge planning.<sup>35</sup> The four main mechanisms of the

Authors/ Year	Model of Discharge Planning	Part of the Discharge Planning Studied	Usage Purpose/Context of Care	Level of NPT/ NPM Used	Application of NPT/ NPM
Nordmark et al (2016) <sup>23</sup>	Formal	The process	Transitional care from hospital to home	All of four mechanisms	As a framework for analyzing data
Duke et al (2020) <sup>31</sup>	Formal	The intervention	Psychosocial support for family members / chronic care	All of four mechanisms	To inform the data collection, code the data, and as an analytical framework
Duke et al (2021) <sup>32</sup>	Formal	The intervention	Psychosocial support for family members / chronic care	All of four mechanisms	To inform the analysis process and code the data
Ferguson et al (2018) <sup>33</sup>	Formal	The intervention	Provide medication support for patients using electronic system / acute care.	All of four mechanisms	As a framework for data collection and analysis
Vandenberg et al (2021) <sup>38</sup>	Formal	The intervention	Facilitate healthcare providers to view and exchange information about dialysis patients using web-based systems / chronic care.	Coherence, Cognitive Participation.	As a framework to code the data

Table	2 Characteristics	of NPT/NPM	on Discharge	Planning
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#### Table 2 (Continued).

Authors/ Year	Model of Discharge Planning	Part of the Discharge Planning Studied	Usage Purpose/Context of Care	Level of NPT/ NPM Used	Application of NPT/ NPM
Peng et al (2020) <sup>36</sup>	Formal	Implementation of multidisciplinary programs	Transitional care in an orthopaedic hospital	Coherence, Collective Action, Reflexive Monitoring	As a framework to code the data
Keniston et al (2023) <sup>35</sup>	Informal	Evaluation of patient discharge communication readiness	Hospital care	Coherence, Reflexive Monitoring	As a framework to guide the evaluation of implementation
lbrahim et al (2018) <sup>37</sup>	Formal	Implementation of grip strength measurement	Geriatric care in hospital	Coherence, Collective Action, Reflexive Monitoring	As a framework for implementation analysis

Abbreviations: NPM, Normalization Process Model; NPT, Normalization Process Theory.

Normalization Process Theory (NPT)/Normalization Process Model (NPM) are fully operationalized in five studies,<sup>23,31–</sup><sup>33</sup> while others only use part of the mechanism. Then, the use of NPT/NPM in research serves as a framework for data analysis,<sup>23</sup> informs the data collection and coding process,<sup>31,32</sup> and serves as a guide in evaluating implementation.<sup>35</sup> The primary objectives of the reviewed discharge planning studies included psychosocial support for family members,<sup>31,32</sup> treatment support for patients through electronic systems,<sup>33</sup> and facilitating the exchange of information between health service providers using a web-based system.<sup>34</sup>

Another study also implemented NPT/NPM to develop a multidisciplinary discharge planning process in an orthopaedic hospital<sup>32</sup> and evaluate communication readiness in inpatient discharge planning.<sup>35</sup> This suggests that the NPT/NPM approach is important in analyzing, developing, and evaluating the effectiveness of patient discharge planning implementation across various healthcare contexts (see Table 2).

### Discussion

This review aimed to explore the use of NPT theory in discharge planning. The eight studies analyzed showed that NPT was used as a framework to analyze data, direct the data collection and coding process, and serve as a guide in evaluating the implementation of patient discharge planning. These studies aimed to provide psychosocial support for patient families, support patient treatment through electronic systems, and facilitate the exchange of information between healthcare providers using web-based systems.<sup>29,32–34</sup> In addition, the NPT approach is also applied in developing multidisciplinary discharge planning in orthopaedic hospitals and evaluating communication readiness in the discharge planning process in hospitals.<sup>35,36</sup>

The many benefits obtained from applying NPT in the discharge planning process show that NPT has an important role and needs further development.<sup>29,31,34</sup> However, the results of a literature search found that there are still not many studies that have developed NPT into discharge planning. This review is the first study to explore discharge planning using NPT. We found that studies on this topic are still limited in Europe and America. Discharge planning interventions are urgently needed to reduce readmissions and meet the needs of patients and their families after hospitalization.<sup>13</sup> In addition, this review summarizes the use of NPT as a theory that is very suitable for implementing discharge planning, both old and newly developed interventions.

The four NPT mechanisms work synergistically to ensure that discharge planning is not simply implemented as an administrative procedure but as part of a continuing patient care system.<sup>23,32,36</sup> The NPT mechanism supports the implementation of discharge planning by ensuring that health workers understand the goals and benefits (coherence) and are committed to being involved in the process (cognitive participation). With a common understanding, health workers are more motivated to implement discharge planning as part of standard practice, not just an additional task. This active involvement ensures that patient discharge planning is carried out collaboratively, including doctors, nurses, pharmacists, social workers, and patients and their families, so that the transition of care occurs more effectively.<sup>23,32,36,39</sup>

For discharge planning to be implemented sustainably, collective action mechanisms ensure that this process is integrated into daily clinical practice through transparent communication systems, tools and procedures.<sup>39</sup> In addition, reflexive monitoring allows for ongoing evaluation to assess the effectiveness of discharge planning and to make improvements based on feedback from patients and healthcare professionals.<sup>39</sup> With these four mechanisms, discharge planning becomes more systematic, improves coordination between health workers, and supports continuity of patient care after hospitalization.

Although we do not specifically review the barriers and complexities in using this theory, we strongly encourage researchers to adopt NPT in developing formal discharge planning processes and interventions. NPT is flexible in its application and can be used to explore the entire implementation process in the context of developing discharge planning.<sup>40</sup> This finding is in line with previous studies showing that NPT has the potential to be a conceptual framework that helps analyze the gap between health research evidence, policy, and practice.<sup>40</sup> Epistemologically, this theory emphasizes a fluid, dynamic, and interactive process where context, actors, and objects influence each other. This approach supports an interactive and socially based research model.<sup>40</sup> However, this perspective differs from the previous review by McEvoy et al<sup>40</sup> and May et al<sup>39</sup> which states that the implementation of NPT in primary health services is more focused on feasibility studies and process evaluations rather than broader implementation explorations.

This review concludes that the NPT construct can be used to describe the dynamics of discharge planning interventions undertaken and form an analytical framework to drive improved implementation. Similar findings were reported in a previous review,<sup>41</sup> NPT can be used prospectively in developing discharge planning and designing data collection, coding data, and informing the analysis process. However, we also found that NPT took less of the patient or service recipient's perspective and focused more on the intervention process. Although May (2006) did not expressly limit NPT to professional activities,<sup>42</sup> Huddlestone et al emphasize that the perspective used in this approach comes primarily from parties who have a central role as stakeholders.<sup>41</sup> This aims to ensure that the dynamics in implementing the intervention can be understood and managed more clearly.

Although NPT effectively guides the development and evaluation of discharge planning implementation, several aspects need further attention. One of these is the challenges in implementing NPT, such as the lack of understanding among health workers regarding this theory, resistance to changing existing practices, and limited available resources. In addition, most studies using NPT have focused on the European and American contexts, so further studies are needed to examine the application of NPT in discharge planning in other regions, such as Asia or developing countries, to ensure its relevance and effectiveness in various health systems. Furthermore, although NPT provides a comprehensive framework for analyzing the implementation process, this theory focuses more on the intervention aspect. It may not consider the patient or service recipient's perspective in depth. Therefore, combining NPT with other patient-centred approaches may help gain a more holistic understanding of the patient and family experience in the discharge planning process. Future research is recommended to address these challenges and explore the application of NPT in different cultural contexts and health systems.

#### Strengths and Limitations

This study has several significant strengths in exploring the application of Normalization Process Theory (NPT) in discharge planning. One of the main strengths of this study is the systematic approach used in assessing how NPT has been applied in various healthcare contexts. By reviewing eight relevant studies, this study successfully identified that NPT serves as an analytical framework and can be used to develop new, more effective interventions in patient discharge planning. In addition, this study provides important insights into how NPT mechanisms, such as coherence, cognitive

participation, collective action, and reflexive monitoring, can support the implementation of discharge planning in a more structured and sustainable manner.

However, several limitations need to be considered. One challenge faced in this study is the lack of studies exploring patient and family perspectives in implementing NPT. Most studies reviewed focus more on implementation at the health worker and organizational levels, so there is still a gap in understanding how this theory can improve the patient experience in the discharge process. In addition, although NPT has been used to evaluate various aspects of discharge planning, this study found that implementing this theory still faces obstacles, such as resistance of health workers to change, limited resources, and lack of training related to this theory in the clinical environment. Therefore, future research needs to emphasize the integration of patient and health worker perspectives in the implementation of NPT and explore more effective strategies to improve the understanding and acceptance of this theory among health practitioners.

### Conclusions

NPT plays a critical role in supporting discharge planning across healthcare contexts. Of the eight studies analyzed, NPT was effectively used for data analysis, information collection, coding, and evaluating discharge planning interventions. Its use to develop formal discharge processes is highly encouraged, with all four constructs applicable for data analysis. Data should include perspectives from nurses, patients, family members, and other healthcare workers. NPT is effective due to its structured approach, integrating multiple perspectives, ensuring a comprehensive and adaptable framework for diverse healthcare settings. Its superiority lies in its ability to engage all stakeholders, offering a more holistic and patient-centered approach compared to other methodologies. However, gaps remain, particularly in patient and family involvement. Future research should focus on integrating patient perspectives to enhance the discharge process. Additionally, further studies are needed to explore NPT's applicability in global healthcare contexts, especially outside Europe and America. With a broader, evidence-based approach, NPT can be optimized to improve discharge planning globally.

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### Disclosure

The authors had no conflicts of interest in this research.

### References

- 1. An D. Cochrane review brief: discharge planning from hospital to home. *Online J Issues Nurs.* 2015;20(2):13. doi:10.3912/OJIN. Vol20No02CRBCol01
- Patel PR, Bechmann S. Discharge planning. Treasure Island (FL). StatPeasrls Publishing. 2023. Available from: https://www.ncbi.nlm.nih.gov/ books/NBK557819/. Accessed May 26 2025
- 3. Asmuji A, Faridah F, Handayani LT. Implementation of discharge planning in hospital inpatient room by nurses. J Ners. 2018;13(1):106–113. doi:10.20473/jn.v13i1.5942
- 4. Patel PR, Bechmann S. Discharge Planning. 2025. Available from: https://www.ncbi.nlm.nih.gov/books/NBK557819/. Accessed May 26 2025.
- 5. Vernon D, Brown JE, Griffiths E, Nevill AM, Pinkney M. Reducing readmission rates through a discharge follow-up service. *Futur Healthc J*. 2019;6(2):114–117. doi:10.7861/futurehosp.6-2-114
- 6. Gonçalves-Bradley DC, Lannin NA, Clemson L, Cameron ID, Shepperd S. Discharge planning from hospital. *Cochrane Database Syst Rev.* 2022;2 (2):CD000313. doi:10.1002/14651858.CD000313.pub6
- 7. Rammohan R, Joy M, Magam SG, et al. The path to sustainable healthcare: implementing care transition teams to mitigate hospital readmissions and improve patient outcomes. *Cureus*. 2023;15(5):e39022.
- Pichitpornchai W, Street A, Boontong T. Discharge planning and transitional care: issues in Thai nursing. Int J Nurs Stud. 1999;36(5):355–362. doi:10.1016/S0020-7489(99)00043-7
- 9. Foust JB. Discharge planning as part of daily nursing practice. Appl Nurs Res. 2007;20(2):72-77. doi:10.1016/j.apnr.2006.01.005
- Provencher V, D'Amours M, Menear M, et al. Understanding the positive outcomes of discharge planning interventions for older adults hospitalized following a fall: a realist synthesis. BMC Geriatr. 2021;21(1). doi:10.1186/s12877-020-01980-3.
- 11. Ranjbar S, Khodaveisi M, Amini R, Tapak L. The effect of discharge planning on adherence to treatment in patients with ischemic heart disease. *Evid Based Care J*. 2023;13(2):55–64.
- 12. Rusmawati A, Fawzi A, Himmatul Faizah N. The effectiveness of discharge planning implementation on the quality of life of post opname patients with heart failure at hospital. J Nurs Pract. 2024;7(2):417–426. doi:10.30994/jnp.v7i2.593

- Shepperd S, Lannin NA, Clemson LM, McCluskey A, Cameron ID, Barras SL. Discharge planning from hospital to home. *Cochrane Database Syst Rev.* 2013;CD000313.
- 14. Misky GJ, Wald HL, Coleman EA. Post-hospitalization transitions: examining the effects of timing of primary care provider follow-up. J Hosp Med. 2010;5(7):392–397. doi:10.1002/jhm.666
- Glans M, Ekstam AK, Jakobsson U, Å B, Midlöv P. Medication-related hospital readmissions within 30 days of discharge—A retrospective study of risk factors in older adults. *PLoS One*. 2021;16(6 June):1–12. doi:10.1371/journal.pone.0253024
- 16. Minott J. Reducing hospital readmissions. Acad Heal. 2008;23(2):1-10.
- Gholizadeh M, Delgoshaei B, Gorji HA, Torani S, Janati A. Challenges in patient discharge planning in the health system of Iran: a qualitative study. Glob J Health Sci. 2015;8(6):47426. doi:10.5539/gjhs.v8n6p168
- Gledhill K, Bucknall TK, Lannin NA, Hanna L. The role of collaborative decision-making in discharge planning: perspectives from patients, family members and health professionals. J Clin Nurs. 2023;32(19–20):7519–7529. doi:10.1111/jocn.16820
- 19. Bångsbo A, Dunér A, Dahlin-Ivanoff S, Lidén E. Collaboration in discharge planning in relation to an implicit framework. *Appl Nurs Res.* 2017;36:57–62. doi:10.1016/j.apnr.2017.05.010
- 20. Wong EL, Yam CH, Cheung AW, et al. Barriers to effective discharge planning: a qualitative study investigating the perspectives of frontline healthcare professionals. *BMC Health Serv Res.* 2011;11(1):242. doi:10.1186/1472-6963-11-242
- 21. Jones KC, Austad K, Silver S, et al. patient perspectives of the hospital discharge process: a qualitative study. J Patient Exp. 2023;10:1-7.
- 22. Murray E, Treweek S, Pope C, et al. NPT a framework for developing evaluating and implementing complex interventions. *BMC Med.* 2010;8 (63):1–11. doi:10.1186/1741-7015-8-63
- Nordmark S, Zingmark K, Lindberg I. Process evaluation of discharge planning implementation in healthcare using normalization process theory. BMC Med Inform Decis Mak. 2016;16(1):48. doi:10.1186/s12911-016-0285-4
- 24. Page MJ, McKenzie JE, Bossuyt PM, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ. 2021;372.
- Riley RD, Moons KGM, Snell KIE, et al. A guide to systematic review and meta-analysis of prognostic factor studies. BMJ. 2019;364. doi:10.1136/ bmj.k4597
- 26. Randles R, Finnegan A. Guidelines for writing a systematic review. Nurse Educ Today. 2023;125:105803. doi:10.1016/j.nedt.2023.105803
- Joanna Briggs Institute (JBI). JBI's critical appraisal tools [Internet]. Joanna Briggs Institute. 2022. Available from: https://jbi.global/criticalappraisal-tools. Accessed January 1, 2023.
- Lockwood C, Munn Z, Porritt K. Qualitative research synthesis: methodological guidance for systematic reviewers utilizing meta-aggregation. Int J Evid Based Healthc. 2015;13(3):179–187. doi:10.1097/XEB.000000000000002
- Hong QN, Fàbregues S, Bartlett G, et al. The Mixed Methods Appraisal Tool (MMAT) version 2018 for information professionals and researchers. *Educ Inf.* 2018;34(4):285–291.
- Mckeehan KM, Coulton CJ. A systems approach to program development for continuity of care in hospitals. In: McClelland K, Kelly K, Buckwalter K, editors. *Continuity of Care: Advancing the Concept of Discharge Planning*. Orlando: Grune and Stratton; 1985:79–92.
- 31. Duke S, Campling N, May CR, et al. Co-construction of the family-focused support conversation: a participatory learning and action research study to implement support for family members whose relatives are being discharged for end-of-life care at home or in a nursing home. BMC Palliat Care. 2020;19(1):146. doi:10.1186/s12904-020-00647-5
- 32. Duke S, Richardson A, May C, Lund S, Lunt N, Campling N. Evaluation of the usability, accessibility and acceptability for a family support intervention (family-focused support conversation) for end of life care discharge planning from hospital: a participatory learning and action research study. Int J Nurs Stud Adv. 2021;3:100022. doi:10.1016/j.ijnsa.2021.100022
- 33. Ferguson J, Seston L, Ashcroft DM. Refer-to-pharmacy: a qualitative study exploring the implementation of an electronic transfer of care initiative to improve medicines optimisation following hospital discharge. *BMC Health Serv Res.* 2018;18(1):424. doi:10.1186/s12913-018-3262-z
- 34. Vandenberg AE, Jaar BG, James KP, et al. Making sense of DialysisConnect: a qualitative analysis of stakeholder viewpoints on a web-based information exchange platform to improve care transitions between dialysis clinics and hospitals. BMC medical informatics and decision making. *BioMed Central*. 47.
- Keniston A, McCreight MS, Burden M, et al. Communicating patient discharge readiness: an implementation evaluation in an inpatient hospital medicine setting. J Nurs Care Qual. 2024;39(2):151–158. doi:10.1097/NCQ.00000000000738
- 36. Peng K, Liu H, Zhang J, et al. Applying normalization process theory and process mapping to understand implementation of a co-management program for older Hip fracture patients in China: a qualitative study. *Arch Osteoporos*. 2020;15(1):1–10. doi:10.1007/s11657-020-00760-1
- 37. Ibrahim K, M CR, P HP, Baxter M, S AA, R HC. Implementation of grip strength measurement in medicine for older people wards as part of routine admission assessment: identifying facilitators and barriers using a theory-led intervention. *BioMed Central*. 2018;18:79. doi:10.1186/ s12893-018-0414-3
- 38. Vandenberg AE, Jaar BG, James KP, et al. Making sense of DialysisConnect: a qualitative analysis of stakeholder viewpoints on a web-based information exchange platform to improve care transitions between dialysis clinics and hospitals. *BMC Med Inform Decis Mak.* 2021;21(1):47. doi:10.1186/s12911-021-01415-y
- 39. May CR, Cummings A, Girling M, et al. Using normalization process theory in feasibility studies and process evaluations of complex healthcare interventions: a systematic review. *Implement Sci.* 2018;13(1):80. doi:10.1186/s13012-018-0758-1
- 40. McEvoy R, Ballini L, Maltoni S, O'Donnell CA, Mair FS, MacFarlane A. A qualitative systematic review of studies using the normalization process theory to research implementation processes. *Implement Sci.* 2014;9(1):2. doi:10.1186/1748-5908-9-2
- 41. Huddlestone L, Turner J, Eborall H, Hudson N, Davies M, Martin G. Application of normalisation process theory in understanding implementation processes in primary care settings in the UK: a systematic review. *BMC Fam Pract.* 2020;21(1):52. doi:10.1186/s12875-020-01107-y
- 42. May C. A rational model for assessing and evaluating complex interventions in health care. *BMC Health Serv Res.* 2006;6(1):86. doi:10.1186/1472-6963-6-86

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